



APPENDIX B AGENCY CONSULTATION AND COORDINATION



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AGENCY CONSULTATION AND COORDINATION

As part of the environmental impact analysis process (EIAP), consultation and correspondence were performed with federal, state, and local agencies, listed below. Copies of the correspondence are included in this Appendix, in sections as listed below. Consultations are included in Section B.10 (Agency Consultations) as Sections B.10.1 (National Historic Preservation Act Section 106 Consultation) and Section B.10.2 (Endangered Species Act Section 7 Consultation).

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B.1 BUREAU OF LAND MANAGEMENT

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 29 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Mr. John Ruhs
Director
Nevada Bureau of Land Management
1340 Financial Blvd.
Reno, NV 89502

Dear Mr. Ruhs:

The Air Force is initiating its Land Withdrawal Renewal for the Nevada Test and Training Range (NTTR) and requests BLM formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, Cooperating Agencies.

The Air Force asks for your participation as a Cooperating Agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and BLM as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

- (1) Participating in the LEIS scoping, data gathering, analysis, and consultation processes;
- (2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which USFWS has special expertise;
- (3) Making USFWS staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and
- (4) Responding in writing to this request.

The Air Force requires the support of cooperating agencies be timely, to avoid unnecessary delays in the NEPA process. Should you or your staff have further questions regarding this memo, our point of contact is Mr. Jack Bush, HQ USAF/A4C1, at (703) 614-0237 or jack.bush@pentagon.af.mil.

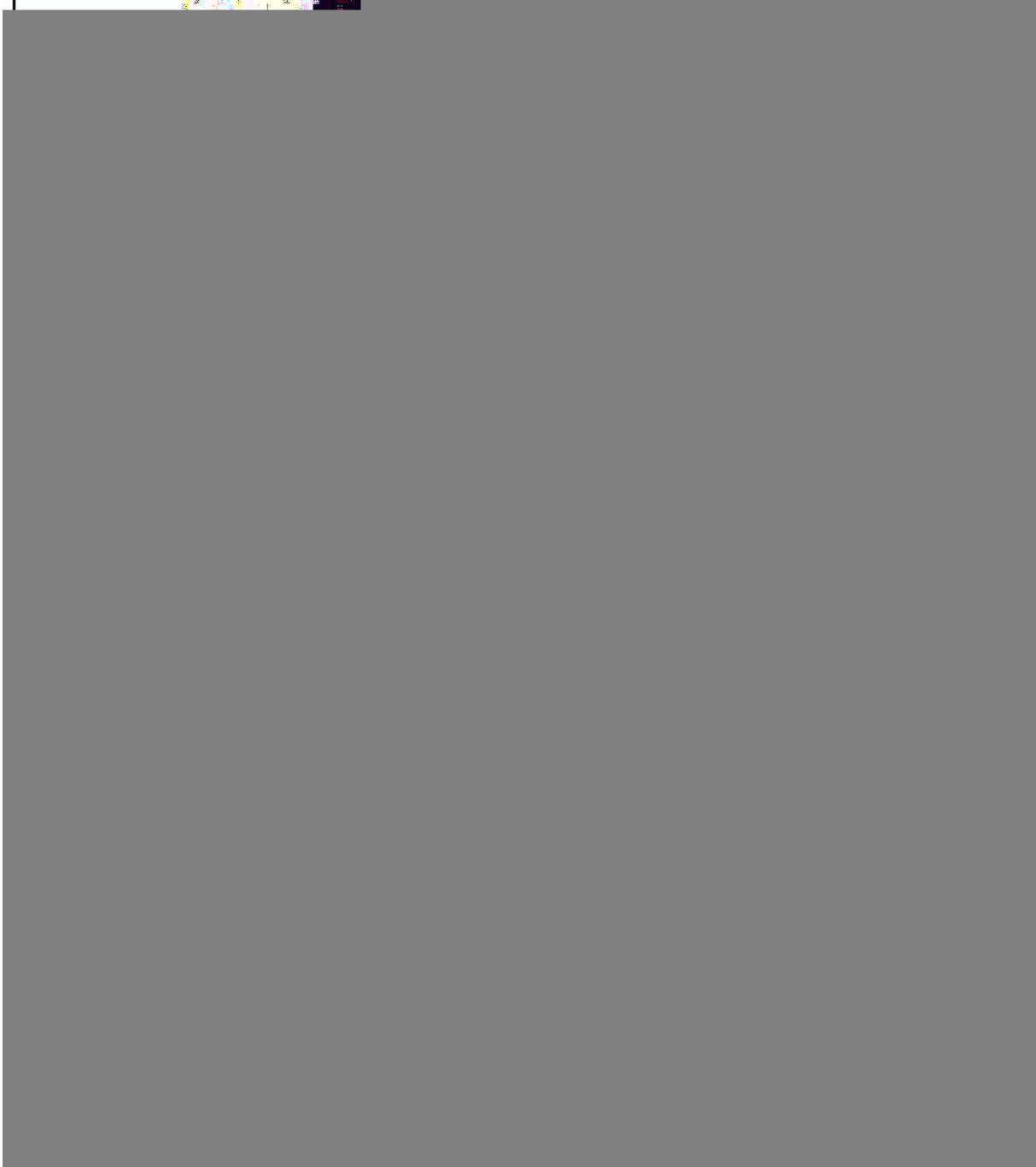
Sincerely

A handwritten signature in cursive script that reads "Jennifer L. Miller".

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
AF/A30/A4C/TE
HQ ACC/AFMC/CV
Tim Smith, BLM District Manager Southern Nevada

**Interagency Agreement between Air Force and Bureau of Land Management:
June 29, 2016**



The parties enter into this Agreement in accordance with the MLWA, FLPMA, and the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321-4347).

IV. PURPOSE

The purpose of this Agreement is to facilitate the preparation of an LEIS that meets the requirements of the NEPA; the preparation of other case file materials as required for the withdrawal application under 43 C.F.R. § 2310.3-2; and the development of proposed legislation and findings and recommendations to submit to the Secretary of the Interior and then to Congress on the renewal and potential expansion of the NTTR land withdrawal.

V. RESPONSIBILITIES

1. USAF and BLM together will:

- (a) Follow procedures necessary to renew and potentially add land to the NTTR land withdrawal in compliance with the MLWA, FLPMA, NEPA and other applicable laws.
- (b) Inform each other of the date, time, location and purpose of major meetings involving designated representatives and/or third parties to discuss the NTTR land withdrawal renewal.
- (c) Protect interagency deliberative communications and information exchanged pursuant to the agreement, consistent with the USAF serving as the release authority under Freedom of Information Act procedures.

2. USAF will:

- (a) Communicate the execution of this Agreement to those elements throughout its chain of command working to complete tasks associated with the renewal of the NTTR land withdrawal.
- (b) Serve as the designated Lead Federal Agency for purposes of compliance, respectively, with consultation requirements under Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) and any consultation or conferencing responsibilities under Section 7 of the Endangered Species Act (16 U.S.C. § 1536), pursuant to 36 C.F.R. § 800.2(a)(2) and 50 C.F.R. § 402.07, respectively. Communications to consulted agencies for the NTTR land withdrawal action shall occur through the USAF as the lead agency for the action.
- (c) Designate points of contact for the LEIS and Cooperating Agency Coordinating Committee (CCC).
- (d) Chair an LEIS Technical Working Group that:

- i. Meets as needed to monitor preparation of the LEIS;
- ii. Provides representatives from the lead and cooperating agencies an opportunity to serve on the Technical Working Group;
- iii. Invites representatives from other agencies or organizations to participate in the Technical Working Group, as appropriate;
- iv. Reviews comments received during the scoping process for inclusion into the LEIS;
- v. Makes recommendations to the project team (lead and cooperating agencies);
- vi. Prepares and distributes minutes to Technical Working Group members;
- vii. Contacts the BLM, the Nevada State Historic Preservation Officer, Nevada Department of Wildlife and other Federal and state agencies as appropriate before collecting baseline data necessary for preparation of the LEIS;
- viii. Provides the BLM all of the information necessary to assist in developing the land withdrawal case file;
- ix. Ensures that a cultural resources use permit is obtained before gathering information concerning cultural resources in the project area; and
- x. Provides BLM a copy of all public comments received through the scoping process and on the draft LEIS.

3. In furtherance of Cooperating Agency responsibilities under 40 C.F.R. Part 1500, BLM will:

- (a) Communicate execution of this Agreement to the appropriate BLM offices and the Department of the Interior;
- (b) Designate lead points of contact for the NTTR land withdrawal renewal LEIS and case file review;
- (c) Complete NTTR land withdrawal support activities necessary to adhere to the NTTR land withdrawal project schedule (see Enclosure 1);
- (d) Review proposed methods and procedures for identifying natural and cultural resources in support of the LEIS before initiating field work;

- (e) Grant reasonable access to USAF and its consultants to BLM administered lands within the project area in a timely manner to collect baseline data necessary for LEIS preparation;
- (f) Review results of natural and cultural resources field work and any reports prepared as a result of field work before release of the information to the public;
- (g) Review and provide comments on drafts of environmental planning studies in accordance with the project schedule;
- (h) Review and provide comments on the draft and final LEIS, along with any requested supporting analysis, in accordance with the LEIS project schedule;
- (i) Participate in LEIS scoping and public hearings; and
- (j) Coordinate with USAF, as lead agency, to communicate issues and responses to consulting parties and other agency stakeholders.

VI. REIMBURSEMENT FOR SERVICES

1. USAF agrees to seek sufficient funding authority to reimburse BLM for the costs of providing the following services related to LEIS and case file preparation:

- (a) Review proposed methods and procedures for identifying natural and cultural resources in support of the LEIS before initiating field work.
- (b) Review results of natural and cultural resources field work and any reports prepared as a result of field work before release of the information to the public.
- (c) Work with the USAF in the development of reasonable range of alternatives for the LEIS.
- (d) Review and provide comments on drafts of environmental planning studies.
- (e) Review and provide supporting analysis for drafts of draft and final LEIS in accordance with the project schedule.
- (f) Participate in LEIS scoping and public hearings.
- (g) Complete land survey work necessary to support required legal descriptions as part of the NTTR LEIS and land withdrawal case file.
- (h) Assist in developing other case file materials necessary under FLMA to support the land withdrawal application.
- (i) Other services as agreed to by the parties.

2. Reimbursement for services described in paragraph 1. will be accomplished under the authority of the Economy Act (31 U.S.C. §§ 1535-36) using the ordering procedures described in Federal Acquisition Regulation Subpart 17.5 and Department of Defense Federal Acquisition Regulation Supplement Subpart 217.5 and forms agreed to by the USAF contracting officer and BLM. The parties may enter into multiple Economy Act orders as necessary under this Agreement. BLM may, in writing, request advance payment for all or part of the estimated cost of furnishing requested services.

3. Reimbursement for services under this Agreement and associated Economy Act orders shall not exceed a total of \$1,129,415.00 for fiscal years 2016, 2017 and 2018. USAF may approve an annual budget that exceeds one-third of the total services funds if BLM demonstrates the need for a higher percentage based on the scope of the work projected during the fiscal year.

4. Nothing in this Agreement shall be construed to provide for reimbursement for activities BLM is required by law to perform and for which it has received appropriations.

5. This Agreement is neither a fiscal nor a funds obligation document. Only an Economy Act order executed pursuant to this Agreement shall constitute an obligation of funds by USAF.

VII. DISPUTE RESOLUTION

1. Conflicting scientific evidence, if any, offered by the parties will be discussed in the NTTR land withdrawal renewal LEIS as long as such views are supported by credible scientific evidence.

2. Designated representatives on the Technical Working Group will make all reasonable efforts to informally resolve disputes related to the preparation of the LEIS.

3. If disputes cannot be resolved after 15 days following initiation of dispute resolution, either signatory of this Agreement may request elevation of the matter to their higher headquarters for resolution by issuing a written statement of dispute.

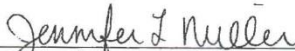
VIII. CONDITIONS

Both parties understand and mutually agree:

1. Implementation of this Agreement is of mutual benefit;
2. This Agreement may be modified or amended only by mutual agreement of the parties in writing and signed by each of the parties hereto;
3. Any documents or data exchange between the parties to the Agreement will not be released to a third party unless the designated representative of the party that generated the document or data approves the release;
4. Nothing herein contained shall be construed as limiting or affecting in any way the vested or delegated authority of the USAF and BLM; and

5. This agreement becomes effective when signed by all parties and shall remain in full force and effect until the submission of the case file and proposed legislation to the Secretary of the Interior or the project is canceled, but may be terminated by either party upon 45 days written notice to the other party.

JUN 23 2016



JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
Installations

DATE



JOHN RUHS
Director, Nevada State Office
Bureau of Land Management

6/29/16

DATE

Enclosure 1: NTTR LEIS Project Schedule

- January - October 2016 – Complete Reviews of Biological and Cultural Survey Plans
- February 2016 - Mar 2017 – Air Force Conducts Biological Field Surveys
- July 2016 - Finalize Content of NTTR Land Withdrawal Application Packets, Property Legal Descriptions and the NTTR LEIS Notice of Intent
- August 2016 – Publish LEIS Notice of Intent
- September 2016 – Participate in LEIS Public Scoping Meetings
- September - December 2016 – Air Force Conducts Cultural Resource Field Surveys
- March 2017 – Draft Biological Assessment Delivered to the Government
- April 2017 – Preliminary Draft EIS Delivered to Government
- April - May 2017 – Complete Review of Preliminary Draft LEIS and Biological Assessment
- June 2017 – Participate in On-board Review of Preliminary Draft LEIS
- June – October 2017 – Endangered Species Act Section 7 Consultation
- July – August 2017 – Review Interim Draft LEIS
- November 2017 – Publish Draft LEIS
- December 2017 – Participate in Public Hearings on Draft LEIS
- May 2018 – Preliminary Final LEIS Delivered to the Government
- May – June 2018 – Government Review of Preliminary Final LEIS
- June 2018 – On-board Review of Preliminary Final LEIS
- July 2018 – Delivery of Interim Final LEIS
- September 2018 – Delivery of Final LEIS
- October 2018 – Publication of Final LEIS
- November 2018 – Delivery of the LEIS and Case file to BLM
- November 2018 to November 2019 – BLM Review and Processing of the Case file
- May 2020 – Secretary of the Interior Submits the Case file to Congress

OCTOBER 2018

Letter from Air Force to BLM, Land Withdrawal Extension Application: August 12, 2016



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

SAF/IE
1665 Air Force Pentagon
Washington, DC 20330-1665

AUG 12 2016

Mr. John Ruhs, Nevada State Director
Department of the Interior, Bureau of Land Management
1340 Financial Boulevard
Reno, Nevada 89502

Dear Mr. Ruhs,

In accordance with 43 U.S. Code § 155, the National Defense Authorization Act for Fiscal Year 2000, Military Land Withdrawal Act of 1999 (Public Law 106-65), the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291), the Federal Land Policy and Management Act of 1976, as amended (FLPMA) 43 U.S.C. 1714, 43 part 2300 and, as implemented by BLM Instruction Memorandum No. 2001-030, the United States Department of the Air Force (Air Force) requests processing of this land withdrawal application for the withdrawal and reservation of public lands associated with the Nevada Test and Training Range (NTTR), formerly known as the Nellis Air Force Range (Nellis AFR), Nevada. The NTTR is required for military use as a national security test and training range by the Air Force. Priority processing of this application is in the interest of Homeland Defense and the War on Terrorism.

The NTTR consists of 2,949,603 acres of public lands withdrawn and reserved for Air Force use through Public Law 106-65 and Public Law 113-291; the withdrawal expires on November 5, 2021. This withdrawal and reservation overlaps 826,000 acres of public lands withdrawn and reserved for U.S. Fish and Wildlife Service (USFWS), Desert National Wildlife Refuge (DNWR) purposes. The DNWR is withdrawn and reserved by Executive Order No. 7373, Public Land Order (PLO) 4079, and PLO 7070. Public Law 106-65 requires the Air Force and USFWS' co-management of this overlapping withdrawal through a Memorandum of Understanding (MOU). The NTTR-extension request pertains only to lands within the boundaries withdrawn and reserved by Public Law 106-65 and Public Law 113-291.

National defense requirements are rapidly evolving in response to changing world conditions, the Global War on Terrorism, developing technologies, and new emerging threats. The NTTR is a Major Range and Test Facility Base national asset and is used to accommodate two major national defense necessities: Test and Evaluation (T&E); and, large-scale training. The NTTR is sized, operated, and maintained to provide T&E information to Department of Defense (DoD) component users in support of DoD research, development, T&E, and the acquisition process. The NTTR is required to provide a broad base of T&E capabilities that are sufficient to support the full spectrum of DoD T&E requirements. The NTTR contributes to combat readiness

training, providing a venue for major training events, 5th-generation aircraft training, and training for other Federal agencies, state and local governments, allied foreign governments, and commercial entities. The NTTR is the Air Combat Command's range of preference for Tactics Development and Evaluations (TD&E) due to its focus on high-end combat training and operationally relevant testing. Extension of this land withdrawal is essential in order that the Air Force Warfare Center may maintain current test and training at NTTR and support military test and training objectives into the future.

The Air Force will promptly notify the Bureau of Land Management (BLM) if new developments change the purpose of this request that require a revised application for extension of the withdrawal and reservation. We will also notify the BLM if any acreage for extension is not required.

1. Name and Address of Applicant:

(a) Name and address of person delegated the authority to file the application.

Ms. Miranda A. Ballentine, Assistant Secretary of the Air Force for Installations, Environment, and Energy, Headquarters U.S. Air Force, 1670 Air Force Pentagon, Washington, DC 20330-1670, phone (703) 697-5023, email miranda.ballentine.civ@mail.mil.

Ms. Jennifer L. Miller, Deputy Assistant Secretary of the Air Force for Installations, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Suite 4B941, Washington, DC 20330-1665, phone (703) 695-3592, email Jennifer.l.miller273.civ@mail.mil

Mr. James Sample, Office of the Deputy Assistant Secretary of the Air Force for Installations, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Washington, DC 20330-1670, phone (703) 693-3349, email james.a.sample6.civ@mail.mil.

(b) Name and address of using agency.

Maj. Gen. Glen D. VanHerck, Commander, United States Air Force Warfare Center (Air Combat Command), 3770 Duffer Drive, Nellis AFB, NV 89191-7001, United States Air Force:

Mr. Roger Christensen, NTTR/XPN, 3770 Duffer Drive, Nellis AFB, NV 89191-7001, phone (702) 653-4650, email roger.christensen@us.af.mil.

(c) Name, address, and phone number of primary point of contact for all aspects in preparing and processing the application.

Mr. Mike Ackerman, NEPA Division (AFCEC/CZN), Bldg. 1650, 2261 Hughes Ave., Lackland AFB, TX 78236, phone (210) 925-2741, email michael.ackerman.2@us.af.mil.

2. Designation and Delegation of Authority:

The Secretary of the Air Force (SECAF) Mission Directive 1-18 (HAF MD 1-18) assigns responsibility for real property authorities, to include the acquisition, management, and disposal of real property, to the Assistant Secretary of the Air Force for Installation, Environment and Energy (SAF/IE). SAF/IE delegates authorities for real estate transactions, including responsibilities for the withdrawal of public lands, to the Deputy Assistant Secretary for Air Force Installations (SAF/IEI). Air Force Instruction 32-9001, Real Property Acquisition, identifies procedural guidance and requirements for real estate actions, including withdrawal application preparation and proposed legislation development. For this specific project, the SAF/IEI is delegated authority to accomplish real estate actions on behalf of the Air Force. As outlined in Air Force Instruction 32-9001, the Air Force Civil Engineer Center (AFCEC), will assist the Deputy Assistant Secretary of the Air Force for Installations (SAF/IEI) with staffing and review of the land withdrawal application.

3. Other Agency Consent:

The public lands subject to this application are currently withdrawn and reserved for Air Force use by Public Law 106-65 and Public Law 113-291. Portions of the withdrawal extension area are withdrawn and reserved from the public domain for use by the USFWS, DNWR. The Air Force letter inviting the USFWS to be a cooperating agency to the NTTR withdrawal renewal Legislative Environmental Impact Statement (LEIS) is enclosed with this application.

4. Type of Withdrawal Action:

The Air Force requests the public lands be withdrawn from all forms of appropriation under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws; and reservation for Air Force purposes. In addition, the Air Force requests the transfer of jurisdiction.

5. Legal Description:

The withdrawal extension is located in Clark, Lincoln, and Nye Counties, Nevada. Enclosure (1) contains maps of the withdrawal extension areas, and Enclosure (2) delineated legal description.

6. Legal Description of Overlapping Withdrawals:**Gross Land and Water Acreage within the Exterior Boundaries:**

- (a) The gross land area within the withdrawal extension area contains 2,949,603 acres. A map of the withdrawal extension area is provided in Enclosure (1).
- (b) The legal description for the entire withdrawal extension area is provided in Enclosure (2).
 - (1) BLM-managed lands – 2, 123,150.51 acres.
 - (2) USFWS-DNWR – 826,000 acres.
 - (3) Air Force acquired lands – 87.49 acres.

(c) The acreage of all non-federal lands are as follows and is in Enclosure (1):

(1) Private lands: 365 acres.

(d) The legal description of the private lands within the withdrawn extension area is provided in Enclosure (2).

7. Overlapping and Existing Withdrawals:

The withdrawal and reservation made by Public Law 106-65 and 113-291 overlaps a total of 826,000 acres of public lands withdrawn and reserved for USFWS, DNWR use by Executive Order Number 7373, dated, May 20, 1936, as amended by Public Land Order (PLO) 4079, dated, August 26, 1966, and PLO 7070, dated, August 4, 1994. As required by Public Law 106-65, the overlapping withdrawal is co-managed by the USFWS and the Air Force, the USFWS has primary jurisdiction over 714,000 acres, and the Air Force has primary jurisdiction over the remaining 112,000 acres that are used as target impact areas. The Secretary of the Interior maintains secondary jurisdiction over the 112,000 acres for wildlife conservation purposes.

8. Purpose of Statutory Program:

(a) Withdrawal extension is necessary to support national security objectives, provide for national security testing and training, and provide for public safety within the context of Homeland Defense and the War on Terrorism. The withdrawal extension will support the Air Force's need to accommodate long-term test capability for new and existing technologies and sufficient range capacity for large-scale, live-fire exercises and operational tactics development. The NTTR is a national asset with capabilities that cannot currently be replicated anywhere else in the world. The NTTR is critical for training various combat units of all branches of the U.S. Armed Services as well as U.S. allies that support or participate in certain aspects of tactical aviation and land combat missions. The NTTR land withdrawal extension is also critical to National Security and includes but is not limited to the activities of DoD, Department of Energy, and Homeland Security and must be extended to ensure that unique and enduring test and training range capabilities are available in the future.

(b) In accordance with Public Law 106-65, the lands are withdrawn and reserved for use by the Secretary of the Air Force.

(c) Specific purpose for which the lands are withdrawn and reserved are:

- (1) as an armament and high-hazard testing area;
- (2) for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support;
- (3) for equipment and tactics development and testing; and,
- (4) for other defense-related purposes consistent with the purposes specified above.

9. Extent of Segregation:

The Air Force requests that the land in the extension application be withdrawal from all forms of appropriation under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws, and subject to valid existing rights, and reservation established by Public Law 106-65 be extended for an indefinite period.

10. Temporary Land Uses:

Under Public Law 106-65, the Secretary of the Interior may issue a lease, easement, right-of-way, or other authorization with respect to the non-military use of public lands and only with concurrence of the Air Force's delegated authorized officer.

11. Analysis of Alternatives:

The primary reasons for the withdrawal extension are national security testing and training conducted at the NTTR and public safety. Extending the land withdrawal would be the only authorization option that would satisfy the Air Force and NTTR requirements for national security testing and training, safety, and control of access to the lands. Military testing and training activities performed in the area cannot be statutorily accommodated under either a FLPMA right-of-way or a cooperative agreement. The Interior Board of Land Appeals has found that military training on public lands is appropriately authorized by a withdrawal in the case of contamination from military munitions, unexploded ordnance, munitions debris, and other range related debris and BLM policy reflects that finding. The withdrawal extension may only be authorized by Congress.

12. Duration of Withdrawal:

The Air Force is applying for an indefinite withdrawal of the area from the date enacted by Congress unless Congress deems it appropriate to withdraw the land for a shorter timeframe.

13. Alternative Sites:

No alternative sites are available for the use for the following reasons:

(a) The Air Force's need for the NTTR land withdrawal, is supported by the Report to Congressional Committees *2025 Air Test and Training Range Enhancement Plan (January 2014)* (2014 Congressional Report), which states "...a few select ranges which will become hubs for intermediate to advanced training. The first of these ranges is the Nevada Test and Training Range (NTTR)." The 2014 Congressional Report indicates that current test and training activities will continue and increase to support six priorities that are critical to ensuring the viability of major range infrastructure through 2025.

(b) The NTTR range infrastructure, described in the 2014 Congressional Report, has an approximate value of \$4 billion. The approximate cost to decontaminate the NTTR varies from \$1 to 4 billion.

(c) The NTTR is unique from an airspace perspective. Restricted airspace, where commercial and private air traffic operating under both visual and instrument flight rules are prohibited from overflight, remains a key operational element of the NTTR. These restrictions allow for national security testing and training activities to be conducted.

(d) The geographic proximity of the NTTR to Naval Air Weapons Station (NAWS) China Lake and the Utah Test and Training Range increases the DoD's capability for specialized test and training activities. For example, one annual tactics development exercise that supports new approaches to operations requires access to Military Operating Area and restricted airspace from NAWS China Lake in the southwest to the Utah Test and Training Range in the northeast. The NTTR geographically links the three ranges with its electronic warfare capability, and provides a crucial tactics mission environment.

The capabilities of the NTTR cannot be replicated anywhere else in the world without significant and unforeseeable commitment of financial and other organization resources. Because of the infrastructure investment, airspace attributes, geographic location, and encroachment concerns, the Air Force has filed this withdrawal extension application to renew the current NTTR land withdrawal.

14. Water Requirements:

All surface and groundwater rights currently being utilized by the Air Force within NTTR have been properly appropriated through the State of Nevada. On average, water use by the Air Force is directly associated with the number of personnel stationed at and the work being conducted on NTTR. In the 1998 water requirements study, a total of 947 acre-feet per year (AFY) of surface water on the Nellis AFR, now NTTR, was appropriated for stock, wildlife, domestic, and irrigation purposes, with 84 percent (797 AFY) owned by the Federal government and 16 percent privately held (149 AFY). With respect to groundwater, 1,852 AFY has been appropriated through the State of Nevada. The Federal government (Air Force and DOE) has appropriated 98 percent (1,826 AFY) and private domestic and stock users have appropriated 2 percent (25 AFY). In addition, the Air Force is entitled to federally reserved water rights for reserved lands within NTTR. The priority dates for the reserved water rights are senior to recent water rights applications by the Southern Nevada Water Authority in association with its Groundwater Development Project. The Air Force's federally reserved water rights have not been judicially quantified.

The Nellis Air Force Base Natural Resources Program has recently completed a project to identify all seeps and springs within the boundaries of NTTR. Some of the seeps and springs identified have no prior documentation. The Air Force may apply for surface water rights for the newly discovered springs.

15. Location of Application Records:

Records relating to this application are available for examination at the following locations:

Nellis Test and Training Range/XPN
3770 Duffer Drive
Nellis AFB, NV 89191-7001

BLM Nevada State Office
1340 Financial Blvd
Reno, NV 89502

BLM Southern Nevada District Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

16. Summary of Potential Mineral Activity in the Subject Area:

In accordance with Public Law 106-65, a Geology and Mineral Potential Report covering the withdrawal extension area will be provided.

17. Contamination of any or all Requested Withdrawn Lands:

The Air Force will analyze whether the current and/or proposed use has/will result in contamination of any or all of the requested withdrawal area, and if so, whether such contamination will be permanent or temporary.

If additional information is required, please contact Mr. Mike Ackerman at (210) 925-2741 or by email at michael.ackerman.2@us.af.mil.

Sincerely,



JENNIFER L. MILLER
Deputy Assistant Secretary of the Air Force
Installations

Enclosures: (1) Maps for Withdrawal Extension
(2) Legal Descriptions for Withdrawal Extension

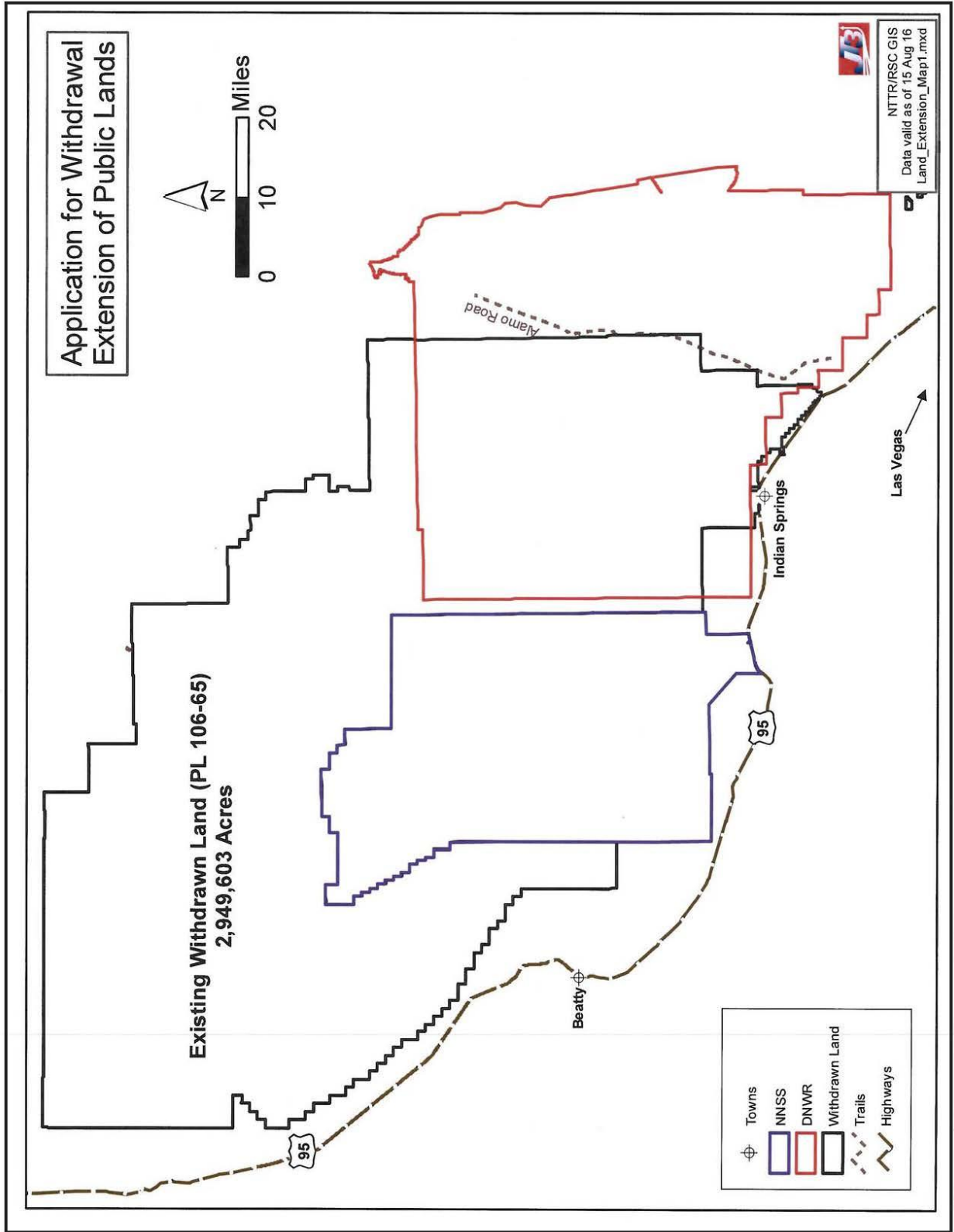
Copy to:
SAF/IEI
SAF/GCN
HAF/A4C
NTTR/XP

Department of the Interior, BLM, WO-350
Military Program Leads
Attn: Celeste Mitchell/Brenda Wilhight
1849 C. Street, NW, Room 2134LM
Washington, DC 20240

BLM Nevada State Director
Withdrawal Program
Attn: Edison Garcia
1340 Financial Blvd
Reno, NV 89502

BLM Southern Nevada District Office
Project Manager
Attn: Thomas Seley
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Enclosure 1



Enclosure 2

Renewal of the Existing Land Withdrawal

Nevada Test and Training Range Renewal

Legal Description

(added Nellis parcels)

EXISTING WITHDRAWN LANDS

Mount Diablo Meridian, Nevada

Tps. 1, 2, 3, and 4 S., R. 44 E.

T. 5 S., R. 44 E., partly unsurveyed,
secs. 1 and 2;
secs. 10 thru 16;
secs. 20 thru 36.T. 6 S., R. 44 E., unsurveyed,
secs. 1 thru 6;
secs. 8 thru 17;
secs. 21 thru 27;
secs 34 thru 36.T. 7 S., R. 44 E., partly unsurveyed,
secs. 1 and 2;
secs. 11 thru 13.

Tps. 1, 2, 3, and 4 S., R. 45 E.

Tps. 5 and 6 S., R. 45 E., unsurveyed.

T. 7 S., R 45 E., unsurveyed,
secs. 1 thru 30;
secs. 32 thru 36.T. 8 S., R. 45 E., unsurveyed,
secs. 1 thru 4;
secs. 10 thru 14;
secs. 24 and 25.

Tps. 1 and 2 S., R. 46 E.

Tps. 3, 4, 5, 6, 7, and 8 S., R. 46 E., unsurveyed.

T. 9 S., R. 46 E., unsurveyed,
secs. 1 thru 5;
secs. 9 thru 15;
secs. 23 and 24.

Tps. 1 and 2 S., R. 47 E.

Tps. 3, 4, 5, 6, 7, and 8 S., R. 47 E., unsurveyed.

T. 9 S., R. 47 E., unsurveyed,
secs. 1 thru 30;
secs. 33 thru 36.

T. 10 S., R. 47 E., partly unsurveyed,
secs. 1, 2, and 12.

Tps. 1 and 2 S., R. 48 E.

Tps. 3, 4, and 5 S., R. 48 E., unsurveyed.

T. 6 S., R. 48 E., unsurveyed,
secs. 1 thru 34;
sec. 35, N1/2;
sec. 36. N1/2.

T. 7 S., R. 48 E., unsurveyed,
secs. 3 thru 10;
secs 15 thru 23;
sec 25, W1/2;
secs. 26 thru 36.

Tps. 8 and 9 S., R. 48 E., unsurveyed.

T. 10 S., R. 48 E., unsurveyed,
secs. 1 thru 17;
secs. 21 thru 26;
sec. 36.

Tps. 1 and 2 S., R. 49 E.

Tps. 3, 4, and 5 S., R. 49 E., unsurveyed.

T. 6 S., R. 49 E., unsurveyed,
secs. 1 thru 30;
sec. 31, N1/2 and SE1/4;
secs. 32 thru 36.

T. 7 S., R. 49 E., unsurveyed,
secs. 1 thru 5;
sec. 6, E1/2.

T. 8 S., R. 49 E., unsurveyed,
sec. 6, W1/2;
sec. 7;
sec. 17, W1/2;
secs. 18 thru 20;
secs. 28 thru 33;
sec. 34, W1/2.

T. 9 S., R. 49 E., unsurveyed,
secs. 3 thru 11;
secs. 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.

- T. 10 S., R. 49 E., unsurveyed,
sec. 1, excepting those portions withdrawn by Public Land Order 2568;
secs. 2 thru 11;
secs. 12 and 13, excepting those portions withdrawn by Public Land Order 2568;
secs. 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.
- T. 11 S., R. 49 E., unsurveyed,
sec. 1, excepting those portions withdrawn by Public Land Order 2568;
secs. 2 thru 11;
secs. 12 and 13, excepting those portions withdrawn by Public Land Order 2568;
secs. 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.
- T. 12 S., R. 49 E., unsurveyed,
sec. 1, excepting those portions withdrawn by Public Land Order 2568;
secs. 2 thru 11;
secs. 12 and 13, excepting those portions withdrawn by Public Land Order 2568;
secs. 14 thru 23;
secs. 24 and 25, excepting those portions withdrawn by Public Land Order 2568;
secs. 26 thru 35;
sec. 36, excepting those portions withdrawn by Public Land Order 2568.
- Tps. 1, 2, 3, 4, and 5 S., R. 50 E., unsurveyed.
- T. 6 S., R. 50 E., unsurveyed,
secs. 1 thru 33.
- T. 7 S., R. 50 E., unsurveyed,
sec. 6.
- Tps. 2, 3, 4, and 5 S., R. 51 E., unsurveyed.
- T. 6 S., R. 51 E., unsurveyed,
secs. 1 thru 30;
secs. 34 thru 36.

T. 7 S., R. 51 E., unsurveyed,
sec. 1.

Tps. 3 and 4 S., R. 51 1/2 E., unsurveyed.

Tps. 3, 4, 5, and 6 S., R. 52 E., unsurveyed.

T. 7 S., R. 52 E., unsurveyed,
secs. 1 thru 16;
secs. 21 thru 28;
secs. 33 thru 36.

T. 8 S., R. 52 E., unsurveyed,
secs. 1 thru 4;
secs. 9 thru 12, excepting those portions withdrawn by Public Land Order 805.

Tps. 3 and 4 S., R. 53 E.

Tps. 5, 6, and 7 S., R 53 E., unsurveyed.

T. 8 S., R. 53 E., unsurveyed,
secs. 1 thru 6;
secs. 7 thru 12, excepting those portions withdrawn by Public Land Order 805.

T. 3 S., R. 54 E.,
secs. 4 thru 9;
secs. 16 thru 21;
secs. 28 thru 33.

T. 4 S., R. 54 E.,
secs. 4 thru 9;
secs. 16 thru 21;
secs. 28 thru 33.

Tps. 5, 6, and 7 S., R 54 E., unsurveyed.

T. 8 S., R. 54 E., unsurveyed,
secs. 1 thru 6;
secs. 7 thru 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 9 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 10 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 11 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 12 S., R. 54 E., unsurveyed,
sec. 1;
secs. 2 and 11, excepting those portions withdrawn by Public Land Order 805;
secs. 12 and 13;
secs. 14 and 23, excepting those portions withdrawn by Public Land Order 805;
secs. 24 and 25;
secs. 26 and 35, excepting those portions withdrawn by Public Land Order 805;
sec. 36.

T. 13 S., R. 54 E., unsurveyed,
sec. 9, excepting those portions withdrawn by Public Land Order 805;
secs. 10 thru 15;
secs. 16 and 21, excepting those portions withdrawn by Public Land Order 805;
secs. 22 thru 27;
secs. 28 and 33, excepting those portions withdrawn by Public Land Order 805;
secs. 34 thru 36.

T. 14 S., R. 54 E., unsurveyed,
secs. 1 thru 3;
secs. 4 and 9, excepting those portions withdrawn by Public Land Order 805;
secs. 10 thru 15;
secs. 16 and 21, excepting those portions withdrawn by Public Land Order 805;
secs. 22 thru 27;
secs. 28 and 33, excepting those portions withdrawn by Public Land Order 805;
secs. 34 thru 36.

Tps. 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14 S., R. 55 E., unsurveyed.

T. 5 S., R. 55 1/2 E., unsurveyed,
secs. 6 thru 8;
secs. 16 thru 21;
secs. 28 thru 33.

Tps. 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15 S., R. 55 1/2 E., unsurveyed.

T. 16 S., R. 55 1/2 E.,
sec. 1, N1/2;
sec 2, lots 1 and 2; NE1/4.

T. 5 S., R. 56 E., unsurveyed,
secs. 19 and 20;
secs 27 thru 35.

T. 6 S., R. 56 E., partly unsurveyed,
secs. 2 thru 11;
secs. 14 thru 23;
secs. 25 thru 36.

T. 7 S., R. 56 E., partly unsurveyed,
secs. 1 thru 11;
sec 13, W1/2;
secs. 14 thru 23;
sec. 24, NW1/4;
secs. 26 thru 35.

Tps. 8, 9, 10, 11, 12, 13, and 14 S., R. 56 E., unsurveyed.

T. 15 S., R. 56 E.

T. 16 S., R. 56 E.,
secs. 1 thru 6;
sec. 8, lot 1;
sec. 9, lot 1;
Tracts 38, 39, 40, 41;
Tract 42, lots A, B and C.

T. 6 S., R. 57 E.,
sec. 30, lots 1 thru 4, E1/2NW1/4, E1/2SW1/4;
sec. 31.

T. 7 S., R. 57 E.,
sec. 6.

Tps. 8, 9, 10, 11, 12, 13, 14, and 15 S., R. 57 E., unsurveyed.

T. 16 S., R. 57 E., partly unsurveyed,
secs. 1 thru 6;
sec. 7, NE1/4;
secs. 8 thru 16;
sec. 17, NE1/4;
sec. 20, SE1/4SW1/4, S1/2SE1/4;
secs. 21 thru 26;
sec. 27, NE1/4;
sec. 28, NW1/4NW1/4;
sec. 29, N1/2NE1/4, NE1/4NW1/4;
sec. 35, NE1/4;
sec. 36.

Tps. 8, 9, 10, 11, 12, 13, 14, and 15 S., R. 58 E., unsurveyed.

T. 16 S., R. 58 E., unsurveyed,
secs. 1 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 17 S., R. 58 E.,
secs. 1 thru 4;
sec. 5, NE1/4;
sec. 9, NE1/4;
sec. 10, N1/2, N1/2SW1/4, SE1/4SW1/4, SE1/4;
secs. 11 and 12;
sec. 13, NW1/4;
sec. 14, N1/2, NE1/4SW1/4, SE1/4;
sec. 15, NE1/4NE1/4.

Tps. 8, 9, 10, 11, 12, 13, and 14 S., R. 59 E., unsurveyed.

LAND ADDED TO EXISTING WITHDRAWAL**2015 National Defense Authorization Act (Public Law 113-291)**

Mount Diablo Meridian, Nevada

T. 19 S., R. 62 E.,

sec. 13, lots 2, 4 and 5, excepting those portions lying within the right-of-way of the Union Pacific Railroad;

sec. 14, lots 1, 2, 5, 6, and 8, N1/2NE1/4, NW1/4, excepting those portions lying within the right-of-way of the Union Pacific Railroad;

sec. 24, SE1/4, excepting those portions lying within the right-of-way of Nevada State Route 604 (Las Vegas Blvd.);

sec. 25, lot 2.

T. 19 S., R. 63 E.;

sec. 19, lot 4, SE1/4SW1/4, and SW1/4SE1/4, excepting those portions lying within the right-of-way of Nevada State Route 604 (Las Vegas Blvd.);

sec. 27, S1/2NW1/4 and SE1/4SE1/4;

sec. 28, S1/2NE1/4 and SE1/4NW1/4;

sec. 30, lots 1 and 2, W1/2NE1/4 and E1/2NW1/4.

Letter from Air Force to BLM, Land Withdrawal Expansion Application: August 12, 2016



DEPARTMENT OF THE AIR FORCE WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

SAF/IE
1665 Air Force Pentagon
Washington, DC 20330-1665

AUG 12 2016

Mr. John Ruhs, Nevada State Director
Department of the Interior, Bureau of Land Management
1340 Financial Boulevard
Reno, Nevada 89502

Dear Mr. Ruhs,

In accordance with 43 U.S.C. § 155 -158, the Federal Land Policy and Management Act of 1976, as amended, (FLPMA) 43 U.S.C. 1714, 43 CFR Part 2300 and, as implemented by BLM Instruction Memorandum No. 2001-030, the United States Department of the Air Force (Air Force) requests processing of this land withdrawal application for the withdrawal and reservation of 301,507 additional acres of public lands located near the Nevada Test and Training Range (NTTR), Nevada. The NTTR, formerly known as the Nellis Air Force Range (Nellis AFR) is required for military use as a national security testing and training range by the Air Force. Priority processing of this application is in the interest of Homeland Defense and the War on Terrorism.

The current NTTR land withdrawal and reservation consists of 2,949,603 acres of public lands authorized by the National Defense Authorization Act for Fiscal Year 2000, Military Land Withdrawal Act of 1999 (Public Law 106-65), and the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291). The Air Force requests to expand the NTTR by 301,507 acres of public lands known as the EC South, 64C/D and 65D, South Range Administrative Incorporation, and Alamo for use as a national security testing and training range to meet NTTR requirements. The acres of the withdrawal expansion and the lands withdrawn and reserved by Public Law 106-65 and Public Law 113-291 would total 3,251,110 acres. A separate application requesting the extension (renewal) of the withdrawal and reservation under Public Law 106-65 and Public Law 113-291 is in process.

National defense requirements are rapidly evolving in response to changing world conditions, the Global War on Terrorism, developing technologies, and new emerging threats. The NTTR is a Major Range and Test Facility Base national asset and is used to accommodate two major national defense necessities: Test and Evaluation (T&E); and large-scale training. The NTTR is sized, operated, and maintained to provide T&E information to Department of Defense (DoD) component users in support of DoD research, development, T&E, and the acquisition process. The NTTR is required to provide a broad base of T&E capabilities that are sufficient to support the full spectrum of DoD T&E requirements. The NTTR also contributes to combat readiness

training, providing a venue for major training events, 5th-generation aircraft training, and training for other Federal agencies, state and local governments, allied foreign governments, and commercial entities. The NTTR is the Air Combat Command's range of preference for Tactics Development and Evaluations (TD&E) due to its focus on high-end combat training and operationally relevant testing.

The requested withdrawal is essential to the Air Force to enhance large-scale training at the NTTR by increasing Major Combat Operations (MCO) test and training capabilities to meet the demands of strategic guidance, alleviating the competition for critical MCO assets, providing a two-access battle space for Irregular Warfare (IW) test and training, and increasing NTTR operational security and safety to prevent encroachment and sustain the NTTR mission into the future while providing for public safety.

The Air Force will promptly notify the BLM if new developments change the purpose or acreage associated with this request.

In addition, the Air Force has requested the Bureau of Land Management (BLM) to petition or apply to the Secretary of the Interior, pursuant to section 204 of FLPMA for a 7-year administrative withdrawal of the public lands within the exterior boundaries of the lands described in paragraph 6 of this withdrawal application for the purpose of maintaining the *status quo* of the lands so that the Air Force and the BLM may conduct a land management analysis in support of a possible future transfer of lands to Air Force jurisdiction. The BLM has separately filed such petition/application.

1. Name and Address of Applicant:

(a) Name and address of person delegated the authority to file the application.

Ms. Miranda A. Ballentine, Assistant Secretary of the Air Force for Installations, Environment, and Energy, Headquarters U.S. Air Force, 1670 Air Force Pentagon, Washington, DC 20330-1670, phone (703) 697-5023, email miranda.ballentine.civ@mail.mil.

Ms. Jennifer L. Miller, Deputy Assistant Secretary of the Air Force for Installations, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Suite 4B941, Washington, DC 20330-1665, phone (703) 695-3592, email Jennifer.l.miller273.civ@mail.mil.

Mr. James Sample, Office of the Deputy Assistant Secretary of the Air Force for Installations, Environment, and Energy, Headquarters U.S. Air Force, 1665 Air Force Pentagon, Suite 4B941, Washington, DC 20330-1670, phone (703) 693-3349, email james.a.sample6.civ@mail.mil.

(b) Name and address of using agency.

Maj. Gen. Glen D. VanHerck, Commander, United States Air Force Warfare Center (Air Combat Command), 3770 Duffer Drive, Nellis AFB, NV 89191-7001, phone (702) 652-2201, email glen.vanherck@us.af.mil.

Mr. Roger Christensen, NTTR/XPN, 3770 Duffer Drive, Nellis AFB, NV 89191-7001, phone (702) 653-4650, email roger.christensen@us.af.mil.

(c) Name, address, and phone number of primary point of contact for all aspects in preparing and processing the application.

Mr. Mike Ackerman, NEPA Division (AFCEC/CZN), Bldg 1650, 2261 Hughes Ave., Lackland AFB, TX 78236, phone (210) 925-2741, email michael.ackerman.2@us.af.mil.

2. Designation and Delegation of Authority:

The Secretary of the Air Force (SECAF) Mission Directive 1-18 (HAF MD 1-18) assigns responsibility for real property authorities, to include the acquisition, management, and disposal of real property, to the Assistant Secretary of the Air Force for Installation, Environment and Energy (SAF/IE). SAF/IE delegates authorities for real estate transactions, including responsibilities for the withdrawal of public lands, to the Deputy Assistant Secretary for Air Force Installations (SAF/IEI). Air Force Instruction 32-9001, Real Property Acquisition, identifies procedural guidance and requirements for real estate actions, including withdrawal application preparation and proposed legislation development. For this specific project, the SAF/IEI is delegated authority to accomplish real estate actions on behalf of the Air Force. As outlined in Air Force Instruction 32-9001, the Air Force Civil Engineer Center (AFCEC), will assist the Deputy Assistant Secretary of the Air Force for Installations (SAF/IEI) with staffing and review of the land withdrawal application.

3. Other Agency Consent:

The public lands subject to this application are under the administration of the Department of the Interior. Portions of the requested withdrawal expansion area are withdrawn and reserved from the public domain for use by the U.S. Fish and Wildlife Service (USFWS), Desert National Wildlife Refuge (DNWR). The Air Force letter inviting the USFWS to be a cooperating agency to the NTTR withdrawal renewal Legislative Environmental Impact Statement (LEIS) is enclosed with this application.

4. Type of Withdrawal Action:

The Air Force requests the withdrawal of public lands known as the EC South, 64C/D and 65D, South Range Administrative Incorporation, and Alamo from all forms of appropriation under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws; and reservation for Air Force purposes. In addition, the Air Force requests jurisdictional transfer of the lands.

5. Legal Description:

The withdrawal expansion area is located in Clark, Lincoln, and Nye Counties, Nevada. Enclosure (1) contains maps of the withdrawal expansion area, and Enclosure (2) delineated legal description.

6. Legal Description of Overlapping Withdrawals:**Gross Land and Water Acreage within the Exterior Boundaries:**

- (a) The gross land area within the withdrawal expansion area contains 301,507 acres of land. A map of the withdrawal expansion area is provided in Enclosure (1).
- (b) The legal description for the entire withdrawal expansion area is provided in Enclosure (2).
 - (1) BLM-managed lands – 35,361 acres
 - (2) USFWS- managed lands – 266,146 acres
- (c) There are no private or state lands within the withdrawal expansion area.
- (d) The Air Force is conducting a study to determine whether any surface water areas exist within the withdrawal expansion area. The results of the study will be provided in the related NTTR LEIS.

7. Overlapping and Existing Withdrawals:

This requested withdrawal expansion would overlap portions of the DNWR. The DNWR is withdrawn and reserved for USFWS use by Executive Order 7373, dated May 20, 1936, as amended by Public Land Order (PLO) 4079, dated August 26, 1966, and PLO 7070, dated August 4, 1994.

8. Purpose of Statutory Program:

(a) The withdrawal expansion is necessary to support national security objectives and to provide for public safety within the context of Homeland Defense and the War on Terrorism. This withdrawal expansion will support: the Air Force Warfare Center's mission; ongoing military test and training; and is required to develop enhancement of the Air Force's capability to conduct such test and training into the future.

- (1) Increase MCO test/training capability to meet the demands of strategic guidance. MCO test and training operations at NTTR are artificially constrained into the North Range. Expanding the South Range would provide a two-axis battle space that is relevant to current operational plans and strategic guidance.

- (2) Alleviate competition for critical MCO assets. Currently, test and training operations compete for time and space on the North Range. Increasing the size and flexibility of the South Range will create two MCO environments and allow for additional testing and improved training.
- (3) Enhance IW test/training capability, which is critical to current combat missions. IW operations on the South Range are artificially constrained by current management practices. Indefinite primary jurisdiction over the South Range will allow realistic IW training.
- (4) Increase NTTR operational security and safety. Operations on NTTR are sensitive and additional buffer areas to prevent encroachment will sustain the NTTR mission into the future.

(b) Specific purposes for which the lands will be withdrawn are for use:

- (1) as an armament and high-hazard testing area;
- (2) for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support;
- (3) for equipment and tactics development and testing; and,
- (4) for other defense-related purposes consistent with the purposes specified above.

9. Extent of Segregation:

The Air Force requests that the lands identified in this withdrawal expansion application be withheld from location and entry under the public land laws, including the mining laws, mineral leasing laws, and geothermal leasing laws, and subject to valid existing rights. The Air Force requests the maximum segregation period of 2 years.

10. Temporary Land Uses:

Licenses, permits, cooperating agreements, and discretionary land use authorizations, may be allowed during the segregative period with the approval of the BLM Authorized Officer and/or USFWS Authorized Officer, as appropriate, and with the concurrence of the Commander of the Nevada Test and Training Range, Nellis Air Force Base, Nevada. Points of contact are shown in paragraph 1 of this application.

11. Analysis of Alternatives:

The primary reasons for the NTTR withdrawal expansion request are the unique nature of national security testing and training conducted at NTTR and public safety. Expanding the land

withdrawal would be the only authorization option that would satisfy the Air Force and NTTR requirements for national security testing and training, safety, and control of access to the lands. Military test and training activities performed in the area cannot be statutorily accommodated under either a FLPMA right-of-way or a cooperative agreement. The Interior Board of Land Appeals has found that military training on public lands is appropriately authorized by a withdrawal in the case of contamination from military munitions, unexploded ordnance, munitions debris, and other range related debris and BLM policy reflects that finding. The withdrawal expansion may only be authorized by Congress.

12. Duration of Withdrawal:

The Air Force is applying for an indefinite withdrawal of the area from the date enacted by Congress unless Congress deems it appropriate to withdraw the land for a shorter timeframe.

13. Alternative Sites:

No alternative sites are available for the proposed use for the following reasons:

(a) The Air Force considered expansion of the NTTR in various directions. However, there are external encroachment issues that limit the Air Force's ability to expand the NTTR in a configuration that provides for public safety and necessary test and training. The existing external encroachment issues include, but are not limited to, major state and interstate highways, interrelated population centers, and local roadway infrastructure. Furthermore, existing wilderness areas limit the Air Force's ability to expand the NTTR. Wilderness areas to the north include the Toiyabi National Forest, with Table Mountain, Arc Dome, and Alto Toquima Wilderness areas. To the northeast are the Humboldt National Forest (with Quinn Canyon and Grant Range Wilderness areas) and the Worthington Mountain, and Weepah Springs Wilderness areas. The Big Rocks, Mount Irish, and South Paroc, Delamar Mountains, Meadow Valley Range, Mormon Mountains, Muddy Mountain, and Arrow Canyon Wilderness areas are to the east, and the Mount Charleston Wilderness area is to the southwest.

(b) The withdrawal expansion area must be located adjacent to the current NTTR land withdrawal area to support the current use of the lands by the Secretary of the Air Force: as an armament and high-hazard testing area; for training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support; for equipment and tactics development and testing; and for other defense-related purposes consistent with the uses specified above. In addition, the withdrawal expansion area is required to sufficiently accommodate and support the Air Force Warfare Center's mission.

14. Water Requirements:

The Air Force will need to control, appropriate, distribute and/or use water where current, valid existing rights have been acquired by the United States or other entities in conformity with State laws and procedures. The acquisition of rights to the use of water will be in conformity with

State laws and procedures relating to the control, appropriation, use and distribution of water insofar as such laws and procedures are applicable to the United States.

The Air Force is conducting a study to determine whether any surface water areas exist within the withdrawal expansion area. The results of the study will be provided in the related NTTR LEIS.

Based on a preliminary review of the Nevada Division of Water Rights (NDWR) Water Rights Database, the water rights in the withdrawal expansion area include several underground water rights certificates for stock watering in Oasis Valley and protested water rights applications by the Southern Nevada Water Authority in Three Lakes Valley. In addition, the USFWS has water rights certificates for springs, water rights certificates for stock watering, and underground water permits and protested applications by the Southern Nevada Water Authority in the southern part of Tikapoo Valley.

15. Location of Application Records:

Records relating to this application are available for examination at the following locations:

Nellis Test and Training Range/XPN
3770 Duffer Drive
Nellis AFB, NV 89191-7001

BLM Nevada State Office
1340 Financial Blvd
Reno, NV 89502

BLM Southern Nevada District Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

16. Summary of Potential Mineral Activity in the Subject Area:

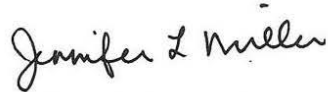
In accordance with the Engle Act, a comprehensive Geology and Mineral Potential Report covering the withdrawal expansion area will be prepared.

17. Contamination of any or all Requested Withdrawn Lands:

The Air Force will analyze whether the proposed use will result in contamination of any or all of the requested withdrawal expansion area, and if so, whether such contamination will be permanent or temporary [Engle Act Section 3 (5)].

If additional information is required, please contact Mr. Mike Ackerman at (210) 925-2741 or by email at michael.ackerman.2@us.af.mil.

Sincerely,



JENNIFER L. MILLER
Deputy Assistant Secretary of the Air Force
Installations

Enclosures: (1) Maps for Withdrawal Expansion
(2) Legal Descriptions for Withdrawal Expansion

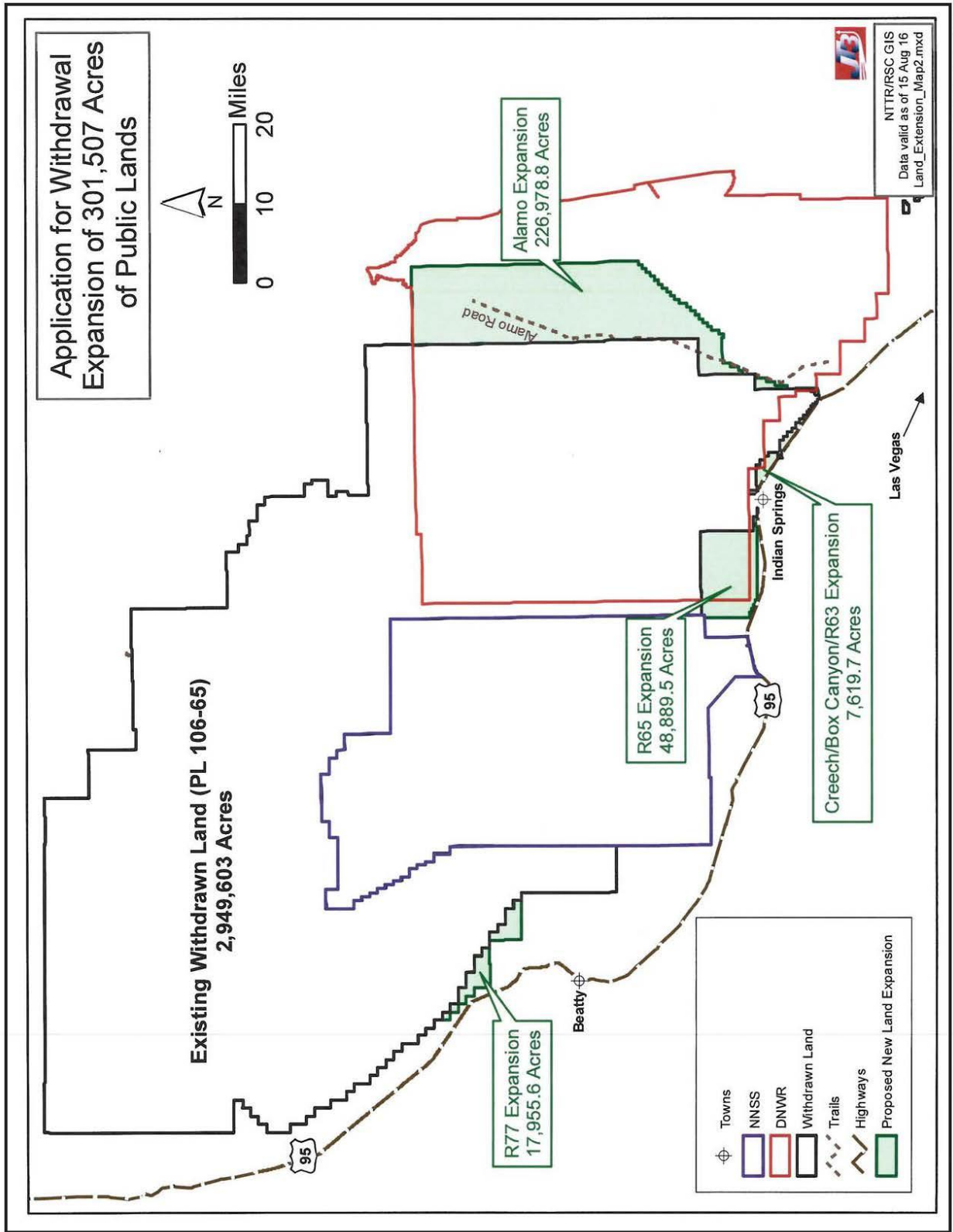
Copy to:
SAF/IEI
SAF/GCN
HAF/A4C
NTTR XP

Department of the Interior, BLM, WO-350
Military Program Leads
Attn: Celeste Mitchell/Brenda Wilhight
1849 C. Street, NW, Room 2134LM
Washington, DC 20240

BLM Nevada State Director
Withdrawal Program
Attn: Edison Garcia
1340 Financial Blvd
Reno, NV 89502

BLM Nevada Southern Nevada District Office
Project Manager
Attn: Thomas Seley
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Enclosure 1



Enclosure 2

Withdrawal of Federal Lands
Nevada Test and Training Range Expansion
Legal Description

EC South/Range 77:

Mount Diablo Meridian, Nevada

T. 9 S., R. 46 E., unsurveyed,
secs. 16, 22, 25, 26, and 36.

T. 9 S., R. 47 E., unsurveyed,
secs. 31 and 32.

T. 10 S., R. 47 E., partly unsurveyed,
secs. 3 thru 11.

T. 10 S., R. 48 E., unsurveyed,
secs. 18 thru 20;
secs. 27 thru 35.

Range 65D:

Mount Diablo Meridian, Nevada

T. 15 S., R. 54 E., unsurveyed,
secs. 1 thru 3;
sec. 4, excepting those portions withdrawn by Public Land Order 805;
secs. 9 thru 16;
secs. 21 thru 28;
secs. 33 thru 36.

T. 16 S., R. 54 E.,
secs. 1 and 2;
sec. 3, lots 1 thru 4, S1/2NE1/4, S1/2NW1/4, N1/2SW1/4, and SE1/4;
sec. 4, lots 1 thru 4, and S1/2NE1/4.

T. 15 S., R. 55 E., unsurveyed.

T. 16 S., R. 55 E.,
secs. 1 thru 6.

T. 16 S., R. 55 1/2 E.,
sec. 1, lot 1, E1/2SW1/4, NW1/4SW1/4, and SE1/4;
sec. 2, lots 3 thru 5, NE1/4SE1/4, and W1/2SE1/4.

Ranges 63/64:

Mount Diablo Meridian, Nevada

T. 16 S., R. 56 E.,
sec. 7, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 9, lot 2, that portion lying northerly of the northerly right-of-way line of U.S. Highway 95;
secs. 10 and 11, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 12;
secs. 13 and 14, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
Tract 37.

T. 16 S., R. 57 E., partly unsurveyed,
sec. 7, W1/2 and SE1/4;
sec. 17, W1/2 and SE1/4;
secs. 18 and 19, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 20, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65;
sec. 27, W1/2 and SE1/4;
sec. 28, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65;
secs. 33 and 34, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 35, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95, excepting those portions withdrawn by Public Law 106-65.

T. 17 S., R. 58 E.,
sec. 5, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95,
excepting those portions withdrawn by Public Law 106-65;
sec. 6, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
sec. 8, those portions lying northerly of the northerly right-of-way line of U.S. Highway 95;
secs. 9 and 10, those portions lying northerly of the northerly right-of-way line of U.S. Highway
95, excepting those portions withdrawn by Public Law 106-65;
sec. 13, NE1/4 and S1/2;
secs. 14 and 15, those portions lying northerly of the northerly right-of-way line of U.S.
Highway 95, excepting those portions withdrawn by Public Law 106-65;

Alamos:

Mount Diablo Meridian, Nevada

T. 16 S., R. 58 E., unsurveyed,
sec. 11;
sec. 12, W1/2;
sec. 13, NW1/4, that portion lying westerly of the westerly boundary of Alamo Road;
sec. 14;
sec. 23, NE1/4 and W1/2;
sec. 26, W1/2.

T. 15 S., R. 59 E., unsurveyed,
secs. 2 thru 11;

T. 14 S., R. 60 E., unsurveyed,
secs. 1 thru 11;
sec. 12, NE1/4 and W1/2;
sec. 14, NE1/4 and W1/2;
secs. 15 thru 22;
sec. 23, NW1/4;
sec. 27, NW1/4;
secs. 28 thru 32;
sec. 33, NW1/4.

T. 15 S., R. 60 E., unsurveyed,
sec. 5, NW1/4;
sec. 6;
sec. 7, NE1/4 and W1/2.

T. 9 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 10 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 11 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 12 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 22;
secs. 27 thru 34.

T. 12 1/2 S., R. 61 E., unsurveyed,
secs. 31 thru 34.

T. 13 S., R. 61 E., unsurveyed,
secs. 3 thru 10;
secs. 15 thru 21;
sec. 22, NE1/4 and W1/2;
sec. 28, NE1/4 and W1/2;
secs. 29 thru 31;
sec. 32, NE1/4 and W1/2.

T. 14 S., R. 61 E., unsurveyed,
sec. 6, NE1/4 and W1/2.

B.2 DEPARTMENT OF ENERGY, NATIONAL NUCLEAR SECURITY ADMINISTRATION

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 29 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Lt Gen Frank G. Klotz
Administrator
National Nuclear Security Administration
U.S. Department of Energy
1000 Independence Ave., S.W.
Washington, DC 20585

Dear Mr. Klotz:

The Air Force is initiating its Land Withdrawal Renewal for the Nevada Test and Training Range (NTTR) and requests NNSA formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, Cooperating Agencies.

The Air Force asks for your participation as a cooperating agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and NNSA as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

- (1) Participating in the LEIS scoping, data gathering, analysis, and consultation processes;
- (2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which NNSA has special expertise;
- (3) Making NNSA staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and
- (4) Responding in writing to this request.

The Air Force requires the support of cooperating agencies be timely, to avoid unnecessary delays in the NEPA process. Should you or your staff have further questions regarding this memo, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely,

Handwritten signature of Jennifer L. Miller in cursive.

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
AF/A30/A4C/TE
HQ ACC/AFMC/CV
NNSA, Nevada Field Office Manager

Cooperating Agency acceptance letter from the National Nuclear Security Administration: June 6, 2016



Department of Energy
Under Secretary for Nuclear Security
Administrator, National Nuclear Security Administration
Washington, DC 20585



June 6, 2016

Ms. Jennifer Miller
Deputy Assistant Secretary of the Air Force
1665 Air Force Pentagon
Washington, DC 20330-1665

Dear Ms. Miller:

Thank you for your January 29 letter inviting the National Nuclear Security Administration (NNSA) to participate as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR). NNSA accepts and understands it will be expected to participate in various portions of the LEIS development and, to the extent practicable, NNSA will:

- Participate in the LEIS scoping, data gathering, analysis, and consultation process;
- Assume responsibility, upon request, for developing information and preparing analyses on issues which NNSA has special expertise; and
- Make NNSA staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys.

Should you or your staff have further questions, the NNSA point of contact for this action as related to the Nevada National Security Site is Mr. Brian Wedl, Attorney for the Nevada Field Office at (702) 295-1347 or brian.wedl@nnsa.doe.gov, and the NNSA point of contact as related to the Tonopah Test Range is Ms. Susan Lacy at (505) 845-5542 or susan.lacy@nnsa.doe.gov.

Sincerely,

Frank G. Klotz



B.3 U.S. FISH AND WILDLIFE SERVICE

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 29 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Mr. Ren Lohofener
Director, Region 8
US Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825

Dear Mr. Lohofener:

The Air Force is initiating its Land Withdrawal for the Nevada Test and Training Range (NTTR) and requests USFWS formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, Cooperating Agencies.

The Air Force asks for your participation as a cooperating agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and USFWS as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

- (1) Participating in the LEIS scoping, data gathering, analysis, and consultation processes;
- (2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which USFWS has special expertise;
- (3) Making USFWS staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and
- (4) Responding in writing to this request.

The Air Force requires the support of cooperating agencies be timely, to avoid unnecessary delays in the NEPA process. Should you or your staff have further questions regarding this memo, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely,

A handwritten signature in cursive script, reading "Jennifer Miller", is positioned above the typed name.

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
AF/A30/A4C/TE
HQ ACC/AFMC/CV
Polly Wheeler, USFWS Region 8 Assistant Regional Director

**Interagency Assistance Agreement between the U.S. Fish and Wildlife Service
and the U.S. Air Force for the Conservation of Natural Resources on Air Force
Controlled Lands: June, 7, 2012**

**INTERAGENCY ASSISTANCE AGREEMENT
between the**

**UNITED STATES FISH AND WILDLIFE Service,
and the**

**THE UNITED STATES AIR FORCE
for the**

**CONSERVATION OF NATURAL RESOURCES
ON AIR FORCE CONTROLLED LANDS**

I. PURPOSE

This interagency assistance agreement (IAA) establishes a cooperative conservation program between the United States Fish and Wildlife Service (Service) and the United States Air Force (USAF) to support the management of natural resources on USAF controlled lands. This IAA will help the USAF meet Federal stewardship requirements and ensure the continued availability of installation lands to support military readiness. Implementation of this IAA will be a cooperative effort utilizing the combined expertise of USAF natural resources managers and Service staff located at the Washington Office, Ecological Services Field Offices, Fisheries Field Offices, and National Wildlife Refuges. Separate agreements and statements of work under the auspices of this IAA may be established to define the means by which the Service may be reimbursed for assistance provided to the USAF. The Assistant Director for Fisheries and Habitat Conservation, in coordination with the Assistant Director for Endangered Species Program, shall oversee the implementation of this IAA for the Service. The Air Force Center for Engineering and the Environment (AFCEE), as Field Operating Agency for Headquarters Air Force, shall be the office of primary responsibility for implementation of this IAA in USAF. Each of the parties to the agreement agrees to cooperate and work to protect Service trust species and to work collaboratively to manage, protect, stabilize and/or improve natural resources on military lands.

II. BACKGROUND

The Service is charged with the mission to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the American people. The USAF is steward to millions of acres of lands used for national defense purposes that include a variety of intact ecosystems and habitats that support Service trust species. The USAF also hosts recreational hunting and fishing programs, and actively supports efforts to conserve species at risk. The mutual interests and responsibilities of both agencies provide opportunities for the USAF and Service to cooperate in ways that will not only enhance the management of natural resources

on Federal lands, but will facilitate landscape linkages contributing to regional biodiversity. This cooperation benefits Service in its mission to protect lands and waters that are essential for Service trust resource conservation, and helps the USAF implement an environmental program that will enhance the ecosystems under its stewardship while sustaining the use of the land for military purposes. Ultimately, this agreement will benefit the public purpose by identifying, restoring and maintaining natural resources through compliance with Federal laws, regulations and statutes.

III. AUTHORITY

This IAA is enacted under the following authorities:

A. The Fish and Wildlife Coordination Act.

The Fish and Wildlife Coordination Act, as amended, authorizes the Service to provide assistance to, and cooperate with, other Federal agencies to prepare and implement plans to protect wildlife resources. The Act, as codified in Title 16, United States Code, Subchapter I, Section 661 – *Declaration of purpose; cooperation of agencies; surveys and investigations; donations*, subparagraphs (1)-(3), authorizes the Secretary of Interior...

(1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said sections;

(2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and

(3) to accept donations of land and contributions of funds in furtherance of the purposes of said sections.

B. The Sikes Act.

This IAA supports and is supported by the Sikes Act, as codified in Title 16, United States Code, Section 670 *et seq.*, Subchapter I – *Conservation Programs on Military Installations*. The Sikes Act authorizes programs for conservation and rehabilitation of natural resources on military installations, to include the cooperative development by the USAF, Service, and State fish and wildlife agency of an Integrated Natural Resources Management Plan (INRMP). Sections of the Sikes Act (16 U.S.C. § 670 *et seq.*) that provide specific authorities to support this interagency cooperative assistance agreement are provided below.

- 16 U.S.C. § 670a(a)(2) *Cooperative preparation*, states:

"The Secretary of a military department shall prepare each integrated natural resources management plan for which the Secretary is responsible in cooperation with the Secretary of the Interior, acting through the Director of the United States Fish and Wildlife Service, and the head of each appropriate State fish and wildlife agency for the State in which the military installation is located.

- 16 U.S.C. § 670a(d)(2) states:

"priority shall be given to the entering into of contracts for the procurement of such implementation and enforcement Services with Federal and State agencies having responsibility for conservation and management of fish and wildlife."

- 16 U.S.C. § 670c-1 – *Cooperative agreements for land management on Department of Defense installations*, subparagraph (b) *Multiyear agreements* provides the following in regards to the obligation of funds for cooperative assistance provided under the terms of this IAA:

"Funds appropriated to the Department of Defense for a fiscal year may be obligated to cover the cost of goods and Services provided under a cooperative agreement entered into under subsection (a) or through an agency agreement under section 1535 of title 31, United States Code, during any 18 month period beginning in that fiscal year, without regard to whether the agreement crosses fiscal years.

C. The Economy Act.

This Economy Act, as codified in Title 31 United States Code, Section 1535, provides authority for interagency transactions between agencies of the Federal government. The Federal Acquisition Regulation (FAR), Subpart 17.5 – *Interagency Acquisitions Under the Economy Act*, prescribes the policies and procedures applicable to interagency acquisitions under the Economy Act (31 U.S.C. § 1535). Defense regulation DFARS 217.5 and Air Force regulation AFFARS 5317.5 supplement the FAR.

D. Executive Order 13352, Facilitation of Cooperative Conservation.

On August 26, 2004, the President enacted Executive Order 13352 to encourage collaboration among Federal, State, local, and tribal governments, private for-profit and nonprofit institutions, other nongovernmental entities and individuals to facilitate actions related to the enhancement and enjoyment of natural resources and protection of the environment. The President states the purpose of the Executive Order as follows:

"The purpose of this order is to ensure that the Departments of the Interior, Agriculture, Commerce, and Defense and the Environmental Protection Agency implement laws relating to the environment and natural resources in a manner that promotes cooperative conservation, with an emphasis on appropriate inclusion of local participation in Federal decision making, in accordance with their respective agency missions, policies, and regulations.

E. Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

On January 10, 2001, the President signed Executive Order 13186, “*Responsibilities of Federal Agencies to Protect Migratory Birds*”, (66 FR 3853, January 17, 2001). The Executive Order directs agencies to take certain actions to further comply with the migratory bird conventions, the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and other pertinent statutes through development of an Memorandum of Understanding (MOU) with the Service. On July 31, 2006, the Department of Defense (DoD) and the Service entered into a *Memorandum of Understanding (MOU) to Promote the Conservation of Migratory Birds*. The purpose of the MOU is to strengthen migratory bird conservation by identifying and implementing strategies that promote conservation and avoid or minimize adverse impacts on migratory birds through enhanced collaboration between the Service and DoD. The MOU describes how the Service and DoD will work together cooperatively to achieve these ends.

F. Air Force Instruction 32-7064.

Air Force Instruction (AFI) 32-7064, *Integrated Natural Resources Management* directs the USAF to manage vegetation, wildlife, water, and outdoor recreation resources in accordance with applicable laws. The regulation supports USAF operations by facilitating the stewardship of natural resources within and around airfields, ranges, and other training areas while simultaneously supporting the Sikes Act objective to sustain “*no net loss in the capability of military installation lands to support the military mission of the installation.*” In regards to the authority of AFCEE to enter into cooperative agreements on behalf of the Air Force, AFI 32-7064 states:

“AFCEE Director is delegated authority to sign cooperative agreements entered into pursuant to the Sikes Act, Title 16, United States Code, Section 670c-1.”

G. Other Authority.

In addition to the authorities listed above, this IAA supports and is supported by the following statutes and guidances:

- Anadromous Fish Conservation Act, as amended (16 U.S.C 757a-757g).
- Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668d).
- Cave Resources Protection Act (16 U.S.C. 4301 et seq.)
- Comprehensive Environmental Response Compensation and Liability Act of 1980 (26 U.S.C. 4611-4682), as amended 1983 (42 U.S.C. 9601-9657) and 1986 (P.L. 99-499).
- Department of Defense Instruction (DODI) 4715.03, *Natural Resources Conservation Program*.
- Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543).
- Executive Order 11988, *Flood plain Management*, May 24, 1977.
- Executive Order 11990, *Protection of Wetlands*, May 24, 1977.

- Executive Order 12962, *Recreational Fisheries*, June 7, 1995.
- Executive Order 13112, *Invasive Species*, February 3, 1999.
- Estuaries and Clean Waters Act of 2000 (P.L. 106-457).
- Estuary Protection Act (16 U.S.C. 1221-1226).
- Federal Grant and Cooperative Agreement Act of 1977 (P.L. 95-114).
- Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701).
- Federal Noxious Weed Act of 1976 (7 U.S.C. 2801).
- Federal Water Pollution Control Act of 1977 (Clean Water Act), as amended (33 U.S.C. 1251-1376).
- Fish and Wildlife Conservation Act of 1980 (16 U.S.C. 2901).
- Hunting, Fishing and Trapping on Military Lands [An update of the Military Construction Authorization Act] (10 U.S.C. 2671).
- Lacey Act of 1900 (16 U.S.C. 701, 702).
- *Memorandum of Understanding Between the U.S. Department of Defense and U.S. Fish and Wildlife Service and the International Association of Fish and Wildlife Agencies for a Cooperative Integrated Natural Resource Management Program on Military Lands*, January 31, 2006.
- Migratory Bird Treaty Act, as amended (16 U.S.C. 701 *et. seq.*).
- National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321-4347).
- Resource Conservation and Recovery Act (RCRA) , P.L. 94-580 (42 U.S.C. 6901-6992; 90 Stat. 2795), as amended by P.L. 95-609 (92 Stat. 3081), P.L. 96-463 (94 Stat. 2055), P.L. 96-482 (94 Stat. 2334), P.L. 98-616 (98 Stat. 3224), P.L. 99-339 (100 Stat. 654), P.L. 99-499 (100 Stat. 1696), P.L. 100-556 (102 Stat. 2779)
- Rivers and Harbors Act of 1899 (33 U.S.C. 401 *et. seq.*).
- Soil and Water Conservation Act (16 U.S.C. 2001).

IV. SCOPE

A. **Mutual Responsibilities.**

1. The parties will collaborate on matters relating to the conservation and management of natural resources on or affecting the lands administered by the USAF, such as fish and wildlife management projects, research activities, law enforcement, education and outreach programs, and other matters as may be relevant to natural resources conservation. An interdisciplinary, united approach shall be promoted by the parties to resolve problems relating to multiple use management of natural resources.

2. The parties shall cooperate in preparing and implementing Integrated Natural Resources Management Plans (INRMPs) in accordance with the Sikes Act, and in conducting natural resources conservation studies on lands under USAF control in support of the Endangered Species Act or to comply with the National Environmental Policy Act.

3. The USAF and Service agree that the involvement of each agency in this IAA shall not be used in any way by either agency to imply an endorsement of the other agency's actions. All advertising or other publicity regarding activities undertaken as part of this agreement, which mentions the participation of the other agency, shall first be approved for release by both agencies, and approval may be withheld for any reason sufficient to either agency. If either agency should appear to have violated this clause, the aggrieved agency may request the immediate cessation of those actions plus further action to effectively counteract any mistaken impressions in the public mind. If the violating agency fails to comply fully with the request, the aggrieved agency may unilaterally take any action it considers necessary to correct the mistaken impression and bill the other agency for the reasonable costs of that action. Failure to promptly pay those reasonable costs shall be treated as a dispute under the terms of this agreement.

4. Nothing in this IAA is intended to modify in any manner currently ongoing cooperative programs with other public agencies, conservation groups, or educational institutions, or modify any rights granted by treaty or otherwise to any Indian tribe or member thereof.

5. All data collected or generated as a result of this agreement will be shared between all parties involved and will remain the property of the United States of America.

6. The USAF and Service will conduct a joint annual review of this agreement.

B. United States Fish and Wildlife Service Responsibilities.

The Service shall, consistent with Service policy and within limitations of available funding provided by the USAF:

1. Establish a point of contact for this agreement in the Service Washington Office.

Chief, Division of Habitat and Resource Conservation
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive
Arlington, VA 22203

2. Assign one or more Service employees to the AFCEE as liaison to the USAF. Duties for a Service liaison position will be as specified in a position description approved by the Service. Goals and objectives for Service employees supported by USAF shall be established in a statement of work approved jointly by the Service and AFCEE, and amended periodically by mutual agreement of both parties. Service liaison support may include, but is not limited to:

- a. Support Air Force compliance with the Endangered Species Act, as specified in Title 16 U.S.C. § 1531-1544, by providing technical assistance for the conservation, protection and management of Service trust species. The Service liaison will work with the USAF to create a consolidated source of information on

Service trust species on USAF controlled properties. The incumbent will help disseminate information to USAF installations on upcoming proposed threatened and endangered species listings and critical habitat designations.

- b. Support Air Force and Service compliance with the Sikes Act, as specified in Title 16 U.S.C. § 670a(a)(2), and in accordance with DoD and Service Sikes Act guidelines. The Service liaison shall provide technical and advisory assistance for the development and implementation of Integrated Natural Resources Management Plans (INRMPs) as required by the Sikes Act, and will help insure the synchronization of INRMPs with existing Service and State Wildlife Action Plans. The incumbent will help facilitate and track the required coordination and review of INRMPs with the appropriate Service Field Office and Regional Office Sikes Act Coordinator.
- c. Advise Air Force installations of opportunities for cooperative conservation and natural resources management assistance available from Service offices. The Service liaison shall facilitate cooperative conservation partnerships between USAF installations and Service Regions, Ecological Services Field Offices, Fisheries Field Offices, and National Wildlife Refuges as appropriate. The incumbent may also assist with the implementation of INRMPs by coordinating the assistance of qualified Service experts in the fields of endangered species conservation, fish and wildlife management, and other natural resource management disciplines. Upon acceptance of USAF funds, the Service may facilitate reimbursable assistance to USAF from Service offices nationwide.

C. United States Air Force Responsibilities.

The USAF will, consistent with Department of Defense policy and within limitations of appropriations:

1. Provide a POC to administer and facilitate Service assistance for USAF natural resource program needs at the Air Force Center for Engineering and the Environment

Natural Resources Subject Matter Expert
AFCEE/TDN
2261 Hughes Avenue, Suite 155
Lackland AFB, TX 78236-9853

2. Reimburse the appropriate Service organization for costs incurred by the Service for support provided to USAF for the conservation and management of fish and wildlife resources. The USAF will reimburse the Service for the salary, employee benefits, travel, transfer of station, administrative overhead and other support costs for liaison positions with a duty station at the AFCEE. Funding for reimbursement of Service assistance will be provided by the USAF to the Service office providing the Services by means of a DD Form 448 *Military Interdepartmental Purchase Request* (MIPR). Each MIPR will reference the specific support provided and will reimburse the Service for the total cost of assistance.

Funds will be considered obligated upon the Service acceptance of the MIPR as Category I – Reimbursement.

3. Provide workspace, computer support, clerical support, security clearance and appropriate access privileges for Service employees permanently assigned or detailed to Air Force offices.

V. FINANCIAL ADMINISTRATION

A. Funding.

1. The USAF agrees to seek sufficient funds to support Service activities as identified in the agreed upon statement of work. The USAF will submit an annual request for funds through the Air Force budgetary process. Any requirement for payment or obligation of funds shall be subject to the availability of appropriated funds.

2. The USAF organization requesting assistance and the supporting Service office will review and approve a project budget prior to any Services being rendered. The Air Force will issue a MIPR to the supporting Service office for the estimated cost of assistance to be provided for a period not to exceed 18 months.

3. In accordance with 16 U.S.C. § 670c-1(b), funds obligated by the USAF and transmitted to the Service by MIPR, may be obligated to cover the cost of goods and Services specified in the associated program of work during an 18 month period, beginning in that fiscal year, without regard to whether the agreement crosses fiscal years. Funds for specific tasks that Service is unable to execute during the allowable period will be returned to the USAF.

B. Payments.

1. The Service office accepting a MIPR for reimbursable Services shall bill the USAF by means of an SF 1080 or, if available, via Intra-Governmental Payment and Collection system (IPAC), for any effort completed during the previous 90 days or less. Each billing statement will include the project title, project number and the applicable MIPR number. Payment requests will be submitted through the Defense Finance and Accounting Service (DFAS) office designated on the MIPR (Block 13).

2. Allowable costs under this IAA will include all direct and indirect costs incurred by the Service for work to be completed within the scope of this IAA. The Service will maintain a record of costs incurred.

a. The Service office performing reimbursable Services for USAF shall provide the USAF with cost documentation, as requested, which will reflect an annual reconciliation of costs and expenditures incurred by the Service for each task.

b. The Service indirect cost rate for this agreement will be the current and applicable Service overhead cost rate.

c. If there are any discrepancies regarding the reimbursable costs associated with this agreement, the Service and USAF will resolve any issues.

VI. MODIFICATIONS

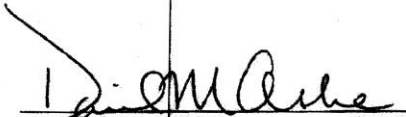
Modifications to this IAA will be made in writing and signed by the parties prior to being incorporated. Correspondence between the parties may be considered part of this IAA when appropriate and countersigned by the receiver and returned to the sending party.

VII. TERMINATION


Each party may terminate its participation in this IAA at the end of any fiscal year, (1 October to 30 September), providing that written Notice of Termination is given by the terminating party to the non-terminating party. The Service will return any unused funds to USAF upon termination. The USAF will notify the Service at least 90 days in advance if funding to support salary and benefits of Service personnel will be terminated.

VIII. EFFECTIVE DATE

This inter-agency agreement becomes effective upon its execution by signature of authorized representatives from each cooperating agency. This IAA shall be valid until terminated in accordance with Section VII. This IAA may be modified, revised or renewed at any time, as agreed upon by the effected parties.



DANIEL M. ASHE (DATE)
Director 6-7-2012
U.S. Fish and Wildlife Service



TERRY G. EDWARDS, P.E., SES (DATE)
Director Air Force Center for Engineering and the Environment

OCTOBER 2018

National Historic Preservation Act Consultation request from Air Force to U.S. Fish and Wildlife Service, Region 8: October 18, 2016



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
Commander
4430 Grissom Ave., Ste. 101
Nellis AFB NV 89191-6520

OCT 18 2016

Mr. Paul Souza
U.S. Fish and Wildlife Service
Regional Director – Pacific Southwest (Region 8)
2800 Cottage Way
Sacramento, CA 95825

Subject: National Historic Preservation Act (NHPA) Section 106 Consultation Request; Nevada Test and Training Range (NTTR) Land Withdrawal at Nellis Air Force Base, Nevada

Dear: Mr. Souza,

The United States Air Force (USAF) is now preparing a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Military Land Withdrawal. The Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior for use by the Department of Defense. The current withdrawal will expire in 2021. As a result, the USAF is working with the Department of the Interior (DoI) to support Congressional legislation to extend and possibly expand the current footprint of the NTTR to support military training and testing requirements.

In addition to extending the current existing land withdrawal, USAF alternatives being evaluated in the LEIS include 3 sub-alternatives that involve NTTR expansion by up to 301,507 acres. Options include withdrawing ~18,000 additional acres on the South side of the North Range, withdrawal of an additional ~57,000 acres on the South side of the NTTR South range, and withdrawal of ~227,000 acres of land overlapping the Desert National Wildlife Refuge (DNWR) to the East of the NTTR.

In furtherance of meeting requirements of Section 106 and other provisions of the National Historic Preservation Act (NHPA), the USAF has identified the USFWS as an appropriate NHPA consulting party to this action due to the nature of the proposal and the ownership/management of identified land areas. The USAF has also identified lands within Attachment 1 as the Area of Potential Effect, or APE, for the NTTR land withdrawal proposal.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. The USAF has identified the general types of activities that may take place in the proposed withdrawal expansion area. New activities in proposed withdrawal expansion areas would include establishment of electronic emitter and radar sites, overland movement by small tactical teams of 10-12 military personnel, establishment of an airstrip, limited road and trail construction, fencing, and establishment of controlled access to ensure public safety during military operations. Specific locations for

these activities cannot be defined until after enactment of any withdrawal legislation. The USAF is not proposing any site-specific activities that would involve ground-disturbance at this time. Accordingly, the USAF is preparing a programmatic LEIS that will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those resources based on the types of activities that may occur in the future in these areas. Specific future activities on any withdrawn lands would be subject to the appropriate level of future NEPA review and associated supporting consultations at the time they are proposed. The Air Force anticipates completing a Programmatic Agreement (PA) to meet its Section 106 consultation requirements and, with this letter, invites the USFWS to participate as a consulting party in the formulation of the PA.

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR 800.1(c), the USAF initiated consultation with the Nevada State Historic Preservation Office (NVSHPO) in July 2016 for the NTTR military land withdrawal proposal. Nellis Air Force Base (NAFB) also initiated discussions with affiliated Native American tribes early in the planning process in order to take into account tribal concerns. With this letter, the USAF is also formally requesting the initiation of NHPA consultation with the US Fish and Wildlife Service for the NTTR military land withdrawal proposal given that the APE under consideration may impact your agency and cultural resource management programs.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with NAFB include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The Air Force initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/ March of 2015.

In November of 2015, the Air Force held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations was sent to all sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

As discussed, on 18 July 2016 the USAF initiated NHPA Section 106 consultation with the NVSHPO regarding this proposed action (copy of letter provided as Attachment 2); the Air Force held a discussion with the NVSHPO on 5 August 2016 to provide additional background information on the proposed project.

The Air Force plans to initiate a Cultural Resources Study within the proposed withdrawal expansion areas to identify and characterize resources that may be present. The Air Force has coordinated the survey plan with USFWS, and has updated the plan to include USFWS recommendations for Phase I cultural surveys in these areas. The USAF coordinated this plan with Mr. Anan Raymond (Regional Historic Preservation Officer for Regions 1 and 8) and Mr. Spencer Lodge Staff Archaeologist) in August 2016. USFWS input has been incorporated into the updated plan which has been provided back to these POCs and is available upon request. The plan will be supplemented by any previous studies in these areas and any available data

from the NVSHPO and partner agencies. All identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures).

In support of NHPA consultation efforts for this undertaking the USAF seeks information from the USFWS on historic property sites and concerns within the area of potential effect, input on methods for data gathering, as well the USFWS' perceived historic property identification needs. The USAF also invites your comments regarding:

- Any outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of consultation documentation or the LEIS.

As the USAF develops the LEIS and works through the NHPA Section 106 consultation process with the NVSHPO, tribes, and other consulting parties, we look forward to the USFWS' contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish Lapierre by e-mail at kish.lapierre@us.af.mil or by phone at (702) 652-5813. Thank you for your attention to this matter.

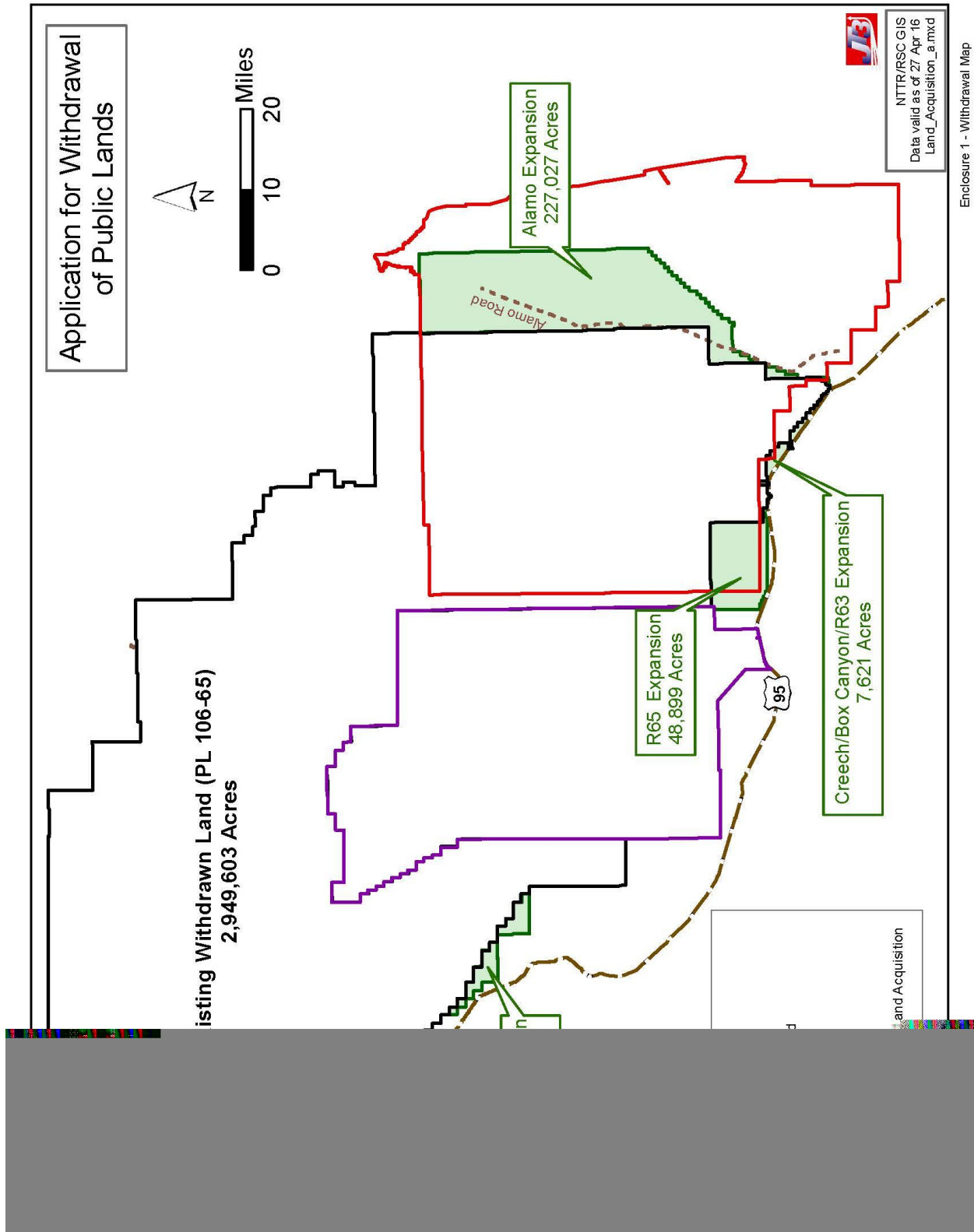
Sincerely,



Michael A. Freeman
Lieutenant Colonel, USAF
Commander

Cc:

Polly Wheeler, Assistant Regional Director for Refuges, Pacific SW Region
Christy Smith, Desert National Wildlife Refuge Complex
Anan Raymond, USFWS Cultural Resources Management
Spencer Lodge, USFWS Cultural Resources Management
Rebecca Palmer, NV State Historic Preservation Office





DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

Enclosure 2

Lieutenant Colonel Michael A. Freeman
Commander
6020 Beale Ave.
Nellis AFB NV 89191

JUL 18 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Dear Ms Palmer

The United States Air Force (USAF) is now preparing a *Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal* extension and proposed expansion. Because the current NTTR land withdrawal (Attachment 1) will expire in 2021, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities. The USAF is also considering a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total of approximately 310,000 acres.

While Congress and the President ultimately make the decision with respect to legislative withdrawals such as this one, the USAF anticipates engaging in undertakings in the future, should the withdrawal be enacted. In addition, the proposed expansion would change the accessibility of these lands depending upon the alternative means of implementing these features as determined by Congress. Therefore, in accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 C.F.R. §800.1(c), the USAF seeks to consult with you early in the planning process in order to take into account any historic preservation concerns you may have as it formulates these undertakings.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. While the USAF has identified the general types of activities that will take place in the proposed withdrawal expansion area, specific activities and their locations cannot be defined until after enactment of any withdrawal legislation. As a result, the USAF is preparing an LEIS which is programmatic in nature. The LEIS will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those

Enable Success Through Innovative Base Support

resources based on the types of activities that may occur in the future in these areas. Specific future activities would be subject to additional and appropriate NEPA analysis and NHPA consultation.

To develop the LEIS and meet NHPA obligations, the USAF would use existing cultural resource information for the current NTTR lands. It plans to initiate a Cultural Resources Study of 15,000 acres of land within the proposed withdrawal expansion areas to identify and characterize resources that may be present. Because the proposed expansion areas consist of over 300,000 acres and the results of the land withdrawal process may not be known until 2021, the Air Force has developed a draft plan to characterize cultural resources through a random-sample survey strategy in these areas. The plan will be supplemented by any previous studies in these areas and associated available data; all identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures). This survey will also serve to supplement and test a successful probabilistic model developed for work conducted previously on the adjacent NTTR property. The USAF has included the proposed plan to address characterization of historic properties as Attachment 3 to this letter.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with Nellis AFB (NAFB) include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The USAF initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/March of 2015.

In November of 2015, the USAF held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations to all seventeen federally recognized tribes was sent to all tribes on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

For consultation with your office, the USAF identifies the Area of Potential Effect as the extended and potentially expanded withdrawn NTTR lands. The USAF invites your comments regarding the following:

- Outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of the LEIS.

As the USAF develops the LEIS, it will continue consulting with you under Section 106 and provide the necessary information and determinations for established procedures under NHPA. We look forward to the NV SHPO's valuable contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely



MICHAEL A. FREEMAN, Lt Col, USAF
Commander

Attachments:

1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Cultural and Paleontological Survey Plan (Duke, 2016)

cc:

Mr. Michael Ackerman (AFCEC/CZN)
Mr. Skip Canfield (Nevada State Clearinghouse)

Cooperating Agency acceptance letter from the U.S. Fish and Wildlife Service: August 5, 2016



In Response Reply To:
FWS/RR/

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Southwest Region
2800 Cottage Way, Suite W-2606
Sacramento, California 95825



Ms. Jennifer Miller
SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

AUG 5 2016

Dear Ms. Miller:

The U.S. Fish and Wildlife Service (USFWS) will formally participate as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations, 40 CFR Part 1501.6.

The Air Force is the lead Agency in the preparation of the LEIS, and the USFWS as a Cooperating Agency agrees to:

- 1) Participate in the LEIS scoping, data gathering, analysis, and consultation processes;
- 2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which USFWS has special expertise; and
- 3) Provide staff support to enhance interdisciplinary review capability, correspondence, and/or surveys.

In addition, the USFWS names Christy Smith, Project Leader for the Desert National Wildlife Refuge Complex, to be the representative for the LEIS process described above.

Polly Wheeler
Assistant Regional Director
US Fish and Wildlife Service
Pacific Southwest Region

cc:
Jack Bush
Michael Ackerman

B.4 NEVADA DEPARTMENT OF WILDLIFE

Letter from Air Force requesting formal participation as Cooperating Agency: January 29, 2016



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

JAN 29 2016

OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Mr. Anthony Wasley
Director
Nevada Department of Wildlife
6980 Sierra Center Pkwy #120
Reno, NV 89511

Dear Mr. Wasley:

The Air Force is initiating its Land Withdrawal Renewal for the Nevada Test and Training Range (NTTR) and requests NDOW formal participation as a Cooperating Agency in the preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*.

The Air Force asks for your participation as a cooperating agency in preparation of the LEIS as generally outlined in the steps below. To address the specific responsibilities of the Air Force as Lead Agency and NDOW as Cooperating Agency, we also propose development of an Interagency Agreement, the context of which will be worked out between the Cooperating Agencies, subsequent to this request.

- (1) Participating in the LEIS scoping, data gathering, analysis, and consultation processes;
- (2) Assuming responsibility, upon request, for developing information and preparing analyses on issues for which NDOW has special expertise;
- (3) Making NDOW staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and
- (4) Responding in writing to this request.

The Air Force requires the support of cooperating agencies be timely, to avoid unnecessary delays in the NEPA process. Should you or your staff have further questions regarding this memo, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely,

A handwritten signature in cursive script that reads "Jennifer Miller".

JENNIFER MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

cc:
AF/A30/A4C/TE
HQ ACC/AFMC/CV
Brad Hardenbrook, NDOW Southern Region

Cooperating Agency acceptance letter: March 17, 2016

BRIAN SANDOVAL
Governor

STATE OF NEVADA
DEPARTMENT OF WILDLIFE

6980 Sierra Center Parkway, Suite 120
Reno, Nevada 89511
Phone (775) 688-1500 • Fax (775) 688-1495

TONY WASLEY
Director

LIZ O'BRIEN
Deputy Director

JACK ROBB
Deputy Director

Thursday, March 17, 2016

Mr. Jack Bush
HQ USAF/A4CI
1665 Air Force Pentagon
Washington, DC 20330-1665

Dear Mr. Bush:

The Nevada Department of Wildlife (NDOW) received a formal request from the United States Air Force to participate as a Cooperating Agency on the Nevada Test and Training Range (NTTR) Legislative Environmental Impact Statement (LEIS). This letter is a brief response to that request to inform you that we would like to be a Cooperator.

As you may know, NDOW staff have been participating in meetings since late last year to assist in identifying wildlife resource issues and related recommendations that might be incorporated into the NTTR LEIS. Our staff will continue to participate as needed and available to assure that important wildlife resources are managed in ways that, hopefully, are compatible for both NDOW and NTTR missions.

Sincerely,


A handwritten signature in black ink, appearing to read "Tony Wasley".

For Tony Wasley

cc:
John Tull, NDOW Wildlife Staff Specialist

B.5 NYE COUNTY BOARD OF COMMISSIONERS

Letter to Air Force requesting Cooperating Agency status: December 20, 2016

<p>Pahrump Office Nye County Government Center 2100 E. Walt Williams Drive Suite 100 Pahrump, NV 89048 Phone (775) 751-7075 Fax (775) 751-7093</p>	 <p>Board of County Commissioners Nye County, Nevada</p>	<p>Tonopah Office Nye County Courthouse William P. Beko Justice Facility PO Box 153 Tonopah, NV 89049 Phone (775) 482-8191 Fax (775) 482-8198</p>
<p>December 20, 2016</p> <p>99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191 or by email at 99ABW.PAOutreach@us.af.mil.</p>		
<p>John Ruhs Nevada State Director, Bureau of Land Management BLM Nevada State Office 1340 Financial Blvd., Reno, NV 89502 E-mail: Jruhs@blm.gov</p>		
<p>Tom Seley Project Manager, BLM Southern Nevada District Office, 4701 North Torrey Pines Drive, Las Vegas, NV, 89130-2301 email: tseley@blm.gov</p>		
<p>Subject: Request to become Cooperating Agency for the Nevada Test and Training Range Military Land Withdrawal at Nellis Air Force Base, Nevada (August 25, 2016). 81 Fed. Reg. 60727; 81 Fed. Reg. 58496.</p>		
<p>To Whom It May Concern:</p> <p>Nye County formally requests participation as a Cooperating Agency in the Nellis Air Force Base Military Land Withdrawal process. Nye County is a local government that may serve as a Cooperating Agency either under jurisdiction by law or special expertise. 40 CFR 1508.5 (CEQ); 40 CFR 1501.6 and 1508.5; 40 CFR 1508.26.</p> <p>A County has jurisdiction by law over any land within the County's borders. 40 CFR 1508.15. Counties also have "special expertise" with respect to the several environmental impacts that will result from a land withdrawal. 40 CFR 1508.26. Special expertise means statutory responsibility, agency mission, or related program experience, which emphasizes the "relevant capabilities or knowledge" that a local government entity has with respect to reasonable alternatives or any significant environmental, social, or economic impacts associated with a proposed action. 40 CFR 1501.6.</p>		
<p>16-0221FC Nye County is an Equal Opportunity Employer and Provider</p>		

Nellis Air Force Base Cooperating Agency
December 20, 2016
Page 2

Counties possess special expertise for policies or programs affecting the condition and use of public lands, or on the environmental, social, or economic impacts of a proposal and specialized local data and information. 43 CFR 1610.3-1, 3-2; BLM Desk Guide at 9.

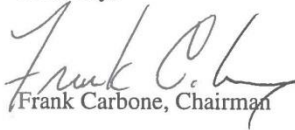
Nye County qualifies as government possessing expertise (1) relevant to Withdrawing from Mineral Entry areas designated as SFAs; and (2) contains program focus and staff capabilities to help raise concerns, collaborate, and provide relevant analyses.

Nye County understands the importance of our potential role to: Arrange for the collection and/or assembly of necessary resource, environmental, social, economic, and institutional data; Analyze data; Develop alternatives; or carry out other tasks necessary for the development of the environmental analysis and documentation. 40 CFR 1501.6; 43 CFR 46.230.

Should you decide to grant this request, Nye County is happy to help assist entering into a Memorandum of Understanding to establish Cooperating Agency status in the planning and NEPA processes so that we may work together under the terms of the agreement. 43 CFR 46.225(d),(e). As part of its MOU, Nye County requests to designate the Nevada Association of Counties ("NACO") as its representative. Other Agencies, such as the Bureau of Land Management, have recognized that as an intergovernmental organization, the Nevada Association of Counties may be offered as a representative of a County in the Cooperating Agency MOU. BLM Desk Guide at 23-24; BLM Desk Guide at 9; 40 CFR 1508.2. The BLM's opinion is "An intergovernmental organization may represent one or more CAs, provided that all agencies to be represented are members of that organization and all have formally authorized it to act on their behalf. Such authorizations should be identified in the MOU."

If you find it is inappropriate to extend an invitation, we look forward to hearing your response and reasons in the EIS. 40 CFR 1501.6(c).

Sincerely,



Frank Carbone, Chairman

FC/

OCTOBER 2018

E-mail response from Air Force: January 4, 2017

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN
To: jreeves@co.nye.nv.us
Cc: [GREENE, LFA M GS-12 USAF ACC 99 ABW/PA; 99 ABW/PA \(Outreach\)](#)
Subject: FW: NTTR//Nye County Request to Become Cooperating Agency
Date: Wednesday, January 04, 2017 1:21:39 PM
Attachments: [16-0221FC.pdf](#)

Hello Ms. Reeves,

We received Nye Counties request to become a cooperating agency sent on 20 Dec (see attached letter). On 8 December the Air Force spoke with the NV State clearinghouse and other members of the State, County, and local NV planning community. Shortly following that meeting we discussed making the NV Association of Counties (NV NACO) a Cooperating Agency on the Nevada Test and Training Range (NTTR) Military Land Withdrawal and its associated Legislative Environmental Impact Statement (LEIS) to represent NV County planning concerns through the planning process. We are working the request at this time to set up an effective structure to engage with Nye County and other potentially effected Counties, as we move forward with planning.

Thank you for your letter and please feel free to share any information or planning concerns with us as we move the LEIS process forward.

Sincerely,

Mike Ackerman

Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
(210) 925-2741, DSN 945-2741

-----Original Message-----

From: Jaynee Reeves [<mailto:jreeves@co.nye.nv.us>]
Sent: Wednesday, December 21, 2016 11:26 AM
To: 99 ABW/PA (Outreach) <99ABW.PAOutreach@us.af.mil>
Subject: FW: Nye County Request to Become Cooperating Agency

Hello,

Please see attached letter from Nye County Chairman Frank Carbone, Board of County Commissioners. Should you have any questions please feel free to contact me. Thank you.

Jaynee Reeves

Administrative Secretary

Letter from Air Force to Nye County Board of Commissioners: March 31, 2017

DEPARTMENT OF THE AIR FORCE
AIR FORCE CIVIL ENGINEER CENTER
JOINT BASE SAN ANTONIO LACKLAND TEXAS

AFCEC/CZN
2261 Hughes Ave., Ste. 155
JBSA Lackland, TX 78236-9853

31 March, 2017

Mr. Frank Carbone
Chairman, Nye County Board of County Commissioners
2100 E. Walt Williams Drive
Suite 100
Pahrump, NV 89048

Re: Nevada Test and Training Range (NTTR) Legislative Environmental Impact Statement (LEI) Public Scoping Letter – Request for Cooperating Agency Status.

Dear Mr. Carbone,

The U.S. Air Force (USAF) appreciates the input provided by the Nye County Board of Commissioners on 9 December 2016 regarding the NTTR LEIS. Although the USAF does not typically respond directly to public scoping comments, we believe a response is merited regarding your request for cooperating agency status.

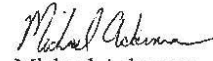
After your 9 December 2016 letter was submitted, the USAF met with Nye County representatives, held discussions with other effected Counties, and participated in a teleconference with the Nevada Association of Counties (NVNACO). Through these interactions, the USAF has agreed to establish a cooperating agency relationship with NVNACO, as a central focal point for interaction with Counties potentially affected by the NTTR land withdrawal proposal as opposed to becoming a cooperating agency with each individual County. This will provide an equal opportunity for information sharing across all potentially affected Counties and ensure that the USAF receives the collective benefit of County planning expertise in the development of the NTTR LEIS. The Air Force looks forward to working with Nye County and NVNACO in sharing information and getting early feedback on the USAF NTTR land withdrawal proposal.

With respect to requests to extend the public scoping period, the Air Force did not extend the public scoping period, but does welcome any new information or comments from Nye County that may assist in the preparation and development of the NTTR LEIS.

As previously mentioned, we appreciate your comments and felt it was important to reply to your request regarding cooperating agency status. We welcome any input or information that you wish to share with us on the NTTR land withdrawal proposal.

If you have any questions, please do not hesitate to contact me at (210) 925-2741;
michael.ackerman.2@us.af.mil

Sincerely,



Michael Ackerman
Program Manager
NEPA Division (AFCEC/CZN)

B.6 NEVADA ASSOCIATION OF COUNTIES

Cooperating Agency acceptance letter: June 2, 2017



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC



OFFICE OF THE ASSISTANT SECRETARY

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

JUN 02 2017

Mr. Jeffrey Fontaine
Executive Director
Nevada Association of Counties
304 S. Minnesota Street
Carson City, NV 89703

Dear Mr. Fontaine,

The Air Force accepts the Nevada Association of Counties's (NACO) request to become a Cooperating Agency (CA) in the continuing planning efforts for the Nevada Test and Training Range military land withdrawal and its preparation of a Legislative Environmental Impact Statement (LEIS), as prescribed in the President's Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Regulations, 40 CFR Part 1501.6, *Cooperating Agencies*.

In accepting the NACO's request, the Air Force asks that NACO participate in preparation of the LEIS, as generally outlined below:

- (1) Participate in the LEIS data gathering, analysis, and consultation processes;
- (2) Assume responsibility, upon request, for developing information and preparing analyses on issues for which NACO has special expertise;
- (3) Make NACO staff support available to enhance interdisciplinary review capability, correspondence, and/or surveys; and
- (4) Protect "deliberative process" information from public dissemination and recognize that Air Force retains sole authority for authorizing public release of LEIS information.
- (5) Respond in writing to this letter with name(s) and contact information for NACO's CA representative(s).

The Air Force requires the support of cooperating agencies be timely, to avoid unnecessary delays in the NEPA process. Should you or your staff have further questions regarding this response, our point of contact is Mr. Jack Bush, HQ USAF/A4CI, at (703) 614-0237 or jack.bush@pentagon.af.mil.

Sincerely,

JENNIFER L. MILLER
Deputy Assistant Secretary of the Air Force
(Installations)

BREAKING BARRIERS...SINCE 1947

Letter from Nevada Association of Counties to Air Force: June 7, 2017**Nevada Association of Counties**

304 South Minnesota Street

Carson, City, NV 89703

775-883-7863

www.nvnaco.org

June 7, 2017

SAF/IEI
1665 Air Force Pentagon
Washington, DC 20330-1665

Re: Nevada Association of Counties acceptance as a Cooperating Agency for the planning efforts of the Nevada Test and Training Range military land withdrawal and LEIS project.

Dear Jennifer Miller,

In accord with the Air Force's acceptance of the Nevada Association of Counties (NACO) to become a Cooperating Agency (CA) in the planning efforts for the Nevada Test and Training Range military withdrawal and preparation of the Legislative Environmental Impact Statement (LEIS), NACO hereby accepts the responsibilities and obligations previously outlined and requested by the Air Force in preparation of the LEIS.

As a Cooperating Agency assisting with the LEIS for the President's Council on Environmental Quality (CEQ) and the National Environmental Policy Act (NEPA), NACO agrees to the following LEIS preparation measures:

- Participation efforts in gathering data, necessary analysis, and consultation processes that are essential to the LEIS preparation.
- NACO will assume responsibility, upon request, for the development and preparation of information on issues that NACO has special expertise.
- NACO support staff will be available for processes to enhance interdisciplinary review capabilities, correspondence, and surveys.
- NACO will protect "deliberative Process" information from public dissemination and recognizes that the Air Force will retain sole authority for authorizing public release of LEIS information and materials.

NACO fully understands the importance of timely communication and is committed to assisting effectively and efficiently. To this end, NACO's CA representatives that will be assisting in

LEIS preparation and planning are to include: Tori Sundheim, Public Lands and Natural Resources Coordinator, at tsundheim@nvnao.org; Jeff Fontaine, Executive Director, at jfontaine@nvnao.org; and Amanda Evans, Office Manager, at www.nvnao.org. All contacts may be reached by their email addresses or by telephone at (775) 883-7863.

Thank you for accepting NACO's request to become a Cooperating Agency. NACO looks forward to continued support and cooperation with the Air Force throughout the processes needed to see through planning efforts and the LEIS preparation.

Respectfully,


Jeffrey Fontaine
Executive Director

Jf/ja
Cc: file



B.7 NEVADA STATE HISTORIC PRESERVATION OFFICE

Letter from Air Force to SHPO notification of random sample surveys: April 14, 2016



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

Lt Col Michael A. Freeman
Commander
99 Civil Engineer Squadron
6020 Beale Ave.
Nellis AFB NV 89191

APR 14 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Subject: Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)

Dear Ms. Palmer

Nellis Air Force Base (NAFB) is forwarding this letter in compliance with 36CFR800. This letter is to notify the State Historic Preservation Office (SHPO) of NAFB plans to conduct random sample surveys of 14,000 acres plus 1,000 non-random surveys on proposed expansion lands that total approximately 300,000 acres. These lands under consideration are currently managed by US Fish & Wildlife Service (USFWS) and Bureau of Land Management (BLM) and could become part of the Nevada Test and Training Range (NTTR) footprint. Descriptions of this proposal and methods for study are further outlined in the attached Draft Cultural & Paleontological Resources Survey Plan dated 5 Apr 2016.

We ask your office to review the survey plan and provide comment. Tribal notification has consisted of forwarding copies of this letter and the attachment to NAFB affiliated Tribal offices. A consultation introduction with the Tribes took place in November 2015 at the Annual Leadership Meeting in Las Vegas, Nevada.

Should you or your staff have any questions about the project, please contact our tribal liaison/archaeologist, Ms. Kish La Pierre, 99 CES/CEIEA, at (702) 682-5813 or at kish.lapierre@us.af.mil.

Sincerely

MICHAEL A. FREEMAN, Lt. Col., USAF
Commander

Attachment:
Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)) (1 hardcopy & 1 DVD)

Enable Success Through Innovative Base Support

cc:

Katherine R. Kerr Advisory Council on Historic Preservation (ACHP)
Danelle Gutierrez, Tribal Historic Preservation Officer, Big Pine Paiute Tribe
Raymond Andrews, Tribal Historic Preservation Officer, Bishop Paiute-Shoshone Tribe
Billie G. Saulque, Chairperson, Benton Utu Utu Gwaitu Paiute Tribe
Stephanie Arman, Tribal Historic Preservation Officer, Fort Independence Paiute Tribe
Barbara Durham, Tribal Historic Preservation Officer, Timbisha Shoshone Tribe
Janice Aten, Environmental Director, Lone Pine Paiute-Shoshone Reservation
Perline Thompson, Chairperson, Duckwater Shoshone Tribe
Wayne Dyer, Chairperson, Yomba Shoshone Tribe
Alvin Marques, Chairperson, Ely Shoshone Tribe
Charles Wood, Chairperson, Chemehuevi Indian Tribe
Roland Maldonado, Chairperson, Kaibab Band of Southern Paiutes
Benny Tso, Chairperson, Las Vegas Paiute Tribe
Robert Tom, Chairperson, Moapa Band of Paiutes
Richard Arnold, Native American Coordinator NAFB, Pahrump Paiute Tribe
Corrina Bow, Chairperson, Paiute Indian Tribes of Utah
Dennis Patch, Chairperson, Colorado River Indian Tribes
Timothy Williams, Chairperson, Ft. Mojave Tribe

Letter from Air Force to SHPO regarding project notification: July 18, 2016

**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA**

Lieutenant Colonel Michael A. Freeman
Commander
6020 Beale Ave.
Nellis AFB NV 89191

JUL 18 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Dear Ms Palmer

The United States Air Force (USAF) is now preparing a *Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal* extension and proposed expansion. Because the current NTTR land withdrawal (Attachment 1) will expire in 2021, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities. The USAF is also considering a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total of approximately 310,000 acres.

While Congress and the President ultimately make the decision with respect to legislative withdrawals such as this one, the USAF anticipates engaging in undertakings in the future, should the withdrawal be enacted. In addition, the proposed expansion would change the accessibility of these lands depending upon the alternative means of implementing these features as determined by Congress. Therefore, in accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 C.F.R. §800.1(c), the USAF seeks to consult with you early in the planning process in order to take into account any historic preservation concerns you may have as it formulates these undertakings.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. While the USAF has identified the general types of activities that will take place in the proposed withdrawal expansion area, specific activities and their locations cannot be defined until after enactment of any withdrawal legislation. As a result, the USAF is preparing an LEIS which is programmatic in nature. The LEIS will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those

Enable Success Through Innovative Base Support

resources based on the types of activities that may occur in the future in these areas. Specific future activities would be subject to additional and appropriate NEPA analysis and NHPA consultation.

To develop the LEIS and meet NHPA obligations, the USAF would use existing cultural resource information for the current NTTR lands. It plans to initiate a Cultural Resources Study of 15,000 acres of land within the proposed withdrawal expansion areas to identify and characterize resources that may be present. Because the proposed expansion areas consist of over 300,000 acres and the results of the land withdrawal process may not be known until 2021, the Air Force has developed a draft plan to characterize cultural resources through a random-sample survey strategy in these areas. The plan will be supplemented by any previous studies in these areas and associated available data; all identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures). This survey will also serve to supplement and test a successful probabilistic model developed for work conducted previously on the adjacent NTTR property. The USAF has included the proposed plan to address characterization of historic properties as Attachment 3 to this letter.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with Nellis AFB (NAFB) include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The USAF initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/March of 2015.

In November of 2015, the USAF held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations to all seventeen federally recognized tribes was sent to all tribes on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

For consultation with your office, the USAF identifies the Area of Potential Effect as the extended and potentially expanded withdrawn NTTR lands. The USAF invites your comments regarding the following:

- Outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of the LEIS.

As the USAF develops the LEIS, it will continue consulting with you under Section 106 and provide the necessary information and determinations for established procedures under NHPA. We look forward to the NV SHPO's valuable contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely



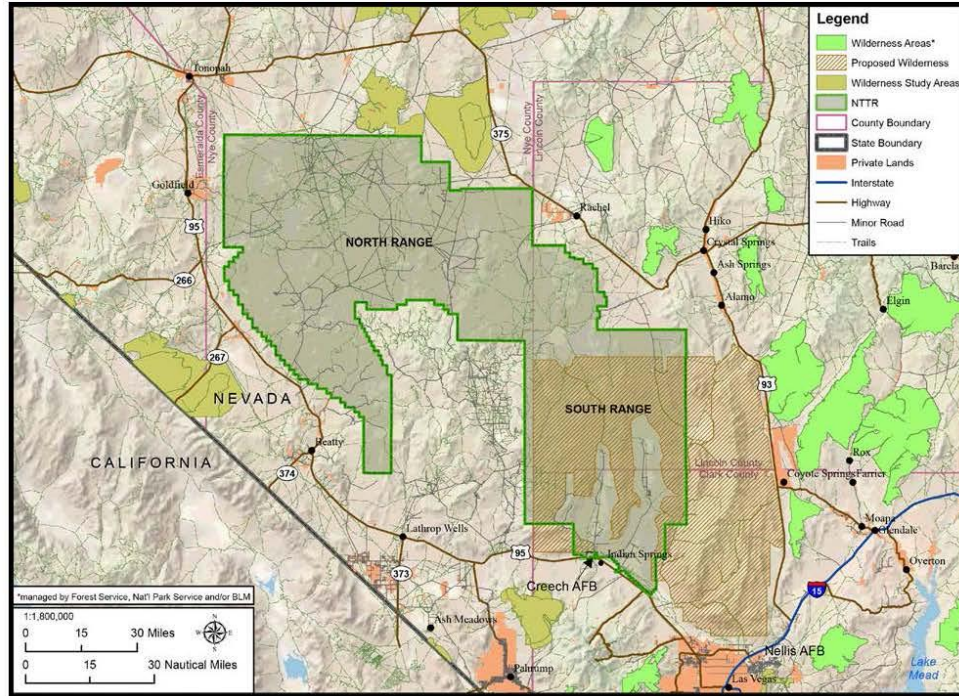
MICHAEL A. FREEMAN, Lt Col, USAF
Commander

Attachments:

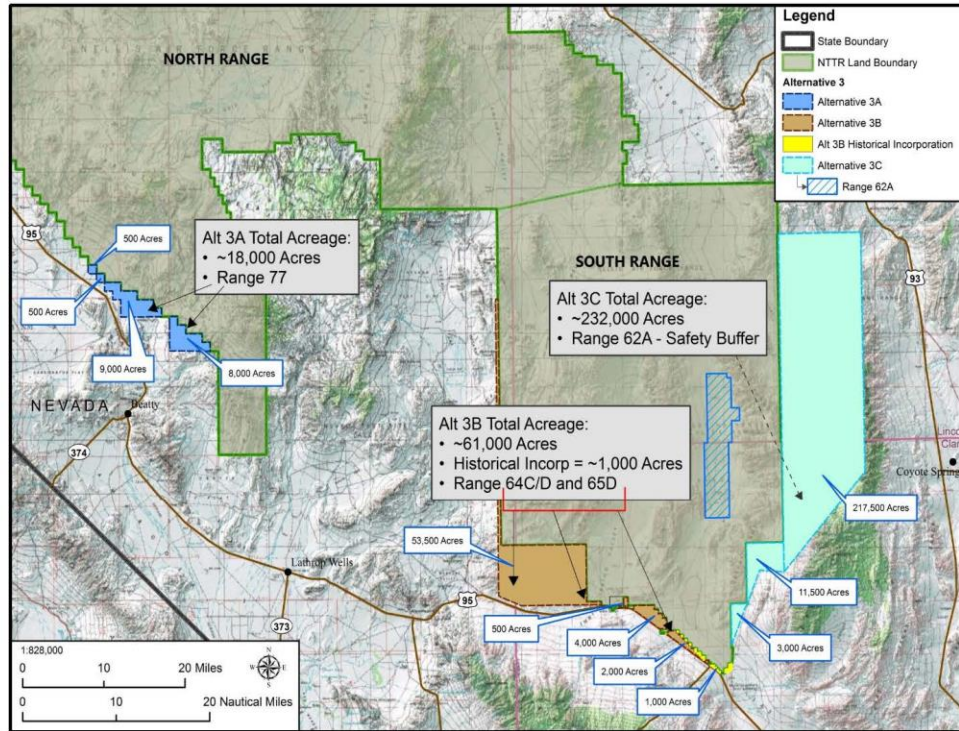
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Cultural and Paleontological Survey Plan (Duke, 2016)

cc:

- Mr. Michael Ackerman (AFCEC/CZN)
Mr. Skip Canfield (Nevada State Clearinghouse)



Attachment 1 - Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas



Attachment 2 - Alternative 3A, 3B, and 3C Locations and Acreages

Letter from Advisory Council on Historic Preservation to Air Force and SHPO regarding project notification: August 17, 2016



Preserving America's Heritage

August 17, 2016

Lieutenant Colonel Michael A. Freeman
Commander
99th Civil Engineer Squadron
6020 Beale Avenue
Nellis Air Force Base, NV 89191

Ms. Rebecca Palmer
State Historic Preservation Officer
Historic Preservation Office
901 S. Stewart Street
Suite 5004
Carson City, NV 89701-4285

*REF: Nevada Test and Training Area Land Withdrawal by Nellis Air Force Base
Clark, Lincoln, and Nye County, Nevada
ACHPConnect Log Number: 010399*

Dear Lt Col Freeman and Ms. Palmer:

The Advisory Council on Historic Preservation (ACHP) understands that the Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior (DOI) for military use in the State of Nevada, primarily for use within the Nevada Test and Training Range (NTR). The Department of the Air Force intends to submit, in accordance with the Federal Land Policy Management Act (FLPMA), a Land Withdrawal Case File renewal request to continue the withdrawal, and a separate Land Withdrawal Case File for a request to withdraw 300,000 additional acres by November 2018. We have been asked whether the act of land withdrawal itself constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA). The ACHP has been consistent in stating that the transfer of property from one federal agency to another federal agency is not an undertaking subject to Section 106, because a federal agency still has responsibilities under Sections 106 and 110 of the NHPA for the land it controls. However, how a federal agency plans to utilize the land once transferred may be subject to Section 106 review.

We are aware that the 99th Civil Engineer Squadron (99CES), with support from the Air Force Civil Engineer Center's National Environmental Policy Act Center (AFCEC/NEPA Center), is preparing a Legislative Environmental Impact Statement (LEIS) to be included in the recommendation to Congress on the withdrawal proposal. A LEIS does not require a Record of Decision, as the decision on whether or not to approve the Land Withdrawal Case Files is made by Congress. However, we believe it is in the best interest of the 99CES to be considering effects to historic properties for the proposed use of the land proposed for withdrawal as early as possible in the process.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

On July 26, 2016, the ACHP received a copy of the correspondence the 99CES sent to the Nevada State Historic Preservation Office (SHPO) for the extension and proposed expansion of the withdrawal, and the initiation of the Section 106 process. We applaud this proactive outreach to the SHPO, even though they do not have a regulatory role in the development of the LEIS. As the ACHP is assisting both the SHPO and the 99CES in improving its working relationship under Section 106, we wish to provide both parties with the following initial suggestions and recommendations as this discussion continues:

- The undertaking should be clearly defined as the *consideration* of the use of acquired withdrawal land for the purposes of meeting the mission of the NTTR. This means that the 99CES focuses consultation on the mission of the NTTR, how the newly acquired land could assist that mission, and how historic properties may be affected by mission activities on the land.
- The Section 106 regulations do not require a federal agency to identify every single historic property within an Area of Potential Effects (APE), but to make a “reasonable and good faith effort” to identify historic properties. A strategy to survey a sample of the proposed withdrawal land should be developed in consultation with the SHPO, federally recognized Indian tribes, and other applicable federal agencies (it is our understanding this includes the Bureau of Land Management (BLM) and the United States Fish and Wildlife Service (USFWS) currently managing the land) to identify historic properties. It is recommended that the 99CES should first complete a grey literature search of survey work completed by the BLM and the USFWS for the proposed withdrawal land and using that as a base line for a new survey.
- The 99CES has presented a draft Cultural Resources Study (CRS) to the SHPO for review and comment. The current draft CRS is intended to characterize cultural resources through a random-sample survey strategy.
 - After completing the grey literature search, the 99CES should update the CRS accordingly to meet the goal of a phased approach to the identification of historic properties within the proposed withdrawal land.
 - This phased approach should include a model for the initial survey and define a process for continuing the identification effort within areas of the proposed withdrawal land once designated for NTTR mission use.
 - The CRS should include a time frame for when the survey work will be completed and when consulting parties will be given the opportunity to review the findings.
- Once the 99CES and the SHPO have a working knowledge of the range of potential historic properties within the proposed withdrawal land, and before you begin to assess effects of the proposed undertaking, we would appreciate an update on the status of the consultation and survey results.

3

Should you have any questions regarding our recommendations or require additional assistance, please contact Ms. Katharine R. Kerr at (202) 517-0216 or by e-mail at kkerr@achp.gov and reference the ACHPConnect Log Number.

Sincerely,



Tom McCulloch, Ph.D., R.P.A.
Assistant Director
Office of Federal Agency Programs
Federal Property Management Section

B.8 NEVADA STATE CLEARINGHOUSE

Notification of preparation of LEIS from State Clearinghouse to State Agencies: July 25, 2016

From: [ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN](#)
To: [McLaurine, Henry C;](#) [Akstulewicz, Kevin D.](#)
Cc: [Sands, Amy L.](#)
Subject: FW: Nevada State Clearinghouse Notice E2017-006 (LEIS - NTTR Land Withdrawal Extension and Expansion)
Date: Tuesday, July 26, 2016 1:55:21 PM

Gentlemen,
FYSA for the project record. The state clearinghouse notified state agencies on the NTTR proposal.

See below.

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
(210) 925-2741, DSN 945-2741

-----Original Message-----

From: HOPPER, ELOISA V CIV USAF ACC 99 CES/CEI
Sent: Tuesday, July 26, 2016 11:03 AM
To: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN [REDACTED]
Cc: LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA <[REDACTED]>; KIRKWOOD, JEFFREY L GS-12 USAF ACC 99 CES/CEIEA [REDACTED]
Subject: FW: Nevada State Clearinghouse Notice E2017-006 (LEIS - NTTR Land Withdrawal Extension and Expansion)

Mike,

FYSA.

VR, Loi

-----Original Message-----

From: [REDACTED]
Sent: Monday, July 25, 2016 2:31 PM
To: [REDACTED]



Subject: Nevada State Clearinghouse Notice E2017-006 (LEIS - NTTR Land Withdrawal Extension and Expansion)

<http://lands.nv.gov/graphic/state_seal.jpg> NEVADA STATE CLEARINGHOUSE
Department of Conservation and Natural Resources, Division of State Lands
901 S. Stewart St., Ste. 5003, Carson City, Nevada 89701-5246
(775) 684-2723 Fax (775) 684-2721

TRANSMISSION DATE: 07/25/2016

U.S. Air Force

Nevada State Clearinghouse Notice E2017-006
Project: LEIS - NTTR Land Withdrawal Extension and Expansion

Follow the link below to find information concerning the above-mentioned project
for your review and comment.

E2017-006 <<http://clearinghouse.nv.gov/public/Notice/2017/E2017-006.pdf>> -
<http://clearinghouse.nv.gov/public/Notice/2017/E2017-006.pdf>

* Please evaluate this project's effects on your agency's plans and programs and any other issues that you are aware of that might be pertinent to applicable laws and regulations.

* Please reply directly from this e-mail and attach your comments.

* Please submit your comments no later than Thursday August 25th, 2016.

Clearinghouse project archive <<http://clearinghouse.nv.gov>>

Questions? Skip Canfield, Program Manager, (775) 684-2723 or nevadaclearinghouse@lands.nv.gov
<<mailto:nevadaclearinghouse@lands.nv.gov>>

No comment on this project Proposal supported as written

AGENCY COMMENTS:

Signature:

Date:

Requested By:

Distribution:

- 99ABW Nellis

- Division of Emergency Management

- Intermountain Range

Adele M. Basham - NDEP

Alan Jenne - Department of Wildlife, Elko Alisa Huckle - UNR Library Alisanne Maffei - Department of Administration Alysa Keller - Legislative Counsel Bureau Angela Dykema - Nevada State Energy Office Anna Higgins - Nevada Division of Forestry Bert Bedeau - Comstock Historic District Commission Bette Hartnett - State Energy Office Bill Thompson - Department of Transportation, Aviation Birgit Henson - NDEP Bob Turner - Nellis AFB Cayenne Engel - Nevada Division of Forestry Chris Anderson - Washoe County Health Department Chuck King - Hawthorne Army Depot Claudia Vecchio - Nevada Commission on Tourism Connie Lee - NDOW Connie Lucido - Department of Administration Cory Lytle - Lincoln County Craig Mortimore - Wild Nevada D. Bradford Hardenbrook - Department of Wildlife, Las Vegas Dagny Stapleton - NACO David David - UNR Bureau of Mines David Moutat - Desert Research Institute Deborah Stockdale - Nellis Air Force Base Denesa Johnston - Fire Marshal Ed Ryan - Smith and Mason Valleys Conservation District Ed Rybold - NAS Fallon Eddy Quaglieri - Division of Water Resources Elizabeth A. Harrison - Tahoe Resource Team - Division of State Lands Eloisa Hopper - Nellis Air Force Base Elyse Randles - State Land Office Gary Reese - Nevada Division of Forestry Ian Kono - Nevada Division of Water Resources J Crandell - Colorado River Commission of Nevada James D. Morefield - Natural Heritage Program Jane Freeman - US Forest Service Jennifer Celio - Sagebrush Ecosystem Technical Team Jennifer Newmark - NDOW - Wildlife Diversity Jered McDonald - Legislative Counsel Bureau Jim Balderson - NDEP Jim English - Washoe County Jim Olson - Lander County Jim Souba - City of Fallon Public Works Joe Freeland - Nevada Division of Forestry John Christopherson - Nevada Division of Forestry John Muntean - UNR Bureau of Mines John Tull - NDOW Jon Price - UNR Bureau of Mines Kacey KC - Nevada Division of Forestry Karen Beckley - State Health Division Kevin Hill - Nevada State Energy Office Kevin Verre - NDOT Kim Borgzinner - NDEP Kristin Szabo - Nevada Natural Heritage Program Kurt Haukohl - NDOT Larry Cruz - Hawthorne Army Depot Lee Bonner - NDOT Levi Kryder - Nye County Linda Cohn - National Nuclear Security Administration Lindsey Lesmeister - NDOW Lori M. Story - Attorney General Louis Groffman - Nevada Department of Transportation Lowell Price - Commission on Minerals Lynn Haarklau - Nellis Air Force Base Major Doug McEldowney - Nevada National Guard Mark Costa - NDOT Mark Enders - NDOW Mark Freese - Department of Wildlife Mark Harris, PE - Public Utilities Commission Marta Adams - Attorney General Matt Maples - NDOW Meghan Brown - Dept of Agriculture Michael J. Stewart - Legislative Counsel Bureau Michael Visser - Division of Minerals Mike Dang - Governor's Office on Economic Development Mitch Ison - NDOT Miteshell Lanham - Lander County Moira Kolada - NDOW Nancy Boland - Esmeralda County Rebecca Palmer - State Historic Preservation Office Rich Perry - Nevada Division of Minerals Richard Arnold - Nevada Indian Commission Rick Martin - Division of Emergency Management Robert Halstead - Nevada Agency for Nuclear Project Robert Rule - NAS Fallon Sandy Quilici - Department of Conservation & Natural Resources Sheila Anderson - Governor's Office Sherry Rupert - Indian Commission Shimi Mathew - Nellis AFB Shirley DeCrona - Nevada Division of State Parks Skip Canfield - State Land Use Planning Agency Stephen Foree - NDOW Steve Endacott - City of Fallon Susan Scholley - Legislative Counsel Bureau Tim Mueller - Department of Transportation Tim Rubald - Conservation

Districts Tod Oppenborn - Nellis Air Force Base
Tori Sundheim - NACO Tracy Kipke - NDOW
Valerie King - NDEP Warren Turkett - Colorado River Commission of Nevada
Wes Henderson - Nevada League of Cities
Zip Upham - NAS Fallon

Notice of LEIS preparation and scoping meetings from Air Force to Nevada State Clearinghouse: August 19, 2016



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

19 August 2016

Lieutenant Colonel Michael A. Freeman
Commander
4430 Grissom Ave., Ste. 101
Nellis AFB NV 89191-6520

Skip Canfield
Nevada State Clearinghouse
Nevada Division of State Lands
901 S. Stewart St, Ste 5003
Carson City, NV 89701-5246

Dear Mr. Canfield

The United States Air Force (USAF) is issuing this notice to notify state and local agencies of its intent to prepare a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) military land withdrawal at Nellis Air Force Base, Nevada. The LEIS is being prepared in accordance with National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), Parts 1500–1508, the Council on Environmental Quality (CEQ) regulations for implementing NEPA; and the Air Force Environmental Impact Analysis Process (EIAP) [32 CFR Part 989].

This notice also serves to invite early public and agency participation in determining the scope of environmental issues and alternatives to be analyzed in the LEIS and to identify and eliminate from detailed study the issues which are not significant. To effectively define the full range of issues and concerns to be evaluated in the LEIS, the Air Force is soliciting scoping comments from interested local, state and federal agencies, interested American Indian tribes, and interested members of the public. This notice also serves to provide early notice of compliance with Executive Order (EO) 11990, "Protection of Wetlands," and EO 11988, "Floodplain Management." State and federal regulatory agencies with special expertise in wetlands and floodplains have been contacted to request comment.

The current NTTR land withdrawal expires in November 2021. In accordance with the Military Lands Withdrawal Act of 1999, the Air Force has notified Congress of a continuing military need for the NTTR withdrawal. Military land withdrawal applications have been

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prepared and submitted to Bureau of Land Management (BLM). The segregation of lands proposed for military withdrawal are addressed in a separate BLM Federal Register notice.

The Air Force LEIS supports Congressional decision-making for the proposed military land withdrawal and will be programmatic in nature, adding value by setting out a broad view of environmental impacts and alternatives for Congress to consider. Following Congressional action on the NTTR land withdrawal proposals, site specific proposals based on particular DoD or Air Force defined needs for the range would be evaluated with the appropriate level of tiered or supplemental NEPA.

In particular, the LEIS will analyze alternatives for military land withdrawal of the NTTR to improve the range capacity and capability to support military test and training requirements now and into the future. The LEIS will assess the potential environmental consequences of the proposal to extend the existing NTTR military land withdrawal beyond the current withdrawal expiration date. As part of the withdrawal extension, the Air Force proposes to continue military operations on the NTTR's existing 2,949,603 acres of land. In addition to extending the existing land withdrawal, the Air Force is also proposing to withdraw up to an additional 301,507 acres to improve the range's capacity to support military testing and training.

The alternatives being evaluated in the LEIS include: 1) extending the existing land withdrawal and management of the NTTR (Status Quo); 2) extending the existing land withdrawal and providing the Air Force with increased access for military activities in the South Range of the NTTR; 3) Alternative 1 or 2 and expanding the existing withdrawal by including up to 301,507 additional acres, via three sub-alternatives; 4) establishing the time period of the withdrawal as either 20 years, 50 years, or as an indefinite military withdrawal; and 5) the No Action alternative, which includes returning NTTR lands to the public domain, through the Department of the Interior.

The alternatives structure allows for combining elements of alternatives in an additive fashion. For example, Alternative 2 could be selected along with sub-alternatives of Alternatives 3 (an option for expansion) and 4 (option for duration) as part of the Air Force's recommendation to Congress for the future military withdrawal. Within the framework of these alternatives, the LEIS will support Congressional action by identifying and evaluating potential impacts to land use, airspace, safety, noise, hazardous materials and solid waste, earth resources, water resources, air quality, transportation, wilderness and wilderness study areas, cultural resources, biological resources, socioeconomics, and environmental justice.

The Air Force will be holding public open house scoping meetings in areas potentially impacted by the proposal. The purpose of the meetings and the scoping period is to further solicit input regarding the scope of issues to be addressed and identify environmental issues to be

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analyzed in depth. The Air Force's notice of intent (NOI) to prepare a LEIS and hold scoping meetings will be published in the Federal Register the week of August 26, 2016, and local notices announcing scheduled dates, locations, and addresses for each meeting will be published fifteen (15) days prior to each meeting.

During scoping meetings, the Air Force will provide additional information about the NTTR Land Withdrawal. Public and agency comments presented at the meetings, as well as written comments received by the Air Force during the scoping period and throughout the environmental process, will be considered in the preparation of the Draft LEIS. Scoping comments may be submitted to the Air Force at the planned public scoping meetings and/or in writing. Comments will be accepted at any time during the Environmental Impact Analysis Process (EIAP). However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft LEIS, scoping comments must be submitted no later than December 10, 2016.

DATES: The Air Force plans to hold five public scoping meetings from 5 p.m. to 9 p.m., on the dates and at the locations listed below.

- Wednesday, October 12, 2016: Beatty Community Center, 100 A Avenue South, Beatty, NV 89003
- Thursday, October 13, 2016: Tonopah Convention Center, 301 Brougner Avenue, Tonopah, NV 89049
- Tuesday, October 18, 2016: Caliente Elementary School, 289 Lincoln Street, Caliente, NV 89008
- Wednesday, October 19, 2016: Pahrnagat Valley High School, 151 S. Main Street, Alamo, NV 89001
- Thursday, October 20, 2016: Aliante Hotel, 7300 Aliante Parkway, North Las Vegas, NV 89084

The agenda for each scoping meeting is as follows:

- 5:00 p.m. to 6:30 p.m. – Open House and comment submission
- 6:30 p.m. to 7:00 p.m. – Air Force Presentation
- 7:00 p.m. to 9:00 p.m. – Open House and comment submission resumes

During the meetings, the Air Force will provide information on the potential environmental impacts associated with the proposed action and solicit public comments on alternative development. If state or local agencies have specific questions or comments about the proposal, please direct any written comments or requests for information to 99th Air Base Wing Public Affairs, 99ABW.PAOutreach@us.af.mil.

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Information on the NTRR Military Land Withdrawal and LEIS process can be accessed at the project website at www.ntrrleis.com. The project website can be used to submit scoping comments to the Air Force or comments and inquiries may also be submitted by mail to the 99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191 or by e-mail at 99ABW.PAOutreach@us.af.mil.

Sincerely

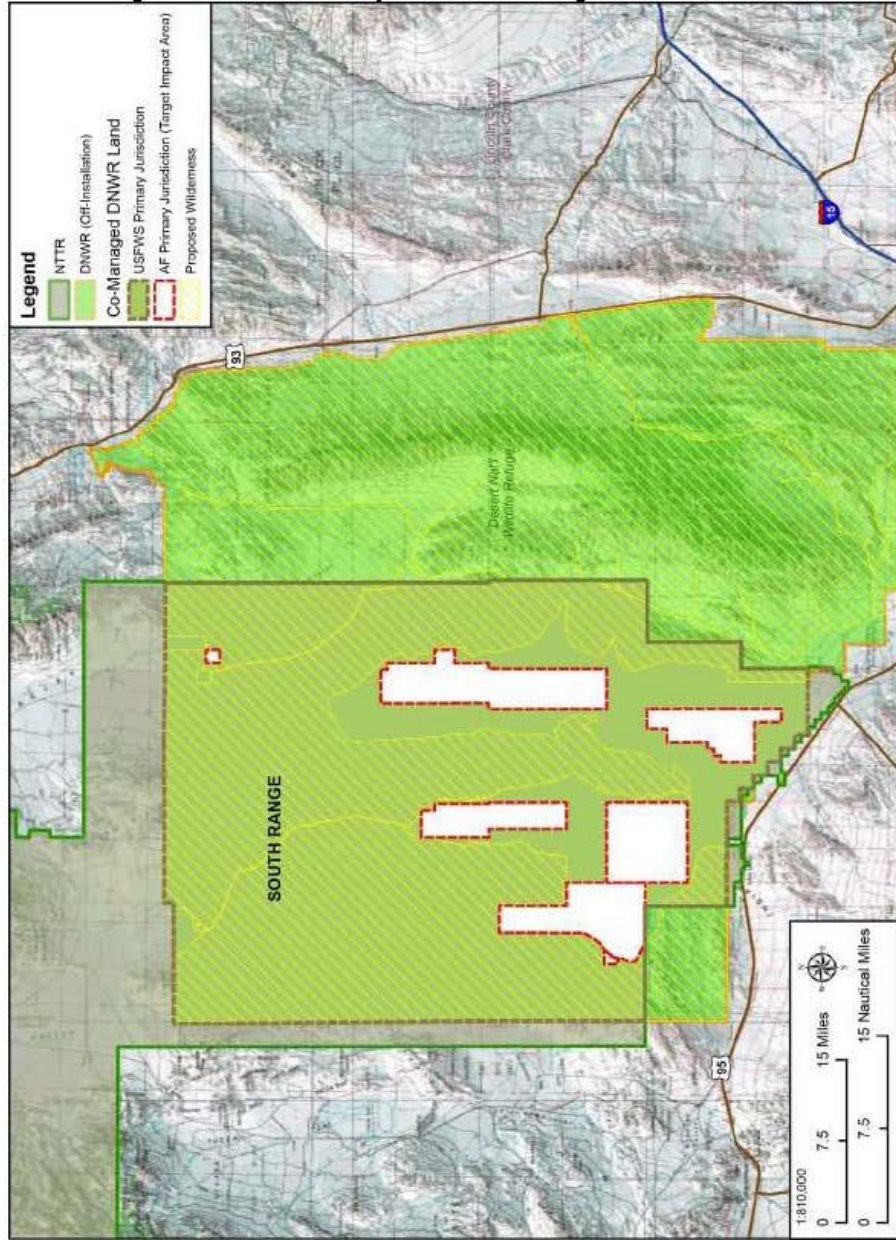


Michael A. Freeman
Lieutenant Colonel, USAF
Commander

Enclosures

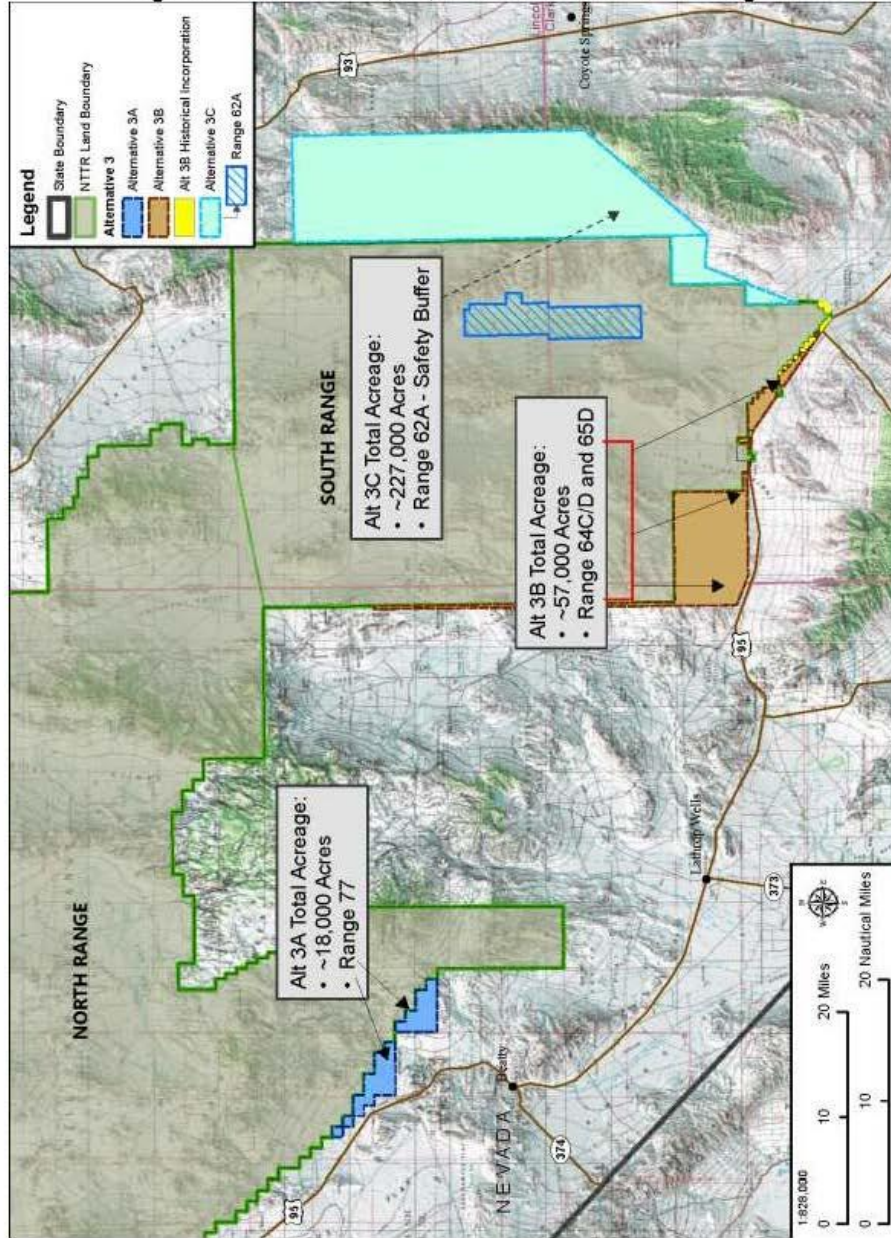
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Figure 2. Current Primary Jurisdiction Designation of the DNWR



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Figure 3. Alternative 3A, 3B, and 3C Locations and Acreages



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Notification of scoping meetings from State Clearinghouse to State Agencies: August 23, 2016

From: [Nevada Joint Military Affairs Committee](#) on behalf of [Skip Canfield](#)
To: JMAC@LISTSERV.STATE.NV.US
Subject: Nevada State Clearinghouse Notice E2017-023 (Scoping - LEIS - NTTR Military Land Withdrawal at Nellis AFB)
Date: Tuesday, August 23, 2016 11:51:29 AM

NEVADA STATE CLEARINGHOUSE

 Department of Conservation and Natural Resources, Division of State Lands
901 S. Stewart St., Ste. 5003, Carson City, Nevada 89701-5246
(775) 684-2723 Fax (775) 684-2721

TRANSMISSION DATE: 08/23/2016

U.S. Air Force

Nevada State Clearinghouse Notice E2017-023

Project: Scoping - LEIS - NTTR Military Land Withdrawal at Nellis AFB

Follow the link below to find information concerning the above-mentioned project for your review and comment.

[E2017-023 - http://clearinghouse.nv.gov/public/Notice/2017/E2017-023.pdf](http://clearinghouse.nv.gov/public/Notice/2017/E2017-023.pdf)

- **Please evaluate this project's effects on your agency's plans and programs and any other issues that you are aware of that might be pertinent to applicable laws and regulations.**
- **Please reply directly from this e-mail and attach your comments.**
- **Please submit your comments no later than Thursday December 8th, 2016.**

[Clearinghouse project archive](#)

Questions? Skip Canfield, Program Manager, (775) 684-2723 or
nevadaclearinghouse@lands.nv.gov

No comment on this project Proposal supported as written

AGENCY COMMENTS:

Signature:

Date:

Requested By:

Distribution:

- 99ABW Nellis
- Division of Emergency Management
- Intermountain Range
- Adam Roney - Public Utilities Commission
- Alan Jenne - Department of Wildlife, Elko
- Alisa Huckle - UNR Library
- Alisanne Maffei - Department of Administration
- Alysa Keller - Legislative Counsel Bureau
- Angela Dykema - Nevada State Energy Office
- Anna Higgins - Nevada Division of Forestry
- Bert Bedeau - Comstock Historic District Commission
- Bette Hartnett - State Energy Office
- Bill Thompson - Department of Transportation, Aviation
- Birgit Henson - NDEP
- Bob Turner - Nellis AFB
- Brenda Hunt - CWSD
- Cayenne Engel - Nevada Division of Forestry
- Chris Anderson - Washoe County Health Department
- Chuck King - Hawthorne Army Depot
- Claudia Vecchio - Nevada Commission on Tourism
- Connie Lee - NDOW
- Connie Lucido - Department of Administration
- Cory Lytle - Lincoln County
- Craig Mortimore - Wild Nevada
- Cynthia Turiczek - Public Utilities Commission
- D. Bradford Hardenbrook - Department of Wildlife, Las Vegas
- Dagny Stapleton - NACO
- David David - UNR Bureau of Mines
- David Mouat - Desert Research Institute
- Deborah Stockdale - Nellis Air Force Base
- Denesa Johnston - Fire Marshal
- Ed Ryan - Smith and Mason Valleys Conservation District
- Ed Rybold - NAS Fallon
- Eddy Quaglieri - Division of Water Resources
- Elizabeth A. Harrison - Tahoe Resource Team - Division of State Lands
- Eloisa Hopper - Nellis Air Force Base
- Elyse Randles - State Land Office
- Gary Reese - Nevada Division of Forestry

Greg Lovato - NDEP
Ian Kono - Nevada Division of Water Resources
J Crandell - Colorado River Commission of Nevada
James D. Morefield - Natural Heritage Program
James Llinebaugh - Grazing Board District N-3
Jane Freeman - US Forest Service
Jeff Hardcastle - State Demographer
Jennifer Celio - Sagebrush Ecosystem Technical Team
Jennifer Newmark - NDOW - Wildlife Diversity
Jered McDonald - Legislative Counsel Bureau
Jim Balderson - NDEP
Jim Baumann - Nevada State Grazing Boards - Central Committee
Jim English - Washoe County
Jim Olson - Lander County
Jim Souba - City of Fallon Public Works
Joe Freeland - Nevada Division of Forestry
John Christopherson - Nevada Division of Forestry
John Delong - Nevada State Grazing Boards - Central Committee
John Estill - Nevada State Grazing Boards - Central Committee
John Muntean - UNR Bureau of Mines
John Tull - NDOW
Jon Price - UNR Bureau of Mines
Julie Hunter - Washoe County Health District
Kacey KC - Nevada Division of Forestry
Karen Beckley - State Health Division
Kevin Hill - Nevada State Energy Office
Kevin Verre - NDOT
Kim Borgzinner - NDEP
Kristin Szabo - Nevada Natural Heritage Program
Kurt Haukohl - NDOT
Larry Cruz - Hawthorne Army Depot
Lee Bonner - NDOT
Levi Kryder - Nye County
Linda Cohn - National Nuclear Security Administration
Lindsey Lesmeister - NDOW
Lori M. Story - Attorney General
Louis Groffman - Nevada Department of Transportation
Lowell Price - Commission on Minerals
Lynn Haarklau - Nellis Air Force Base
Major Doug McEldowney - Nevada National Guard
Mark Costa - NDOT
Mark Enders - NDOW
Mark Freese - Department of Wildlife
Mark Harris, PE - Public Utilities Commission
Marta Adams - Attorney General
Matt Maples - NDOW
Meghan Brown - Dept of Agriculture
Michael J. Stewart - Legislative Counsel Bureau
Michael Visher - Division of Minerals
Michelle Langsdorf - Grazing Board District N-3

Mike Dang - Governor's Office on Economic Development
Mitch Ison - NDOT
Miteshell Lanham - Lander County
Moira Kolada - NDOW
Nancy Boland - Esmeralda County
Peggy Roefer - Colorado River Commission
Rachel Buzetti - Nevada State Grazing Boards - Central Committee
Rebecca Palmer - State Historic Preservation Office
Rich Perry - Nevada Division of Minerals
Richard Arnold - Nevada Indian Commission
Richard Huntsberger - Nevada State Grazing Boards - Central Committee
Rick Martin - Division of Emergency Management
Robert Halstead - Nevada Agency for Nuclear Project
Robert Rule - NAS Fallon
Rory Chetelat - Clark County
Ryan McGinness - Washington Office
Sandy Quilici - Department of Conservation & Natural Resources
Sheila Anderson - Governor's Office
Sherry Rupert - Indian Commission
Shimi Mathew - Nellis AFB
Shirley DeCrona - Nevada Division of State Parks
Skip Canfield - State Land Use Planning Agency
Stephen Foree - NDOW
Steve Boies - Nevada State Grazing Boards - Central Committee
Steve Endacott - City of Fallon
Susan Scholley - Legislative Counsel Bureau
Terry Rubald - Nevada Department of Taxation, Local Government, Centrally Assessed Property
Tim Mueller - Department of Transportation
Tim Rubald - Conservation Districts
Tod Oppenborn - Nellis Air Force Base
Tori Sundheim - NACO
Traci Pearl - Office of Traffic Safety
Tracy Kipke - NDOW
Valerie King - NDEP
Warren Turkett - Colorado River Commission of Nevada
Wayne Howle - Attorney General
Wes Henderson - Nevada League of Cities
Zip Upham - NAS Fallon

To unsubscribe from the JMAC list, click the following link:
[*&TICKET_URL\(JMAC,SIGNOFF\);](mailto:*&TICKET_URL(JMAC,SIGNOFF);)

B.9 NATIVE AMERICAN CONSULTATION AND COMMUNICATION

Government-to-Government Notice of Intent Letter: August 13, 2015



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

August 13, 2015

Mr. William Spoerer
99 CES/CEIE
6020 Beale Ave.
Nellis AFB, NV 89191

Chairperson George Gholson
P.O. Box 1779
621 West Line St. Suite 109
Bishop, CA 93515

Dear Chairperson Gholson

The U.S. Air Force is looking to renew withdrawn lands for the Nevada Test and Training Range (NTTR) and the possibility of acquiring new lands from the Bureau of Land Management (BLM) in an interagency agreement. The Air Force has also begun preliminary planning for an environmental impact study of the range as part of the renewal process. Once the Air Force has determined a plan of action, we will be asking for your input and participation in this Government to Government process.

Should you or your staff have any questions about the project, please contact our cultural resource manager, Ms. Kish La Pierre, 99 CES/CEIEA, at (702) 652-5813 or at kish.lapierre@us.af.mil.

Sincerely

A handwritten signature in black ink, appearing to read "William S. Sporer".

WILLIAM S. SPORER
Chief, Environmental Element

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Notice of Tribal Coordination Meetings: March 9, 2016

**DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA**

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Ave.
Nellis AFB NV 89191

Chairperson Tina Braithwaite
Benton Paiute Indian Tribe
25669 Highway 6, PMB I
Benton, CA 93512

Dear Chairperson Braithwaite

As part of the United States Air Force's (USAF) tribal consultation process under the National Historic Preservation Act (NHPA) the USAF would like to request your input to identify any Traditional Cultural Properties (TCPs), Sacred Sites, or historic properties of cultural or religious significance to Indian Tribes associated with the identified Area of Potential Effect (APE) for the proposed Nevada Test and Training Range (NTTR) military land withdrawal. The USAF invites any input or feedback from tribes to identify issues of tribal concern regarding the proposed undertaking.

Under the Military Lands Withdrawal Act of 1999 (Public Law 106-65) 2,919,890 acres were withdrawn from the Department of Interior for use by the NTTR; the current withdrawal (Attachment 1) will expire in 2021. As a result, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities and intends to submit the Legislative Environmental Impact Statement (LEIS), in accordance with the Federal Land Policy Management Act (FLPMA).

The USAF is also writing a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total potential increase of up to a maximum 301,507 acres. The Air Force may not pursue military land withdrawal of this acreage in its entirety, but rather may pursue withdrawal of portions of these lands based on mission needs and public and tribal access concerns. In order to effectively balance mission needs with public and tribal uses of potential military withdrawal lands, it is critical that the Air Force understand tribal concerns within the APE. Of the lands proposed for potential military land withdrawal expansion, approximately 260,000 acres are presently managed by the U.S Fish and Wildlife Service (USFWS) under the Desert National

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Wildlife Refuge, while the remaining acreage is managed by the Bureau of Land Management (BLM).

For consultation purposes, the USAF has identified the APE for the undertaking as an extension of the current withdrawal, as well as the proposed expansion of military withdrawal lands. Should the full extent of the proposed land withdrawal be approved through Congressional legislation, the USAF anticipates establishing additional radar and emitter sites on new withdrawal lands, establishing some limited infrastructure for these sites, proposes some small unit maneuver corridors, and potentially establishing a landing strip for equipment and military personnel insertion and extraction. No new target impact areas or bombing sites are proposed by the Air Force at this time; however, the proposed expansion would change the accessibility to these lands as the Air Force would need to control the access to any land withdrawal expansion areas when engaging in more realistic training or testing activities. Controlled access would be required to ensure public safety while conducting training activities at higher altitude and greater speeds.

The types of activities that are now taking place on existing withdrawn lands of the North Range of NTTR will not change under the withdrawal extension. Within the South Range of the existing NTTR, if primary jurisdiction for land management were granted to the Air Force, additional training activities might include establishment of additional radar and emitter sites, construction of access roads, creation of additional dismounted maneuver routes and establishment of new insertion/extraction points. While the USAF has identified the general types of activities that may take place in the proposed withdrawal expansion area, specific activities and their locations will not be defined until after enactment of any withdrawal legislation. Consequently, the USAF is preparing a programmatic Legislative Environmental Impact Statement (LEIS) that will more broadly discuss the types of activities the Air Force would pursue, if additional lands or greater jurisdiction of existing lands at the NTTR is provided to the Air Force. Specific future activities on any withdrawn lands would be subject to additional and appropriate National Environmental Policy Act (NEPA) and associated consultations. Initial requirements for planning and implementing these potential future activities would be addressed as part of an NHPA Programmatic Agreement or Memorandum of Understanding.

In support of effective tribal engagement and as part of NHPA Section 106 consultation efforts for this undertaking the USAF seeks information on historic properties of cultural and religious significance to Indian Tribes, and invites your input and comments regarding:

- Known historic properties of cultural and religious significance of tribal concern,
- Tribal concerns associated with the Proposed Action within the area of potential effect,
- Input on methods for data gathering, as well as perceived tribal historic property identification needs,
- Comments on the Historic Resource Inventory Plan (HRIP)
- Any other issues or concerns you request be considered during preparation of consultation documentation or the LEIS.

As the USAF develops the LEIS and works through the NHPA consultation process we look forward to effective tribal input as we work to preserve historic and tribal resources contained within the NTTR.

If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish La Pierre by e-mail at kish.lapierre@us.af.mi, or by phone at (702) 652-5813. Thank you for any inputs or information you can provide.

Sincerely



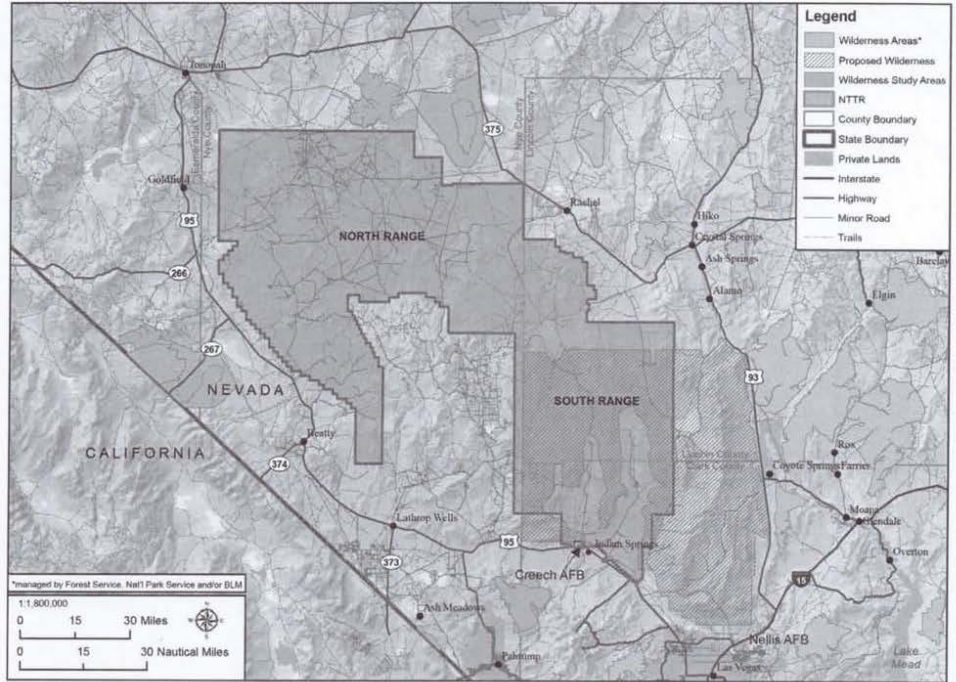
Michael A. Freeman, Lt. Col., USAF
Commander

Attachments:

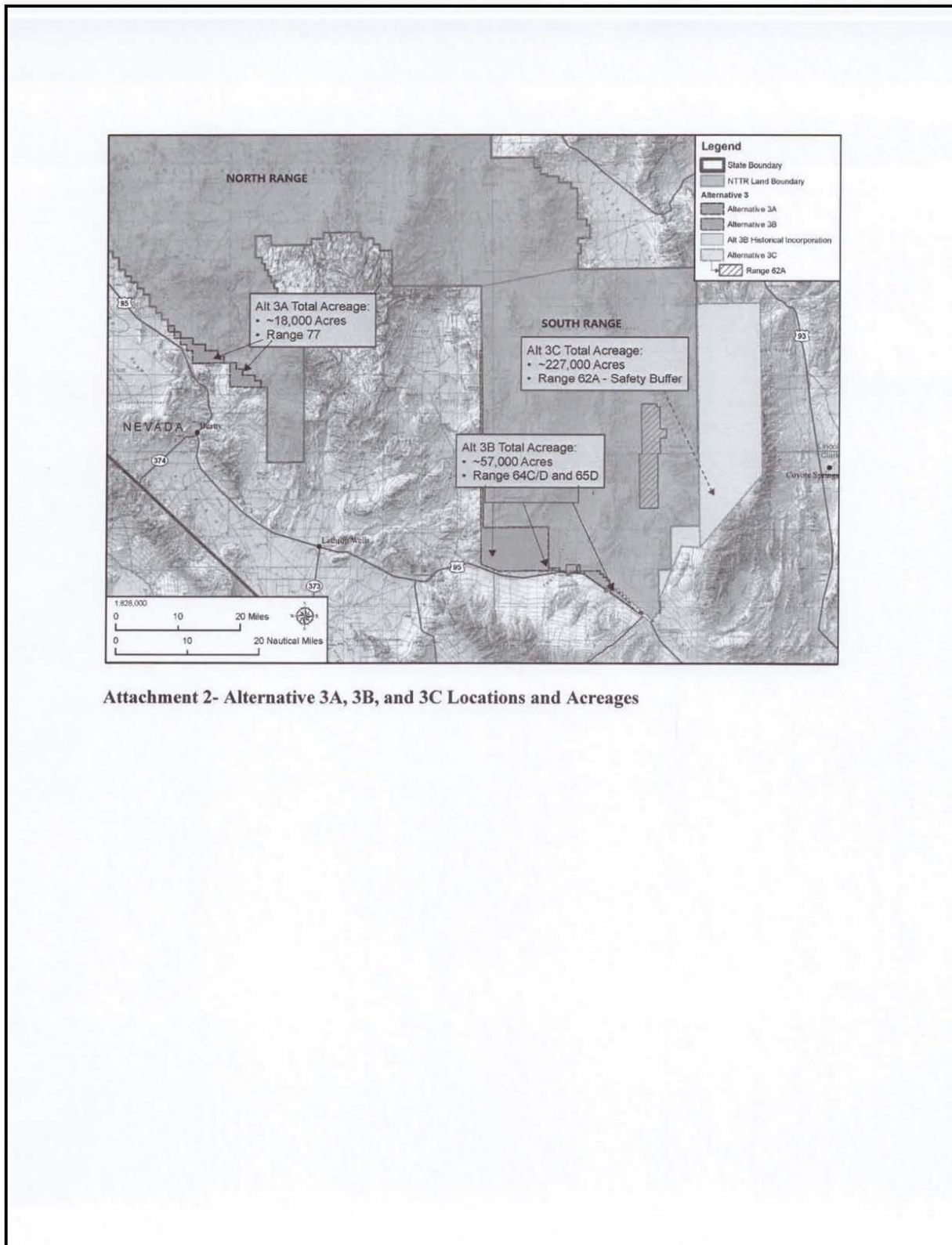
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Draft NTTR Land Withdrawal Historic Property Inventory Plan

cc:

Christy Smith, US Fish and Wildlife Service
Anan Raymond, US Fish and Wildlife Service
Spencer Lodge, US Fish and Wildlife Service
Rebecca Palmer, Nevada State Historic Preservation Office



Attachment 1- Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas



Attachment 2- Alternative 3A, 3B, and 3C Locations and Acreages

Government-to-Government Consultation Letter from the Air Force to Benton Paiute Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Tina Braithwaite
25669 Highway 6, PMB I
Benton CA 93512

Dear Chairperson Braithwaite

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

Additionally, we intend to hold a formal meeting this summer in Las Vegas, Nevada as part of the official government-to-government consultation efforts regarding the NTTR land withdrawal renewal. We will be in contact via official letter at least 30 days in advance of the meeting once the date and details are set.

If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison, Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

A handwritten signature in black ink, reading "Richard H. Boutwell", is positioned below the word "Sincerely".

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

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OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Big Pine Paiute Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELNIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Shannon Romero
P.O. Box 700
825 South Main Street
Big Pine CA 93513

Dear Chairperson Romero

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

A handwritten signature in black ink, reading "Richard H. Boutwell", is positioned above the typed name.

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

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Government-to-Government Consultation Letter from the Air Force to Bishop Paiute Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Gerald Howard
50 Tusu Lane
Bishop CA 93514

Dear Chairperson Howard

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

Additionally, we intend to hold a formal meeting this summer in Las Vegas, Nevada as part of the official government-to-government consultation efforts regarding the NTTR land withdrawal renewal. We will be in contact via official letter at least 30 days in advance of the meeting once the date and details are set.

If you have any questions regarding these meetings, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely

A handwritten signature in black ink that reads "Richard H. Boutwell".

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Chemehuevi Indian Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Charles Wood
P.O. Box 1976
Havasu Lake CA 92363

Dear Chairperson Wood

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Colorado River Indian Tribes: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Dennis Patch
26600 Mohave Road
Parker AZ 85344

Dear Chairperson Patch

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Duckwater Shoshone Tribe: June 22, 2016**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA**

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Perline Thompson
P.O. Box 140068
511 Duckwater Falls
Duckwater NV 89314

Dear Chairperson Thompson

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Ely Shoshone Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Alvin Marques
16 Shoshone Circle
Ely NV 89301

Dear Chairperson Marques

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Ft. Independence Paiute Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Norman Wilder
P.O. Box 67
131 North Hwy 395
Independence CA 93526

Dear Chairperson Wilder

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

A handwritten signature in black ink, reading "Richard H. Boutwell", is positioned below the word "Sincerely".

RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

**Government-to-Government Consultation Letter from the Air Force to Ft. Mojave
Tribe: June 22, 2016**



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA**

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Timothy Williams
500 Merriman Avenue
Needles CA 92363

Dear Chairperson Williams

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Kaibab Band of Southern Paiutes: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Roland Maldonado
HC 65 Box 2
Fredonia AZ 86022

Dear Chairperson Maldonado

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Las Vegas Paiute Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Benny Tso
#1 Paiute Drive
Las Vegas NV 89106

Dear Chairperson Tso

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Lone Pine Paiute-Shoshone Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Mary Wuester
P.O. Box 747
975 Teya Road
Lone Pine CA 93545

Dear Chairperson Wuester

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Moapa Band of Paiutes: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELNIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Robert Tom
P.O. Box 340
Moapa NV 89025

Dear Chairperson Tom

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Pahrump Paiute Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Native American Coordinator Richard Arnold
P.O. Box 3411
Pahrump NV 89041

Dear Native American Coordinator Arnold

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Paiute Indian Tribes of Utah: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Corrina Bow
440 North Paiute Drive
Cedar City UT 84721

Dear Chairperson Bow

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

OCTOBER 2018

Government-to-Government Consultation Letter from the Air Force to Timbisha Shoshone Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson George Gholson
P.O. Box 1779
621 West Line St. Suite 109
Bishop CA 93515

Dear Chairperson Gholson

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC
Ms. Barbara Durham, THPO

Enable Success Through Innovative Base Support

Government-to-Government Consultation Letter from the Air Force to Yomba Shoshone Tribe: June 22, 2016



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

JUN 22 2016

Colonel Richard H. Boutwell
Commander
4430 Grissom Ave, Ste 101
Nellis AFB NV 89191

Chairperson Wayne Dyer
HC 61, Box 6275
Austin NV 89310

Dear Chairperson Dyer

Nellis Air Force Base (NAFB) would like to engage your tribal council in government-to-government consultation on the upcoming Legislative Environmental Impact Statement (LEIS) for the Military Lands Withdrawal Act renewal for the Nevada Test and Training Range (NTTR). The Air Force initially presented its requirements for the NTTR LEIS to tribes at Nellis AFB on 19 November 2015. The Air Force has also completed four tribal meetings at the following locations: Bishop Paiute Tribe (25 April 2016), Ely Shoshone Tribe (26 April 2016), Mojave and Chemehuevi Tribes (28 April 2016), and Las Vegas Paiute Tribe (29 April 2016). During these meetings, the Air Force disseminated information on the NTTR LEIS process, preliminary alternatives being considered in the LEIS, and collected comments and concerns from tribal members. In response, it was requested that the Air Force officially begin government-to-government consultation between the Air Force and tribal leadership.

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Sincerely

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RICHARD H. BOUTWELL
Colonel, USAF

cc:
Colonel Thomas Dempsey III, NTTR/CC

Enable Success Through Innovative Base Support

Letter from Air Force to Benton Paiute Tribe: January 9, 2017**DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA**

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Ave.
Nellis AFB NV 89191

Chairperson Tina Braithwaite
Benton Paiute Indian Tribe
25669 Highway 6, PMB I
Benton, CA 93512

Dear Chairperson Braithwaite

As part of the United States Air Force's (USAF) tribal consultation process under the National Historic Preservation Act (NHPA) the USAF would like to request your input to identify any Traditional Cultural Properties (TCPs), Sacred Sites, or historic properties of cultural or religious significance to Indian Tribes associated with the identified Area of Potential Effect (APE) for the proposed Nevada Test and Training Range (NTTR) military land withdrawal. The USAF invites any input or feedback from tribes to identify issues of tribal concern regarding the proposed undertaking.

Under the Military Lands Withdrawal Act of 1999 (Public Law 106-65) 2,919,890 acres were withdrawn from the Department of Interior for use by the NTTR; the current withdrawal (Attachment 1) will expire in 2021. As a result, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities and intends to submit the Legislative Environmental Impact Statement (LEIS), in accordance with the Federal Land Policy Management Act (FLPMA).

The USAF is also writing a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total potential increase of up to a maximum 301,507 acres. The Air Force may not pursue military land withdrawal of this acreage in its entirety, but rather may pursue withdrawal of portions of these lands based on mission needs and public and tribal access concerns. In order to effectively balance mission needs with public and tribal uses of potential military withdrawal lands, it is critical that the Air Force understand tribal concerns within the APE. Of the lands proposed for potential military land withdrawal expansion, approximately 260,000 acres are presently managed by the U.S Fish and Wildlife Service (USFWS) under the Desert National

Enable Success Through Innovative Base Support

Wildlife Refuge, while the remaining acreage is managed by the Bureau of Land Management (BLM).

For consultation purposes, the USAF has identified the APE for the undertaking as an extension of the current withdrawal, as well as the proposed expansion of military withdrawal lands. Should the full extent of the proposed land withdrawal be approved through Congressional legislation, the USAF anticipates establishing additional radar and emitter sites on new withdrawal lands, establishing some limited infrastructure for these sites, proposes some small unit maneuver corridors, and potentially establishing a landing strip for equipment and military personnel insertion and extraction. No new target impact areas or bombing sites are proposed by the Air Force at this time; however, the proposed expansion would change the accessibility to these lands as the Air Force would need to control the access to any land withdrawal expansion areas when engaging in more realistic training or testing activities. Controlled access would be required to ensure public safety while conducting training activities at higher altitude and greater speeds.

The types of activities that are now taking place on existing withdrawn lands of the North Range of NTTR will not change under the withdrawal extension. Within the South Range of the existing NTTR, if primary jurisdiction for land management were granted to the Air Force, additional training activities might include establishment of additional radar and emitter sites, construction of access roads, creation of additional dismounted maneuver routes and establishment of new insertion/extraction points. While the USAF has identified the general types of activities that may take place in the proposed withdrawal expansion area, specific activities and their locations will not be defined until after enactment of any withdrawal legislation. Consequently, the USAF is preparing a programmatic Legislative Environmental Impact Statement (LEIS) that will more broadly discuss the types of activities the Air Force would pursue, if additional lands or greater jurisdiction of existing lands at the NTTR is provided to the Air Force. Specific future activities on any withdrawn lands would be subject to additional and appropriate National Environmental Policy Act (NEPA) and associated consultations. Initial requirements for planning and implementing these potential future activities would be addressed as part of an NHPA Programmatic Agreement or Memorandum of Understanding.

In support of effective tribal engagement and as part of NHPA Section 106 consultation efforts for this undertaking the USAF seeks information on historic properties of cultural and religious significance to Indian Tribes, and invites your input and comments regarding:

- Known historic properties of cultural and religious significance of tribal concern,
- Tribal concerns associated with the Proposed Action within the area of potential effect,
- Input on methods for data gathering, as well as perceived tribal historic property identification needs,
 - Comments on the Historic Resource Inventory Plan (HRIP)
 - Any other issues or concerns you request be considered during preparation of consultation documentation or the LEIS.

As the USAF develops the LEIS and works through the NHPA consultation process we look forward to effective tribal input as we work to preserve historic and tribal resources contained within the NTTR.

If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish La Pierre by e-mail at kish.lapierre@us.af.mi, or by phone at (702) 652-5813. Thank you for any inputs or information you can provide.

Sincerely



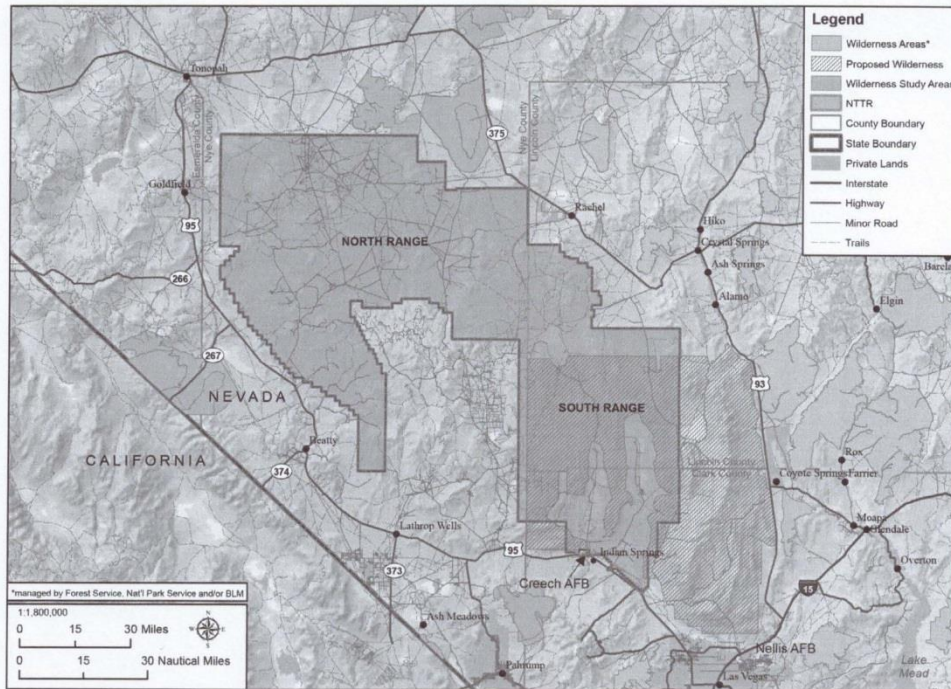
Michael A. Freeman, Lt. Col., USAF
Commander

Attachments:

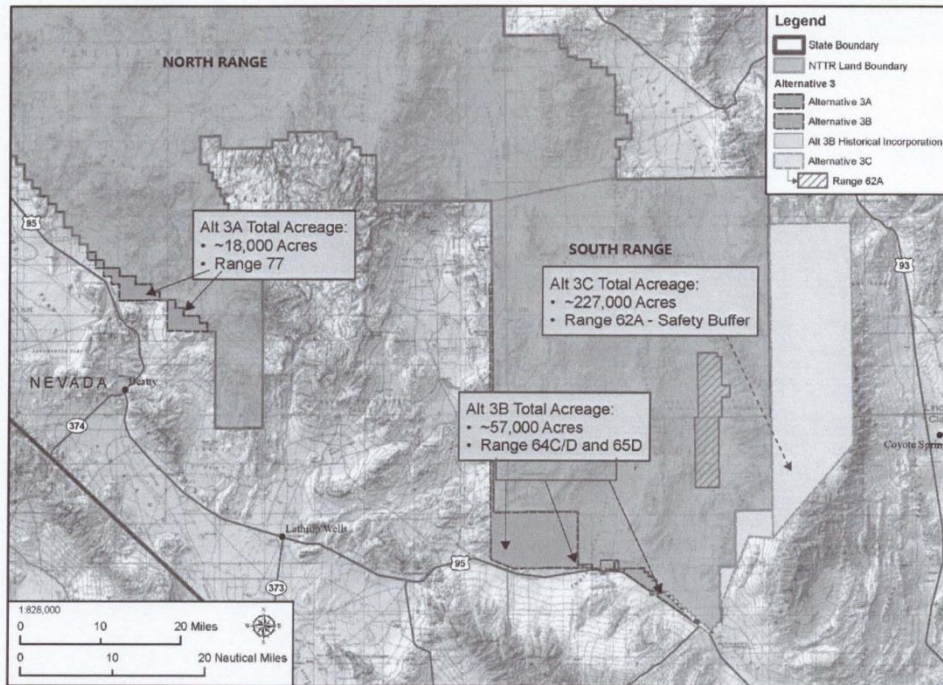
1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Draft NTTR Land Withdrawal Historic Property Inventory Plan

cc:

Christy Smith, US Fish and Wildlife Service
Anan Raymond, US Fish and Wildlife Service
Spencer Lodge, US Fish and Wildlife Service
Rebecca Palmer, Nevada State Historic Preservation Office



Attachment 1- Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas



Attachment 2- Alternative 3A, 3B, and 3C Locations and Acreages

Letter from Nuwuvi Working Group to Air Force: February 11, 2017

NUWUVI WORKING GROUP

February 11, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force USAF) in preparation of a Legislative Environmental Impact Statement to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge.

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with FWS to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the Desert National Wildlife Refuge (DNWR).

The NWG comprised of key culturally knowledgeable individuals are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the background knowledge and information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources without understanding Southern Paiute/Chemehuevi epistemology.

It is our understanding USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force and irrevocably adding the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive

area will be impacted by associated destruction, desecration and restriction that adversely impact our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties and most importantly the religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and/or bands who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force Section 106 Historic Property identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs including but not limited to historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation including but not limited to existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and culturally affiliated tribes.

Sincerely,

Nuwuvi Working Group

Letter from Kaibab Band of Paiute Indians: February 17, 2017

Kaibab Band of Paiute Indians



NUWUVI WORKING GROUP

February 17, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Col. Freeman, Sir:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF), in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS), to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the DNWR.

The NWG is comprised of key culturally knowledgeable individuals who are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while simultaneously updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the epistemology, background knowledge and specialized information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources on the DNWR.

Tribal Affairs

HC 65 Box 2
Fredonia, Arizona 86022

Phone (928) 643-7245
Fax (888) 939-3777

It is our understanding that the USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that will adversely impact our culture into perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent use and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

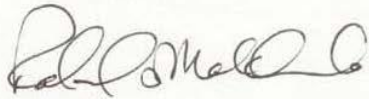
We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106 and E.O. 13175 and E.O.13007. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and/or bands who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not an archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to, existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers in southern Nevada. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Respectfully,



Roland Maldonado
Tribal Chairman
Kaibab Band of Paiute Indians
928/643/7125

Letter from the Nuwuvi Working Group: February 24, 2017

February 24, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF) in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS) to enhance our longstanding government-to-government relationship relating to any and all activities.

It is our understanding USAF is intending to conduct an archaeological evaluation for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that adversely impacts our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and who demonstrated cultural affiliation to the Sheep Range.

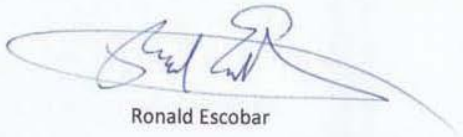
In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary culture and religious tribal values associated with the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Services effort relating to four newly constructed Visitor's Centers in southern Nevada. Moreover, tribal

interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Sincerely,



Ronald Escobar

Nuwuvi Working Group Member

Chemehuevi Tribal Member

Letter from Chemehuevi Indian Tribe: February 25, 2017



Chemehuevi Indian Tribe

P.O. Box 1976 • Havasu Lake, California 92363 • (760) 858-4219 • Fax: (760) 858-5400

February 25, 2017

Kevin DesRoberts, Deputy Project Leader
Fish and Wildlife Service
4701 North Torrey Pines Dr.
Las Vegas, NV 89130

Re: NTTR LEIS Military Land Withdrawal

Dear Mr. DesRoberts:

As you are aware, the Chemehuevi Indian Tribe of California is federally recognized and a founding member of the Nuwuvi Working Group (NWG). We support the concerns expressed by the NWG relating to the proposed Nevada Test and Training Range (NTTR) land expansion onto the Desert National Wildlife Refuge (DWNR).

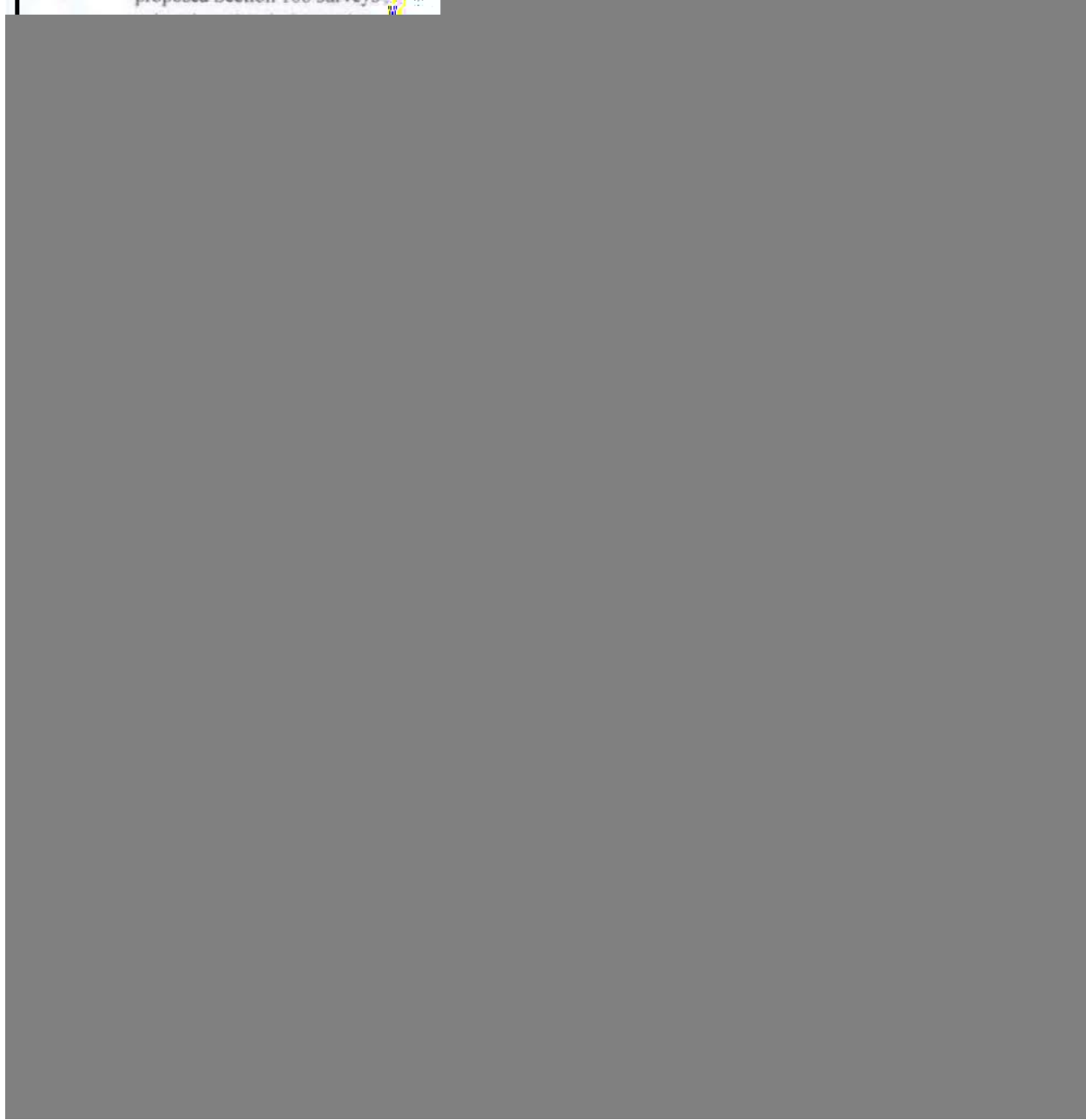
Our Tribal Council along with the NWG is extremely concerned with any actions that adversely affect our culture, traditional homelands and the numerous culturally sensitive sites or resources managed by the U.S. Fish and Wildlife Service (USFWS). The proposed actions of the Air Force under the auspices of an active bombing range for the NTTR located within the DNWR will have irreparable impacts on our ability to regularly access our traditional sites for religious and ceremonial purposes. This undertaking will without a doubt inhibit our ability to sustain our culture for future generations.

The proposed Historic Property Identification Plan (HPIP) proposed by the Air Force is silent on tribal resources relating to our religious ties to the area and fails to consider the impacts upon our songscapes and storyscapes within the broader cultural landscape. Equally, the HPIP does not account for the religious and spiritual implications placed upon our people including those tribes represented by the NWG.

Archaeological surveys or other activities involving culturally affiliated tribes related to the proposed undertaking must be conducted in a manner consistent with the mutually agreed upon

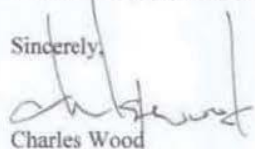
collaborative processes established between culturally affiliated tribes represented by the NWG and USFWS.

We see no consideration given to addressing or mitigating cultural and religious values associated with the proposed expansion area. The Chemehuevi Indian Tribe is troubled by the proposed Section 106 surveys that will not properly account for our resources including the



contention USFWS must thoroughly consider the implications of an inadequate NHPA Section 106 archaeological surveys associated with the Legislative Environmental Impact Statement before issuing a permit under the Archaeological Resources Protection Act.

Sincerely,



Charles Wood
Tribal Chairman

Letter from Air Force to Kaibab Band of Paiute Indians, Chemehuevi Indian Tribe, and Nuwuvi Working Group: April 4, 2017



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELNIS AIR FORCE BASE NEVADA



Lieutenant Colonel Michael A. Freeman
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

APR 04 2017

Mr. Roland Maldonado
Tribal Chairman
Kaibab Band of Paiute Indians



the cultural landscape, particularly for tribes with historic ties to the NTTR and surrounding lands that could be affected by a future land withdrawal. To that end, the USAF has supported several ethnographic studies for the NTTR over the years. As part of the overall cultural characterization of the Area of Potential Effect for this undertaking the USAF intends to leverage those existing ethnographic studies to the extent possible and conduct an additional ethnographic study to supplement existing information in response to tribal comments received on the NTTR land withdrawal. The USAF will utilize a qualified ethnographer (not an archaeologist) to conduct the ethnographic study. Because of the number of Affiliated Tribes involved in this consultation effort, from a practical perspective the USAF cannot provide separate ethnographic studies for each tribe. The USAF therefore proposes one comprehensive ethnographic study, utilizing new tribal input as well as leveraging previously conducted studies to include existing or potential Traditional Cultural Property (TCP) nominations and religious connections to the area. With regards to the ethnographer, the USAF requests that the Nellis Air Force Base (AFB) Affiliated Tribes provide a list of qualified, preferred ethnographers that the Air Force could review in planning for the requested ethnographic study. Your support in providing a response to this request no later than 4 May 2017 is appreciated, to ensure there is adequate time to complete the study in conjunction with the land withdrawal process.

2) The USAF would also like to clarify the undertaking being considered as part of the proposed NTTR military land withdrawal. As part of the undertaking the USAF is considering an extension of the existing NTTR land withdrawal within the current NTTR boundary, as well as alternatives for potentially expanding the NTTR boundary by up to 301,507 acres in 3 distinct areas adjacent to the existing NTTR North and South range areas. The potential expansion areas were identified in previous tribal correspondence and meetings with potentially affected tribal groups. Under the Proposed Action and all alternatives considered, there would be no new target impact areas established in the Sheep Mountain Range or in any new expanded areas proposed for military land withdrawal. Additionally, at this time there are no site-specific land disturbance proposals included in the undertaking. The USAF has identified the general types of activities that would take place in the proposed withdrawal expansion areas in the future, if the withdrawal is approved by Congress. Some of these activities include establishment of radar and emitter sites, potential landing strips, and small team ground maneuvers. The impacts from these activities, if pursued in the future, are anticipated to impact only a small portion (less than 1%) of any new lands withdrawn by Congress. Specific activities and their locations would not be defined until after enactment of any future withdrawal legislation. At that time, any activities would be subject to additional appropriate National Environmental Policy Act (NEPA) analysis, National Historic Preservation Act (NHPA), and tribal consultation. As a result, the Affiliated Tribes will have multiple opportunities to consult and provide input on future site-specific activities in any new withdrawal areas prior to the occurrence of any activities which may impact cultural resources.

3) The USAF currently works with the tribes of the Nuwuvi Working Group (NWG) and other Affiliated Tribes under the Nellis AFB Native American Program to consult on NTTR activities and provide access to Historic Properties of Cultural and Religious Significance to Indian Tribes (HPCRSIT) affiliated with the NTTR. If any changes are made to the NTTR as a result of Congressional legislation in the future, it is the intention of the USAF to continue to consult and

provide opportunities for tribal access to HPCRSIT and other areas of tribal interest regardless of the alternative(s) selected. The USAF recognizes that tribal access to proposed military withdrawal areas would be reduced due to safety considerations when military activities are occurring, but the Air Force would work to balance desired access in new withdrawal areas with future military operations. Opportunities for access to USAF land areas would be identified and codified through the Section 106 consultation process and government-to-government coordination. If there are specific aspects of the protocols used between the NWG member tribes and the USFWS in the management of the Desert National Wildlife Refuge (DNWR) that you and your tribe would like to incorporate into the Nellis AFB Native American Program please let us know. Nellis AFB does not have a copy of any protocols or agreements between the USFWS and the NWG to help understand the concerns you addressed about following those protocols.

4) While the intent of the undertaking is to provide the land area necessary to meet current and future mission requirements, it is not the intent of the USAF to adversely impact HPCRSIT or negatively affect opportunities for the Affiliated Tribes to access these areas. In order to effectively balance mission needs with tribal uses of potential military withdrawal lands, the USAF understands that it is critical to receive input from the Affiliated Tribes on the proposed undertaking. The USAF has identified multiple methods that could be used to accomplish this in the HPIP provided in January 2017. The main components of the HPIP include literature review and summation (using existing information from NVCRIS and other published sources), an archaeology survey for the areas that the USAF has been provided access, and an ethnographic study. In response to input received, the USAF will plan to reduce the scope of archeological survey efforts, while increasing the focus on efforts to gather and understand ethnography of the area. Archaeological survey efforts that do occur will include Native American cultural experts to serve as monitors during field investigations, including representation the Nellis Affiliated Tribes with cultural ties to the areas being studied. These Native American cultural experts will assist the USAF in the identification and evaluation of HPCRSIT, as well as other aspects of the withdrawal that may impact Native Americans. The USAF is currently working with Mr. Richard Arnold as the Native American Coordinator (NAC) to coordinate the survey efforts over the next few weeks.

5) The USAF intends to provide an opportunity for tribal input on the LEIS and the withdrawal process. In addition to the extensive consultation and coordination efforts already conducted and planned for the future, the USAF is currently working with Mr. Arnold to identify members of a Native American Writers Subgroup (NAWS) to provide Native American perspectives on the land withdrawal proposal. The process for assembling the NAWS is ongoing at this time and the details will be coordinated with the Affiliated Tribes over the next few weeks.

The USAF will continue to communicate with all of the Affiliated Tribes throughout the land withdrawal process. The USAF hopes that the above information helps to address the issues and concerns presented in your letter. As the USAF develops the LEIS and works through the NHPA consultation process, we look forward to working to understand and address tribal concerns.

If you have any questions or comments regarding the information presented in this letter, please direct them to (Ms. Kish LaPierre) by e-mail at (kish.lapierre@us.af.mil), or by phone at (702) 652-5813. Thank you for any inputs or information you can provide.

Sincerely



Michael A. Freeman, Lt Col, USAF
Commander

Attachment:
Referenced Four Letters

cc:
Nellis Air Force Base Native American Program Affiliated Tribes
Nuwuvi Working Group
Nellis Native American Coordinator (Mr. Richard Arnold)
US Fish and Wildlife Service (Mr. Kevin DesRoberts, Ms Christy Smith,
Mr. Anan Raymond, and Mr. Spencer Lodge)
Nevada State Historic Preservation Office (Ms. Rebeca Palmer)

Enclosure

NUWUVI WORKING GROUP

February 11, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force USAF) in preparation of a Legislative Environmental Impact Statement to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge.

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with FWS to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the Desert National Wildlife Refuge (DNWR).

The NWG comprised of key culturally knowledgeable individuals are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the background knowledge and information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources without understanding Southern Paiute/Chemehuevi epistemology.

It is our understanding USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force and irrevocably adding the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive

area will be impacted by associated destruction, desecration and restriction that adversely impact our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties and most importantly the religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

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In examining the proposed undertaking including the Air Force Section 106 Historic Property identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs including but not limited to historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation including but not limited to existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and culturally affiliated tribes.

Sincerely,

Nuwuvi Working Group

Enclosure

Kaibab Band of Paiute Indians



NUWUVI WORKING GROUP

February 17, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTTR LEIS Military Land Withdrawal

Col. Freeman, Sir:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF), in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS), to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the DNWR.

The NWG is comprised of key culturally knowledgeable individuals who are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interactions about resources on the DNWR while simultaneously updating their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge relating to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi tribes possess the epistemology, background knowledge and specialized information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources on the DNWR.

Tribal Affairs

HC 65 Box 2
Fredonia, Arizona 86022

Phone (928) 643-7245
Fax (888) 939-3777

It is our understanding that the USAF is intending to conduct archaeological evaluations for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that will adversely impact our culture into perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent use and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106 and E.O. 13175 and E.O.13007. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and/or bands who demonstrated cultural affiliation to the Sheep Range.

In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary cultural and religious tribal values associated with the proposed expansion area. Without adjustments, the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not an archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to, existing or potential Traditional Cultural Property nominations and religious connections to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

In tandem with any ethnographic effort, tribal insight and concerns must be properly documented using appropriate ethnographic methods conducted by and with Nuwuvi equal to recent FWS and Forest Service efforts relating to four newly constructed Visitor's Centers in southern Nevada. Moreover, tribal interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Respectfully,



Roland Maldonado
Tribal Chairman
Kaibab Band of Paiute Indians
928/643/7125

Enclosure

February 24, 2017

Lt. Col. Michael A. Freeman
Commander, 99 CES
6020 Beale Avenue
Nellis AFB, NV 89191

Re: NTR LEIS Military Land Withdrawal

Dear Col. Freeman:

The Nuwuvi Working Group is aware of the impending Nevada Test and Training Range Military Land Withdrawal proposed by the United States Air Force (USAF) in preparation of a Legislative Environmental Impact Statement (LEIS) to acquire 260,000 acres within the existing boundary of the Desert National Wildlife Refuge (DNWR).

The proposed land expansion falls within the traditional homelands of culturally affiliated Southern Paiute and Chemehuevi Tribes located in Nevada, California, Utah and Arizona. These particular tribes formed the Nuwuvi Working Group (NWG) nearly a decade ago as a means of interfacing directly with Fish and Wildlife (FWS) to enhance our longstanding government-to-government relationship relating to any and all activities impacting the precious resources on the DNWR.

The NWG is comprised of key cultural knowledgeable individuals that are appointed by their respective tribal governments and charged with the responsibility of engaging in meaningful interaction concerning resources on the DNWR while simultaneously updated their respective tribes. NWG membership along with their leadership has demonstrated their extensive knowledge related to our deep-rooted cultural ties to the Sheep Mountains that are considered culturally sensitive and vital to the perpetuation of our culture. Currently no other group of tribes other than Southern Paiute and Chemehuevi Tribes possess the epistemology, background knowledge and specialized information that relates to the area and can truly recognize the gravity of the sensitive cultural and religious resources on the NDWR.

It is our understanding USAF is intending to conduct an archaeological evaluation for this National Historic Preservation Act (NHPA) Section 106 undertaking on a significant portion of the Desert National Wildlife Refuge. In turn, the Air Force NHPA Section 106 undertaking will ultimately turn a significant portion of the Desert National Wildlife Refuge Sheep Range into a bombing range under the jurisdiction of the Air Force. This process will irrevocably add the culturally important religious and ceremonial areas on the Sheep Range to the Nevada Test and Training Range. In our view, the proposed Sheep Range along with other culturally sensitive areas will be impacted by the associated destruction, desecration and restriction that adversely impacts our culture in perpetuity.

Due to the high degree of cultural sensitivity identified by Southern Paiute and Chemehuevi Tribes, the USAF NHPA Section 106 undertaking will without consideration have irreversible adverse effects on historic properties, and most importantly, on sites of religious and cultural significance to Indian Tribes. As an active bombing range, access will diminish significantly and eliminate our frequent and sustained connection to our traditional and contemporary culture, sites, plants, animals and other important attributes vital to our existence.

We believe qualified and traditionally knowledgeable individuals should be identified by the NWG with concurrence from their respective tribal governments to identify historic and ethnohistoric properties in compliance with NHPA Section 106. Further, full consideration must be given to surveying cultural resources, sites and identifying the cultural values attributed to those properties with religious and cultural significance to our affected tribes and who demonstrated cultural affiliation to the Sheep Range.

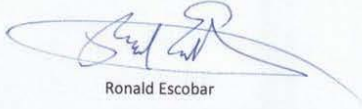
In examining the proposed undertaking including the Air Force's Section 106 process, identification plans and contractor evaluation are modeled after out-dated archaeological surveys and fail to consider the importance of identifying, addressing and mitigating contemporary culture and religious tribal values associated with the proposed Section 106 survey will not consider our resources, culture and spiritual needs, including but not limited to, historic properties of religious and cultural significance to Indian Tribes.

Any proposed survey of this magnitude must include an appropriate ethnographic study of the area by a qualified ethnographer (not archaeologist) with knowledge and familiarity with the culturally affiliated tribes and selected by the NWG. Such an ethnographic study must consider existing documentation, including but not limited to the area by collecting and synthesizing important Nuwuvi traditional and spiritual knowledge.

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interactions must be conducted in a manner consistent with government-to-government relationship protocols modeled after tribal interactions adopted by both DNWR and the culturally affiliated tribes.

Sincerely,



Ronald Escobar

Nuwuvi Working Group Member

Chemehuevi Tribal Member

Enclosure

*Chemehuevi Indian Tribe*

P.O. Box 1976 • Havasu Lake, California 92363 • (760) 858-4219 • Fax: (760) 858-5400

February 25, 2017

Kevin DesRoberts, Deputy Project Leader
Fish and Wildlife Service
4701 North Torrey Pines Dr.
Las Vegas, NV 89130

Re: NTTR LEIS Military Land Withdrawal

Dear Mr. DesRoberts:

As you are aware, the Chemehuevi Indian Tribe of California is federally recognized and a founding member of the Nuwuvi Working Group (NWG). We support the concerns expressed by the NWG relating to the proposed Nevada Test and Training Range (NTTR) land expansion onto the Desert National Wildlife Refuge (DNWR).

Our Tribal Council along with the NWG is extremely concerned with any actions that adversely affect our culture, traditional homelands and the numerous culturally sensitive sites or resources managed by the U.S. Fish and Wildlife Service (USFWS). The proposed actions of the Air Force under the auspices of an active bombing range for the NTTR located within the DNWR will have irreparable impacts on our ability to regularly access our traditional sites for religious and ceremonial purposes. This undertaking will without a doubt inhibit our ability to sustain our culture for future generations.

The proposed Historic Property Identification Plan (HPIP) proposed by the Air Force is silent on tribal resources relating to our religious ties to the area and fails to consider the impacts upon our songscapes and storyscapes within the broader cultural landscape. Equally, the HPIP does not account for the religious and spiritual implications placed upon our people including those tribes represented by the NWG.

Archaeological surveys or other activities involving culturally affiliated tribes related to the proposed undertaking must be conducted in a manner consistent with the mutually agreed upon

collaborative processes established between culturally affiliated tribes represented by the NWG and USFWS.

We see no consideration given to addressing or mitigating cultural and religious values associated with the proposed expansion area. The Chemehuevi Indian Tribe is troubled by the proposed Section 106 surveys that will not properly account for our resources including the cultural needs relating to those historic properties vital to the spiritual continuity of our people.

The Chemehuevi Indian Tribe disagrees with the outdated methodology proposed by Far Western Anthropological Research Group (FWARG) and their attempt to use intuitive archaeological predictive modeling. This approach will no doubt achieve skewed results by using insufficient information and not considering tribal perspectives or incorporating traditional knowledge about the area. Ultimately the intuitive model will identify only those sites within pre-determined locations without tribal consideration or intentional avoidance of other culturally important locations. Most importantly, tribal input from knowledgeable tribal representatives will be totally absent.

For reasons unknown, the proposed site evaluations approved by the Air Force and planned by FWARG are unacceptable and non-inclusive. In our view, ethnographic studies are necessary for focusing on the traditional cultural resources present on DNWR lands. Tribal involvement will promote a fuller understanding of the cultural nuances paramount to our culture including the culturally perceived impacts upon the land in question.

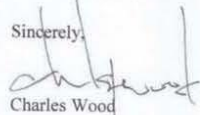
Clearly, a qualified trained ethnographer approved by the Nuwuvi Working Group in collaboration with USFWS is necessary to conduct proper ethnographic evaluations in accordance with NWG and USFWS government-to-government protocols.

Due to the nature of the proposed undertaking and the limited archaeological studies planned under Section 106 of the National Historic Preservation Act, the Air Force must provide sufficient funding to the UWFWS to conduct such a cultural analysis using the NWG on a government-to-government basis. Accordingly, culturally knowledgeable tribal members approved by their respective Nuwuvi tribal governments must participate in this effort. This approach will support integral components of a more robust systematic ethnographic evaluation to ensure the integrity of the study.

Due to the highly religious significance of the DNWR and the urgency of the proposed Air Force undertaking, the Chemehuevi Indian Tribe cannot support the existing elements of the HPIP nor the flawed unconscionable analysis proposed by the Air Force. The antiquated archaeological modeling is inadequate and until significant changes are made to address these concerns the interests of our people, will not be represented nor can we engage in a deficient project. It is our

contention USFWS must thoroughly consider the implications of an inadequate NHPA Section 106 archaeological surveys associated with the Legislative Environmental Impact Statement before issuing a permit under the Archaeological Resources Protection Act.

Sincerely,



Charles Wood
Tribal Chairman

**Letter from Native American Coordinator to Kaibab Paiute Tribe Chairman:
April 20, 2017**

CEVA

Mr. Roland Maldonado, Chairman
Kaibab Paiute Tribe
HC 65, Box 2
Fredonia, AZ 86022

April 20, 2017

Dear Roland,

As you are aware, the Air Force is developing a Legislative Environmental Impact Statement (LEIS) for their Land Renewal associated with the Nevada Test and Training Range. During the last withdrawal, tribal representatives served on an American Indian Writer's Subgroup (AIWS) for the purpose of developing tribal text for inclusion into the LEIS. Once again, Nellis Air Force Base (NAFB) has agreed to support this unique approach and use the AIWS consisting of 9 tribal members from various tribes. Bubar-Hall, LLC, will be supporting this effort and I have been tasked with facilitating these interactions. Your tribe has previously expressed interest in providing comments to the LEIS and I would like to extend an invitation for you to designate a representative from your tribe to work with us in developing tribal-specific text for various sections of the document.

Specifically, members of the AIWS will be responsible for reviewing draft sections of the LEIS and developing corresponding comments from a tribal and/or cultural perspective. Thereafter, the AIWS will work together to collectively synthesize the comments and write text that reflects our collective views. For their efforts, tribal representatives will receive honoraria in the amount of \$150 per day along with lodging, per diem and mileage when AIWS meetings are scheduled to synthesize text.

It is important to note that the AIWS effort is intended to provide collective tribal views and does not preclude any tribe from responding directly to the Air Force about the LEIS and/or expressing their respective views.

NAFB has announced plans to host their semi-annual Tribal Meeting in Beatty Nevada on May 10-11, 2017. In addition to regular updates, one key component of this meeting will be to discuss the LEIS. The session is expected to provide LEIS updates and further discuss the path forward.

I am hopeful that you or your designee will be able to assist with this important effort and participate in the systematic review of the LEIS. Currently we are planning on initiating our activities shortly after the Tribal Leaders meeting and I would respectfully ask that you confirm your involvement as soon as possible. If you have any questions or would like to discuss this activity further, I can be reached at (702) 339-7200 or rwarnold@hotmail.com.

Sincerely,

/S/

Richard Arnold, Native American Coordinator
P.O. Box 3411
Pahrump, NV 89041-3411

cc: Col. Paul Murray
Kish LaPierre, NAFB
Ron Hall, Bubar-Hall, LLC.

OCTOBER 2018

Letter from Native American Coordinator to Moapa Band of Paiutes Chairman: April 20, 2017

Mr. Darren Daboda, Chairman
Moapa Band of Paiutes
P.O. Box 340
Moapa, NV 89025

April 20, 2017

Dear Darren,

As you are aware, the Air Force is developing a Legislative Environmental Impact Statement (LEIS) for their Land Renewal associated with the Nevada Test and Training Range. During the last withdrawal, tribal representatives served on an American Indian Writer's Subgroup (AIWS) for the purpose of developing tribal text for inclusion into the LEIS. Once again, Nellis Air Force Base (NAFB) has agreed to support this unique approach and use the AIWS consisting of 9 tribal members from various tribes. Bubar-Hall, LLC, will be supporting this effort and I have been tasked with facilitating these interactions. Your tribe has previously expressed interest in providing comments to the LEIS and I would like to extend an invitation for you to designate a representative from your tribe to work with us in developing tribal-specific text for various sections of the document.

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Sincerely,

/S/

Richard Arnold, Native American Coordinator
P.O. Box 3411
Pahrump, NV 89041-3411

cc: Col. Paul Murray
Kish LaPierre, NAFB
Ron Hall, Bubar-Hall, LLC.

Letter from Colorado River Indian Tribe: May 18, 2017**COLORADO RIVER INDIAN TRIBES***Tribal Historic Preservation Office*

26600 Mohave Road

Parker, Arizona 85344

Telephone: (928)-669-5822 Fax: (928) 669-5843

May 18, 2017

Department of the Air Force
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

RE: NTR LEIS Military Land Withdrawal Response Letters

Dear Ms. Kish LaPierre:

The Colorado River Indian Tribes' Tribal Historic Preservation Office ("CRIT THPO") has received your letter dated April 04, 2017, regarding the *Nevada Test and Training Range (NTR) military land withdrawal proposal*.

As a preliminary matter, the Colorado River Indian Tribes are a federally recognized Indian tribe comprised of over 4,200 members belonging to the Mohave, Chemehuevi, Hopi and Navajo Tribes. The almost 300,000 acre Colorado River Indian Reservation sits astride the Colorado River between Blythe, California and Parker, Arizona. The ancestral homelands of the Tribe's members, however, extend far beyond the Reservation boundaries. Significant portions of public and private lands in California, Arizona and Nevada were occupied by the ancestors of the Colorado River Indian Tribes' Mohave and Chemehuevi members since time immemorial. These landscapes remain imbued with substantial cultural, spiritual and religious significance for the Tribes' current members and future generations. For this reason, we have a strong interest in ensuring that potential cultural resource impacts are adequately considered and mitigated.

In particular, the Colorado River Indian Tribes are concerned about the removal of artifacts from this area and corresponding destruction of the Tribes' footprint on this landscape. As such, the Tribes request that all prehistoric cultural resources, including both known and yet-to-be-discovered sites, be avoided if feasible. If avoidance of the site is infeasible, then the Tribes request that the resources be left in-situ or reburied in a nearby area, after consultation. This language should be incorporated into enforceable mitigation measures.

In addition, we respond as follows:

- _____ Given the potential impact of the project on important cultural resources, the Colorado River Indian Tribes request in-person government-to-government consultation. Please contact the CRIT THPO to discuss our concerns and schedule a meeting with Tribal Council.

CRIT THPO
Project Name: NTTR LEIS Project
Date: May 18, 2017
Page 2

_____ In the event any human remains or objects subject to provision of the Native American Graves Protection and Repatriation Act, or cultural resources such as sites, trails, artifacts are identified during ground disturbance, please contact the CRIT THPO within 48 hours.

_____ The Colorado River Indian Tribes request tribal monitoring of any ground disturbing activity as a condition of project approval. The Tribes request notification of any opportunities to provide tribal monitoring for the project.

_____ The Colorado River Indian Tribes do not have any specific comment on the proposed project and instead defer to the comments of other affiliated tribes.

Thank you for your consideration. Please contact the undersigned if you have any questions or concerns.

Sincerely,

**COLORADO RIVER INDIAN TRIBES
TRIBAL HISTORIC PRESERVATION OFFICE**

/s/David Harper, Director
26600 Mohave Road
Parker, AZ 85344
Phone: (928) 669-5822
E-mail: david.harper@crit-nsn.gov
critthpo@crit-nsn.gov

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Utu Utu Gwaitu Paiute Tribe (Bento Paiute Tribe): December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Tina Braithwaite, Chairperson
Utu Utu Gwaitu Paiute Tribe (Benton Paiute Tribe)
25669 Highway 6, PMB I
Benton, CA 93512

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Braithwaite,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

Enclosed is a copy of the Draft Legislative EIS. The Draft Legislative EIS and supporting documents are also available on the project website at www.nttrleis.com.

The USAF plans to hold five public hearings from 5:30 p.m. to 9 p.m. on the dates and at the locations listed below. During the meetings, the USAF will provide information on the potential environmental impacts associated with the proposed action and solicit public comments on the Draft Legislative EIS.

- Wednesday, January 17, 2018: Caliente Elementary School, 289 Lincoln Street, Caliente, NV 89008
- Thursday, January 18, 2018: Pahrangat Valley High School, 151 S. Main Street, Alamo, NV 89001
- Tuesday, January 23, 2018: Aliante Hotel, 7300 Aliante Parkway, North Las Vegas, NV 89084
- Wednesday, January 24, 2018: Beatty Community Center, 100 A Avenue South, Beatty, NV 89003
- Thursday, January 25, 2018: Tonopah Convention Center, 301 Brougner Avenue, Tonopah, NV 89049

The agenda for each public hearing is as follows:

- 5:30 p.m. to 6:15 p.m. – Open House and Written Comment Submission
- 6:15 p.m. to 7:00 p.m. – Air Force Presentation
- 7:00 p.m. to 9:00 p.m. – Public Hearing/Oral Comments

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OCTOBER 2018

The project website (www.ntrleis.com) can be used to submit comments on the Draft Legislative EIS or comments may also be submitted by mail to the 99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191. Please direct any requests for information or other inquiries to the 99th Air Base Wing Public Affairs, 4430 Grissom Ave., Ste. 107, Nellis AFB, NV 89191, by e-mail at 99ABW.PAOutreach@us.af.mil, or by phone at (702) 652-2750.

Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Big Pine Paiute Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Shannon Romero, Chairperson
Big Pine Paiute Tribe
P.O. Box 700
825 South Main Street, Big Pine, CA 93513

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Romero,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Bishop Paiute Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. William Vega, Chairperson
Bishop Paiute Tribe
50 Tusu Lane
Bishop, CA 93514

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Vega,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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OCTOBER 2018

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Chemehuevi Indian Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Charles Wood, Chairperson
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, CA 92363

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Wood,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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The agenda for each public hearing is as follows:

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Enable Mission Success by Delivering Innovative Support

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Colorado River Indian Tribes: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Dennis Patch, Chairperson
Colorado River Indian Tribes
26600 Mohave Road
Parker, AZ 85344

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Patch,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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OCTOBER 2018

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Duckwater Shoshone Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Rodney Mike, Chairperson
Duckwater Shoshone Tribe
511 Duckwater Falls, P.O. Box 140068
Duckwater, NV 89314-0068

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Mike,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

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Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Ely Shoshone Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Victor McQueen Jr., Chairman
Ely Shoshone Tribe
16 Shoshone Circle
Ely, NV 89301

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. McQueen,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIK, Lt Col, USAF
Commander

Attachment:

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Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Ft. Mojave Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Timothy Williams, Chairperson
Ft. Mojave Tribe
500 Merriman Avenue
Needles, CA 92363

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Williams,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Ft. Independence Paiute Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Norman Wilder, Chairperson
Ft. Independence Paiute Tribe
P.O. Box 67
131 North Hwy 395
Independence, CA 93526

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Wilder,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Kaibab Band of Southern Paiutes: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Ona Segundo, Chairperson
Kaibab Band of Southern Paiutes
HC 65 Box 2
Fredonia, AZ 86022

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Segundo ,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

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Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Las Vegas Paiute Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Benny Tso, Chairperson
Las Vegas Paiute Tribe
#1 Paiute Drive
Las Vegas, NV 89106

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Tso,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

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Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Lone Pine Paiute-Shoshone Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Mary Wuester, Chairperson
Lone Pine Paiute-Shoshone Tribe
P.O. Box 747
975 Teya Road
Lone Pine, CA 93545

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Wuester,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Moapa Band of Paiutes: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Lori Kay, Chairperson of Cultural Committee
Moapa Band of Paiutes
P.O. Box 340
Moapa, NV 89025

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Ms. Kay,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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PATRICK J. KOLESIAK, Lt Col, USAF
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Attachment:

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Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Pahrump Paiute Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Richard Arnold
Pahrump Paiute Tribe
P.O. Box 3411
Pahrump, NV 89041

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Arnold,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Timbisha Shoshone Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELNIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. George Gholson, Chairperson
Timbisha Shoshone Tribe
621 West Line St. Suite 109
Bishop, CA 93515

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Gholson,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Paiute Indian Tribes of Utah: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Ms. Tamra Borchardt-Slayton, Chairperson

OCTOBER 2018

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Draft LEIS Transmittal Letter and Public Hearing Notice from the Air Force to Yomba Shoshone Tribe: December 4, 2017



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA



December 4, 2017

Lt Col Patrick J. Kolesiak
99 CES Commander
6020 Beale Ave.
Nellis AFB, NV 89191

Mr. Wayne Dyer, Chairperson
Mr. Daryl Brady, Vice-Chairperson
Yomba Shoshone Tribe
HC 61, Box 6275
Austin, NV 89310

SUBJECT: Draft Legislative Environmental Impact Statement Public Review
Nevada Test and Training Range Land Withdrawal, Nellis AFB, Nevada

Dear Mr. Dyer/Mr. Brady,

The United States Air Force (USAF) would like to notify you of the publication of the Notice of Availability (NOA) in the *Federal Register* on 8 December, 2017 that announces the availability of the *Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal*. The publication of the NOA will begin a 90-day public comment period that will close on 8 March, 2018.

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Sincerely,



PATRICK J. KOLESIAK, Lt Col, USAF
Commander

Attachment:

Draft Legislative Environmental Impact Statement (EIS) for the Nevada Test and Training Range Land Withdrawal

Letter from the Moapa Band of Paiutes: March 29, 2018**MOAPA BAND OF PAIUTES**

MOAPA RIVER INDIAN RESERVATION
BOX 340
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
FAX (702) 865-2875

Tribal Resolution: M-18-03-07

**RESOLUTION OF THE GOVERNING BODY OF
THE MOAPA BAND OF PAIUTES**

Subject: Oppose Department of Defense Increased Use and Expansion of the Nevada Test and Training Range (NTTR) in the Desert National Wildlife Refuge

WHEREAS, the Moapa Band of Paiutes are organized under the provisions of the Indian Reorganization Act of June 18, 1934, (Stat. 594), as amended to exercise certain rights of home rule and be responsible for the general welfare of its membership and is governed by its Business Council which manages its affairs under Articles III and V of its Constitution; and

WHEREAS, the Moapa Business Council is the governing body of the Moapa Band of Paiute Indians, by authority of the Tribe's Constitution and By-Laws; and

WHEREAS, the region encompassing the NTTR and the Desert National Wildlife Refuge remain central to the lives of Native American Tribes. These lands are known to contain traditional and ceremonial use along with traditional gathering and collection locations for Native American people. The region contains abundant ecological resources and special power places that are crucial in the continuity of Native American culture, religion and society; and

WHEREAS, the Mountains of Southern Nevada are considered sacred lands to the Southern Paiute Nuwu, where great legends were said to have begun and ended and where our hearts belong to this land. Since time immemorial, our people have lived and traveled across these lands. They carved their stories on the rocks, cooked their food in the now ancient roasting pits, and left artifacts that show how our people thrived in this beautiful desert and mountain environment. These are the objects of antiquity that tell the story of the Nuwu; of how we thrived on the land and of how our homelands were stolen by white colonizers. We cannot forget this history; and

WHEREAS, much of the Refuge has not been properly inventoried for cultural resources and 80% of the Sheep Range is designated as the Sheep Mountain Archaeological site on the National Register of Historic Places; and

WHEREAS, the bighorn sheep are sacred to the Moapa people. Creation stories say that the Paiute people enter the mountains and left as sheep. In essence the sheep are people. It is our duty to protect the mountain sheep for if they all die, then we die too. The Refuge was originally protected for the sheep and the mountains in the Desert Refuge/NTTR and are key habitat for desert bighorn sheep; and

WHEREAS, the Department of Defense wants to increase training operations in the Desert Refuge/NTTR and increase the size of the NTTR. Expansion would eliminate even more access to the Desert Refuge including denying access to half of the Sheep Range limiting access to cultural sites and

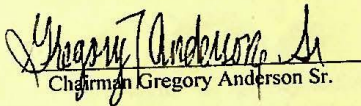
potentially damaging them and negatively impacting sheep in the mountain ranges in the NTTR and the Sheep Range

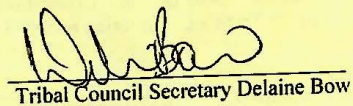
NOW THEREFORE BE IT RESOLVED, that the Moapa Business Council strongly prefers the Department of Defense Alternative 1 which would maintain the status quo and does not increase the use or size of the NTTR

BE IT FURTHER RESOLVED that the Moapa Business Council urges the Department of Defense to increase coordination directly with the Moapa Tribe pertaining to any additional land withdrawal and change in use and provide more access to important cultural sites within the boundaries of the NTTR including, but not limited to, Pintwater Cave.

CERTIFICATION

We, the undersigned Chairman and Secretary of the Business Council of the Moapa Band of Paiute Indians, do hereby certify that the foregoing resolution was considered and passed at a duly called meeting of the Business Council of the Moapa Band of Paiute Indians, at which a quorum was present, held on the 12th day of March 2018, with (4) For (0) Against (0) Abstaining, and (1) Absent.


Chairman Gregory Anderson Sr.


Tribal Council Secretary Delaine Bow

MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION
BOX 340

MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
FAX (702) 865-2875

Nellis Air Force Base
99th Air Base Wing Public Affairs
4430 Grissom Ave., Ste. 107
Nellis AFB, NV 89191

RE: Moapa Band of Paiutes- Comment Letter

Dear Colonel Murray,

The Moapa Band of Paiutes submits the following comment on the Nevada Test and Training Range Military Land Withdrawal draft legislative environmental impact statement. For at least the last 800 to 1000 years, the ancestors of Moapa Band members have lived, hunted, worshipped, and travelled in the areas that the Air Force now proposes to withdraw from public access and to subject to flight training, munitions testing, and simulated ground combat. The proposed withdrawal raises deep concerns with the Band and its members.

The Air Force's proposal continues the long and tragic history of the United States' expulsion of the Southern Paiute from their homelands. Prior to 1830, members of the Southern Paiute traveled widely in the region without impact from settlers. After increasing conflict, executive orders signed by President Grant in 1873 and 1874 created an approximately 2,000,000-acre reservation, including the entire Moapa and Lower Virgin watersheds and extensive lands along the Colorado River. *See Kappler, Indian Affairs, Laws and Treaties 866-67 (2d.ed. 1904).* The Reservation was diminished to a meager 1,000 acres, and then later restored to the still much reduced approximately 72,000 acres.

The creation of the Reservation removed the Band from its homelands. The current Reservation includes very little mountainous terrain and is separated from much of the Band's wildlife, cultural, and spiritual resources. Access to public land on off-reservation areas is therefore critical to preservation of our heritage and the ongoing health and well-being of our Band. The Mountains of Southern Nevada are sacred lands, where great legends began and ended, and where our hearts belong. Our stories are carved in the rocks, and the strength of our people is in our history and our connection to the earth. Band members rely heavily on access to surrounding public lands to stay connected to our culture, religion, and sense of belonging. The Air Force's proposed withdrawal and training exercises would restrict Band members from accessing critical cultural resources and wildlife, and would forever alter sacred landscapes.

The proposed use of sacred lands exacerbates the historical harm of removing the Band from its homelands. Few things could be more destructive to the Band's culture, which is based upon connection with and respect for earth, than the testing of jet planes, war games, and munitions.

Moapa Band of Paiutes Comment Letter
March 29, 2018

Training also damages life on the Reservation. Flyovers and munitions training occur night and day and severely impact quality of life on the Reservation, by damaging the quiet and peace that is critical to the Band's well-being. Increasing these impacts will further damage the Band.

As explained in the attached resolution, M-18-03-07, titled "Opposed Department of Defense Increased Use and Expansion of the Nevada Test and Training Range (NTTR) in the Desert National Wildlife Refuge," the Band opposes further impacts to cultural and wildlife resources, and supports adoption of Alternative 1 or a more protective alternative.

The Band further requests a thorough and open conversation between the Air Force and Band members, at times and locations such that Band members can understand what is happening to their sacred places without sifting through hundreds of pages of environmental impact statement, and that the Air Force can hear first-hand how the expansion will harm our way of life. These are concerns that cannot be adequately expressed or considered through bureaucratic documentation, but must be understood as they are felt, as deep harms to a people's culture and well-being.

The comments below set forth specific concerns raised by the proposed expansion and request further analysis of impacts to the Band, following the order of the draft EIS.

Purpose and Need

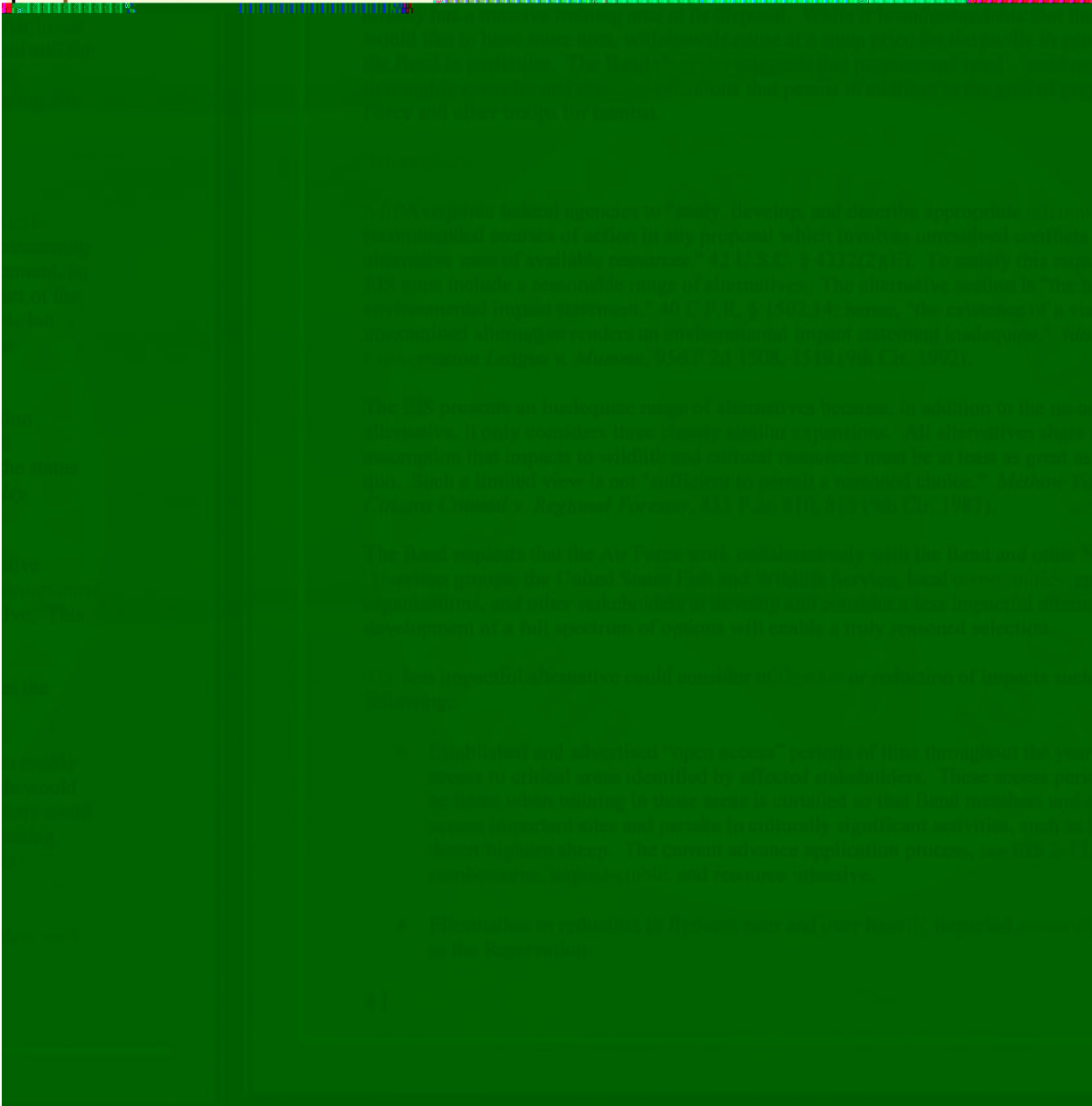
The purpose and need must include a short, plain statement of what is required to satisfy congressional direction. *See* 40 C.F.R. § 1502.13 (requiring a statement that "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action"). "The stated goal of a project necessarily dictates the range of 'reasonable' alternatives and an agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).

The purpose and need in the EIS focuses heavily on the Air Force's desire for expansion. The Band suggests that the purpose and need should reflect both the need for military preparedness and the Government's obligations to the general public and trust obligations to Native American groups such as the Band. For example, the purpose and need could state more broadly that the purpose and need is "to ensure military preparedness consistent with direction from Congress while causing the least practical impact to public lands and while honoring fiduciary obligations to Native American groups."

The purpose and need presented in the EIS is lengthy, but never adequately explains why that full enormous withdrawn area is necessary, or why further expansion is required. Instead, it discusses reducing scheduling conflicts and the need to prepare for peer adversaries, without discussion of why the amount of training activities proposed are necessary or what other obligations must be served. This leads to a generally one-sided analysis that presupposes expansion of the withdrawal.

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The NTTR land withdrawal already encompasses 2.9 million acres of varied terrain that has provided training for decades. EIS at 1-1. The adjacent withdrawn “Nevada National Security Site” removes an additional 336,665 acres from public use. EIS at 1-5. The total withdrawn land area is roughly the size of Connecticut, and uses an airspace of 12,000 square nautical miles (approximately 10 million acres). For purposes of training, the area is connected to the large China Lake and Utah Test and Training Range. EIS at 2-2. In other words, the Air Force



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- Scheduling night trainings for certain times of the year or month, so that local residents can prepare accordingly.
- Elimination of impactful activities during critical seasons for vulnerable wildlife, such as desert tortoise and desert bighorn sheep.
- Greater funding for ongoing efforts to identify traditional cultural properties and to restore and maintain wildlife habitat.

Other options could be developed through thorough engagement with stakeholders.

Baseline

In NEPA analysis, the baseline is a useful index against which to compare alternatives. “The purpose of setting a baseline is because the 'no action' status quo alternative . . . is the standard by which the reader may compare the other alternatives' beneficial and adverse impacts related to the applicant doing nothing.” *Kilroy v. Ruckelshaus*, 738 F.2d 1448, 1453 (9th Cir. 1984) (internal citation and quotation omitted). The selection of the baseline is therefore crucial to the impacts analysis and, as a result, the evaluation of alternatives.

The EIS presents the baseline as a continuation of the status quo into the future. EIS 2-20 to 2-21. This is correct until November 6, 2021, when the current withdrawal expires. From that point forward, the baseline should assume “no action,” which means that Congress does not extend the withdrawal. Alternative 1 should reflect that change in 2021, rather than perpetual continuation of the status quo, which is based on the premise that Congress will extend the withdrawal. This change would help to bring about the impacts of the action alternatives into clearer focus.

Cultural Resources Identification, Access, and Impacts

Under the National Historic Preservation Act (NHPA), the Air Force must consider adverse impacts to the Band’s cultural resources as part of its Section 106 consultation and consult with the Band. *See* 54 U.S.C. § 300101; 36 C.F.R. § 800.1; 36 C.F.R. § 800.2(c)(2)(ii). Impacts to such sites are also environmental impacts under NEPA.

The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. 36 C.F.R. § 800.1(a). Adverse effects include, but are not limited to: Physical destruction of or damage to all or part of the property; change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance; and introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features. 36 C.F.R. § 800.5(a)(2).

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The proposed withdrawal negatively impacts the Band and its members' use of culturally significant sites in every way: it restricts or eliminates access, risks destruction of known and unknown cultural sites, diminishes landscapes that are central to the Band's creation and history, and creates noise and visual impacts that diminish Band members' ability to enjoy cultural properties that may remain accessible.

The Band requests that the Air Force take three steps: first, facilitate the identification of cultural resources through a thorough survey and delineation, second, ensure access for Band members and members of other Native American groups, and third, ensure that training does not damage cultural resources. The Band agrees with the recommendation of the Consolidated Groups of Tribes and Organizations that the Air Force treat the Band and other Native American groups as co-managers of cultural resources. *See* EIS K-8; 36 C.F.R. 802.2(c)(ii). Given the large scope of the project and impacts to many sovereign governments, consultation with the Advisory Council for Historic Preservation may also be necessary. 36 C.F.R. § 802.2(b).

The EIS states that ethnographic study was conducted in areas 3A and 3B in the summer of 2017, and that the USFWS determined that archaeological surveys are unnecessary in area 3C. EIS at I-1. However, surveys coordinated with the Band and other local native groups should be conducted throughout the entire area proposed for withdrawal to comply with the NHPA's direction to identify and protect cultural resources, 36 C.F.R. § 800.1(a), and to fully understand the impacts to the environment. While in a typical project it might be possible to survey and identify while activities are ongoing, that is unlikely to be successful for military training exercises. As such, thorough identification in compliance with Air Force guidance must occur prior to withdrawal and authorization of training. *See* Air Force Instruction 32-7065 § 3.1. Band members are aware of many sites and can facilitate appropriately confidential identification of others.

It is important in the identification process for the Air Force to recognize that cultural resources include traditional cultural landscapes. Air Force guidance recognizes that traditional cultural properties include "1) locations where Native American or other groups traditionally gather wild foods or medicines; 2) ethnic neighborhoods whose cultural character is important to those who live in them; 3) rural landscapes reflecting traditional patterns of agriculture or social interaction; and 4) landforms associated with Native American traditions and religious practices." *See* Air Force Instruction 32-7065 at 38 (definitions). The Advisory Council for Historic Preservation provides helpful guidance on the treatment of traditional cultural landscapes. In 2012, the ACHP approved the "Native American Traditional Cultural Landscapes Action Plan," which calls for increased recognition of "large scale historic properties which have included multiple, linked features that form a cohesive landscape of significance to a tribe."¹ The Air Force should coordinate with the Band to identify such landscapes and landforms, which abound in the area proposed for withdrawal. The Band appreciates that Colonel Murray visited the Business Council to discuss this project, and encourages further and ongoing engagement with Band members.

¹ *See* <http://www.achp.gov/docs/Traditional%20CLS%20in%20Section%20106%20background.pdf>

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March 29, 2018

Once cultural resources are identified, the Air Force should ensure access to those sites for Band members. Executive Order 13007 requires that executive agencies such as the Air Force “(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites.” Air Force guidance more broadly states that “[i]n installation commanders shall provide Tribes and Native Hawaiian Organizations (NHOs) access to and use of sacred sites on Air Force controlled lands.” See Air Force Instruction 32-7065 § 3.4.10.²

The Band recommends that the Air Force exclude highly significant cultural resources from any withdrawal, and where that is not possible, establish predictable and sufficient times when culturally significant areas are accessible to Band members. Recognizing that military training is inherently dangerous, the Air Force should schedule pauses in training in certain areas such that Band members can access culturally valuable areas to engage in the practices that keep the Band healthy, in balance, and connected to its religion and culture. These activities include visiting sacred landforms and hunting desert bighorn sheep. The Band requests to coordinate with the Air Force so that access for Band members occurs without burdensome and time-intensive application procedures.

Finally, the Band requests that the Air Force coordinate with the Band to take all possible measures to protect identified sites. These measures may include removing certain areas from training or coordinating with Band members to carry out any soil disturbance in a culturally appropriate manner. See generally, EIS at K-9.

Coordination with the Band should include funding Band cultural preservation as necessary, as the Band should not bear the financial burden of facilitating an Air Force project, particularly one that it opposes.

Noise

The proposed training would be enormously loud and noisy. The EIS states that “[v]irtually 24 hours per day/7 days per week, multiple testing and training missions” occur at NTTR, and the proposed action alternative would increase that activity level by up to 30 percent. See EIS at 1-21. Those testing and training missions often generate sudden, loud, and disruptive sound that adversely impacts the Band and its members, both on and off the Reservation. The 2017 Compatible Use Zone Study predicts over one hundred thousand flight operations a year (including thousands of nighttime flights, see Table 4-2) originating from Nellis Air Force Base, and states that the Air Force’s flying operations are often incompatible with residential and other land uses. While the Reservation appears to be outside the contours of the loudest areas, Figures 3.3 and 3.4 in the Compatible Use Zone Study predict frequent flights over the Moapa River Indian Reservation.

² “Sacred sites” include “[a]ny specific, discrete, narrowly delineated location on federal land that is identified by an Indian Tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the Tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.” EO 13007.

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March 29, 2018

The Band recognizes that the Air Force has carried out extensive modeling and analysis of “noise” levels generated by training activities in the EIS, Appendix C. However, that analysis construes current noise levels as the baseline, which functions to mask the current, deeply intrusive sound levels. The Band requests that the Air Force adjust its baseline as discussed *supra*, and acknowledge the ongoing impacts created by status quo use.

It is important to note that the concept of “noise” is inherently subjective and culturally relative. The Moapa Band has lived in a quiet, peaceful setting for approximately one thousand years, and undisturbed contemplation and appreciation of the earth is an integral aspect of Southern Paiute culture. The Air Force’s methodology of measuring noise and annoyance is deficient in that it does not recognize that noise impacts different cultures differently. The Band requests that the Air Force evaluate the impacts of sound in the culturally appropriate context, which includes consideration of impacts on Band members.

Finally, the noise analysis focuses on annoyance and physiological effects, without adequate analysis of psychological impacts. Lack of study on such impacts is not sufficient reason not to include analysis, particularly where community members report harm and where the Air Force has decades of accessible data. *See* 40 C.F.R. § 1502.22. Exposing civilians and military veterans to the continued sounds of warfare is likely to create anxiety and other psychological harms, and those impacts require further analysis.

Wildlife

The areas proposed for withdrawal include diverse and rich ecosystems.

The Band values a healthy, intact, and diverse ecosystem. Desert bighorn sheep are particularly important to the Band. Band members value sheep and would like to continue to view healthy populations and to carry out culturally significant hunting rights. The Band and its members are deeply connected to the surrounding ecosystem, and the Band becomes out of balance when the surrounding world is harmed.

The Band requests further analysis of the impacts of noise to desert bighorn sheep and other wildlife. The current noise analysis focuses on human impacts. Sheep are skittish and easily disturbed, making it likely that overflights and munition training are likely to impair their normal breeding, foraging, and other behavior.

Most of the current analysis focuses on the impacts of fencing on wildlife. *See* EIS at 3-1. The Band appreciates that the Air Force is planning on constructing fencing that allows sheep and other wildlife passage. However, as recognized in the EIS, the huge amount of fencing and the necessary maintenance it requires is still likely to cause myriad impacts. Given that a wire fence is unlikely to deter members of the public who seek to enter NTTR lands, the Band suggests that a less impactful approach would be to employ property boundary line markers without connecting fencing. This would serve to notify the public of the boundary, while significantly reducing maintenance costs and environmental impacts.

Moapa Band of Paiutes Comment Letter
March 29, 2018

The EIS references impacts to eagles and other birds, without detailed analysis. The Band requests analysis of how many strikes of eagles and other birds are likely, and what impacts noise and ground disturbance are likely to have on eagles and other birds. The Air Force should obtain necessary permits under the Migratory Bird Treaty Act, 16 U.S.C. §§ 703–712, and the Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668–668d.

Air Pollution/Greenhouse Gas Emissions

The appendix EIS describes the emissions anticipated from aircraft training, construction, and other activities associated with the proposed land withdrawal. *See, e.g.*, EIS at 3-36. The Band suggests that the Air Force consider the heightened climate change impacts caused by emissions of pollutants and water vapor at high altitude, where those emissions can reflect heat from the earth and cause disproportionate impacts both locally and globally.³

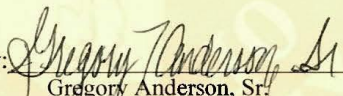
Conclusion

The Band opposes a larger withdrawal of public lands for military training. The Band has already been removed from its homelands, with resulting deep damage to the Band's health, culture, and economy. The proposed withdrawal further excludes members and continues and amplifies historical harm.

As the Air Force proceeds, it should respect the Band's long presence in the region and its inherent sovereign rights. The Air Force must collaborate with the Band and its members to ensure that real, on-the-ground concerns of Band members are carefully considered and understood.

Sincerely,

MOAPA BAND OF PAIUTES

By: 
Gregory Anderson, Sr.
Chair, Moapa Business Council

cc: Ziontz Chestnut, Tribal Attorneys

³ Please see discussion of climate impacts of aviation by the Intergovernmental Panel on Climate Change here: <http://www.ipcc.ch/ipccreports/sres/aviation/index.php?idp=65>. Emissions occurring at night are a particular concern because they can prevent night time cooling.

Letter from the Air Force to Moapa Band of Paiutes: April 27, 2018**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA**

APR 27 2018

Colonel Paul J. Murray
Commander
4430 Grissom Avenue, Suite 101
Nellis AFB NV 89191

Chairperson Greg Anderson
Moapa Band of Paiutes
P.O. Box 340
Moapa NV 89025

Dear Chairman Anderson

During the recent Nevada Test and Training Range (NTTR) land withdrawal tribal consultation meeting held on 14 March 2018 at the Las Vegas Paiute Reservation, you raised concerns regarding the execution of the Air Force's government-to-government consultation obligations. I want to reassure you that the Air Force takes these obligations seriously. Although the Air Force did submit a letter to Chairman Robert Tom initiating government-to-government consultation on the NTTR land withdrawal on 22 June 2016, we recognize that leadership within the tribe has changed. At the invitation of the Moapa Tribal Council, the Air Force attended the tribal meeting chaired by Chairman Darren Daboda on 19 January 2017 and briefed the status of Legislative Environmental Impact Statement (LEIS) for the NTTR land withdrawal. Subsequently, the Air Force attended the tribal council meeting on 2 March 2017 to further discuss the LEIS status and noise issues associated with the F-35 beddown.

The Air Force wishes to continue to dialogue with you and the Moapa tribe to understand your concerns. Therefore, I am submitting this letter to reaffirm our commitment to government-to-government consultation process with the Moapa Band of Paiute. We have appreciated your feedback through meetings and discussions on the NTTR land withdrawal and through the LEIS planning process. We have ensured that the Moapa tribe received invitations to participate in the LEIS Native American Writer's Group and requested participation of the Moapa in archaeological surveys and ethnographic studies that will lead to eventual Congressional decisions on the NTTR land withdrawal. I assure you that we remain engaged to understand your concerns and have received your tribal resolution that is opposed to expansion of the NTTR. As Commander of Nellis Air Force Base, I would like to meet with you and any other tribal leadership you feel would be appropriate to further the government-to-government consultation process for the NTTR land withdrawal. My staff will work to coordinate a time in the coming weeks when we can further discuss the concerns you've presented in the tribal resolution.

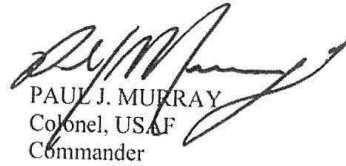
We have appreciated the Moapa's tribal participation in both the ethnographic studies and cultural survey field activities that were conducted in the NTTR area.

OCTOBER 2018

particular, the participation of the Moapa in the ethnographic study has been extremely valuable to the process of gaining a better understanding the cultural history of the area.

If you have any questions, please contact the Nellis AFB cultural resources manager and tribal liaison, Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil and I hope to be able to meet with you in the near future.

Sincerely



PAUL J. MURRAY
Colonel, USAF
Commander

cc:
Colonel Chris Zulke, NTTR/CC

Letter from the Air Force to Las Vegas Paiute Tribe: April 27, 2018**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA**

APR 27 2018

Colonel Paul J. Murray
Commander
4430 Grissom Avenue, Suite 101
Nellis AFB NV 89191

Chairperson Benny Tso
Las Vegas Paiute Tribe
1 Paiute Drive
Las Vegas NV 89106

Dear Chairperson Tso

During the recent Nevada Test and Training Range (NTTR) tribal consultation meeting held on 14 March 2018 at the Las Vegas Paiute Reservation, some members of the Las Vegas Paiute Tribe raised concerns regarding the execution of the Air Force's government-to-government consultation obligations. I want to reassure you that the Air Force takes these obligations seriously. Although the Air Force did submit a letter to you on 22 June 2016 initiating government-to-government consultation, we recognize that continued engagement is critical for government-to-government consultation. Therefore, we are submitting this letter to reaffirm our commitment to government-to-government consultation process with the Las Vegas Band of Paiute. As commander of Nellis Air Force Base (AFB), I would like to extend the offer to meet with you and any other tribal leadership you deem appropriate to discuss and receive your feedback on the NTTR land withdrawal proposal. My staff will work to coordinate a time in the coming weeks when we can further discuss the concerns you've presented in the tribal resolution.

We have appreciated the Las Vegas Paiute tribal participation in both the ethnographic studies and cultural survey field work completed in conjunction with the LEIS planning process. In addition, your tribe's participation with the Native American Writers Group has been much appreciated and beneficial to the process in capturing tribal perspectives on the LEIS.

If you have any questions, please contact the Nellis AFB cultural resources manager and tribal liaison, Ms. Kish LaPierre, at 702-652-5813 or kish.lapierre@us.af.mil and I hope to have the opportunity to meet with you in the near future.

Sincerely

PAUL J. MURRAY
Colonel, USAF
Commander


cc:
Colonel Chris Zulke NTTR/CC

Enable Mission Success by Delivering Innovative Support

B.10 AGENCY CONSULTATIONS

B.10.1 National Historic Preservation Act Section 106 Consultation

Letter from Air Force to SHPO notification of random sample surveys: April 14, 2016



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE, NEVADA

Lt Col Michael A. Freeman
Commander
99 Civil Engineer Squadron
6020 Beale Ave.
Nellis AFB NV 89191

APR 14 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248


Subject: Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)

Dear Ms. Palmer

Nellis Air Force Base (NAFB) is forwarding this letter in compliance with 36CFR800. This letter is to notify the State Historic Preservation Office (SHPO) of NAFB plans to conduct random sample surveys of 14,000 acres plus 1,000 non-random surveys on proposed expansion lands that total approximately 300,000 acres. These lands under consideration are currently managed by US Fish & Wildlife Service (USFWS) and Bureau of Land Management (BLM) and could become part of the Nevada Test and Training Range (NTTR) footprint. Descriptions of this proposal and methods for study are further outlined in the attached Draft Cultural & Paleontological Resources Survey Plan dated 5 Apr 2016.

We ask your office to review the survey plan and provide comment. Tribal notification has consisted of forwarding copies of this letter and the attachment to NAFB affiliated Tribal offices. A consultation introduction with the Tribes took place in November 2015 at the Annual Leadership Meeting in Las Vegas, Nevada.

Should you or your staff have any questions about the project, please contact our tribal liaison/archaeologist, Ms. Kish La Pierre, 99 CES/CEIEA, at (702) 682-5813 or at kish.lapierre@us.af.mil.

Sincerely

MICHAEL A. FREEMAN, Lt. Col., USAF
Commander

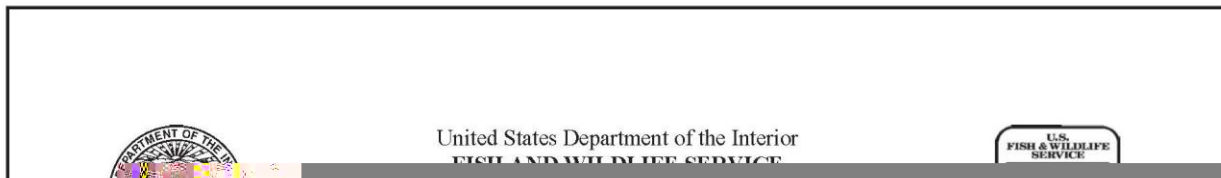
Attachment:
Cultural & Paleontological Resources Survey Plan (Draft) (#02-2016-NTTR)) (1 hardcopy & 1 DVD)

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cc:

Katherine R. Kerr Advisory Council on Historic Preservation (ACHP)
Danelle Gutierrez, Tribal Historic Preservation Officer, Big Pine Paiute Tribe
Raymond Andrews, Tribal Historic Preservation Officer, Bishop Paiute-Shoshone Tribe
Billie G. Saulque, Chairperson, Benton Utu Utu Gwaitu Paiute Tribe
Stephanie Arman, Tribal Historic Preservation Officer, Fort Independence Paiute Tribe
Barbara Durham, Tribal Historic Preservation Officer, Timbisha Shoshone Tribe
Janice Aten, Environmental Director, Lone Pine Paiute-Shoshone Reservation
Perline Thompson, Chairperson, Duckwater Shoshone Tribe
Wayne Dyer, Chairperson, Yomba Shoshone Tribe
Alvin Marques, Chairperson, Ely Shoshone Tribe
Charles Wood, Chairperson, Chemehuevi Indian Tribe
Roland Maldonado, Chairperson, Kaibab Band of Southern Paiutes
Benny Tso, Chairperson, Las Vegas Paiute Tribe
Robert Tom, Chairperson, Moapa Band of Paiutes
Richard Arnold, Native American Coordinator NAFB, Pahump Paiute Tribe
Corrina Bow, Chairperson, Paiute Indian Tribes of Utah
Dennis Patch, Chairperson, Colorado River Indian Tribes
Timothy Williams, Chairperson, Ft. Mojave Tribe

Letter from U.S. Fish and Wildlife Service to Air Force, regarding resource study plans: April 27, 2016



Consider the NTTR undertaking: 300,000 acres of Desert National Wildlife Refuge (NWR) lands will be withdrawn from their present public use and access. The proposed withdrawal lands contain hundreds of cultural sites and cultural landscapes managed and protected by the FWS. The sites and landscapes are actively and appropriately visited and used by Tribal members, scientists, and the public. Not only will the withdrawal eliminate access and deny use, it will also put the cultural resources under perpetual threat by a host of military activities. A strict focus on the material record overlooks the human-environment relationships that the culturally affiliated Native American Nations embody with the lands considered for withdrawal. These indigenous peoples consider the land alive and a living relative.

The proposed withdrawal is a new and significant land use program that constitutes an undertaking as defined by Section 106 of the National Historic Preservation Act (NHPA). We urge the NTTR to declare that its proposed withdrawal is an undertaking under NHPA and begin Section 106 compliance by identifying appropriate consulting parties, and consulting with those parties to describe and map the undertaking's areas of potential effect (APE). Then it will be appropriate for NTTR, in consultation with others, to consider historic property identification efforts in the APE. Until then, NTTR's proposed cultural resource survey for the LEIS is premature and ill-advised. In fact, upon initiating the Section 106 process, NTTR will realize that the presently proposed cultural resource survey for the LEIS is not relevant; the proposed survey doesn't address the unique resources of the withdrawal area and it doesn't address the concerns of Southern Paiute tribes.

Meaningful Tribal Consultation

As you know, NHPA Section 106 requires that the federal agency responsible for an undertaking will consult with affected Indian Tribes. We understand that NTTR is planning to do so for the LEIS, but we are unaware if the NTTR will engage in meaningful consultation with Tribes for the land withdrawal under Section 106 of the NHPA.

For the past 7 years the FWS and Nuwuvi or Southern Paiute tribes have engaged in productive consultation at Desert NWR. We have learned that Southern Paiutes are connected to the land, resources, and specific sites throughout Desert NWR. They also have place-based spiritual values specific to the areas being considered for withdrawal. These areas include roasting pits, caves, residential sites, tool and raw material collection locations, rock writings, camps, sacred places, traditional cultural properties, hunting locations, cultural landscapes, water sources, travel corridors, and food and medicine collection areas. Many of these sites, landscapes, and associated resources are historic properties under the NHPA. The significance and integrity of the sites is contained not only by their content and physical condition, but also by Nuwuvi relationships with and connections to the sites. The NTTR expansion undertaking has the potential to adversely affect historic properties by impacting their physical content and integrity, and by impacting the Tribes' connection to them.

As you also know, Tribal consultation under Section 106 of the NHPA is more than just considering potential affects to the physical properties of cultural sites. Consultation also includes identification of historic properties of religious and cultural significance (a.k.a. traditional cultural properties or places) to Indian Tribes. We hope that your Section 106 process for the withdrawal will collect and consider the contemporary perspective of Southern Paiute governments and individuals on the location, content, and importance of cultural resources in the proposed withdrawal area. The FWS cannot fulfill it federal Trust responsibility to the Southern Paiute Tribes or effectively participate in the NTTR LEIS unless the NTTR meaningfully consults with the Tribes and exercises the NHPA Section 106 process

Requested action

The FWS looks forward to being notified that the NTTR is initiating the NHPA Section 106 process with a description of the withdrawal undertaking and a discussion and map of the APE. We anticipate to your invitation to consult alongside the SHPO, Southern Paiutes, and other interested parties on the undertaking, APE, and historic property identification effort. We also look forward to consultation with NTTR before receiving a permit application under the Archaeological Resources Protection Act from your contractor to conduct historic property identification in the withdrawal APE. You may contact me at the address on the letterhead but please include Christy Smith (christy_smith@fws.gov) project leader at Desert NWR Complex on all correspondence.

Sincerely,



Anan Raymond
Regional Historic Preservation Officer

CC: Christy Smith, NV SHPO.

Letter from SHPO to Air Force, regarding Draft Cultural Survey Plan: May 16, 2016

NEVADA
**STATE HISTORIC
PRESERVATION OFFICE**

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Leo M. Drozdoff, P.E., Director
Rebecca L. Palmer, SHPO

May 16, 2016

Lt. Col. Michael A. Freeman
Commander
99 Civil Engineer Squadron
Department of the Air Force
6020 Beale Ave
Nellis Air Force Base, Nevada 89191

Re: 300,000 Acres NTTR Land Withdrawal from BLM and FWS
#02-2016-NTTR/Undertaking # 2016-4330

Dear Lt. Col. Freeman:

The Nevada State Historic Preservation Office (SHPO) acknowledges receipt of the Cultural and Paleontological Resources Survey Plan (Draft) from the Department of the Air Force – Nellis Air Force Base, Nevada (Air Force).

The SHPO notes that this plan only accounts for prehistoric era archaeological resources and paleontological resources. As currently written this plan does not acknowledge or account for the larger spectrum of potential historic properties within the 300,000 acres area. Thus, this plan is incomplete as presented.

Should you have any questions concerning this correspondence, please contact Jessica Axsom at (775)684-3445 or by e-mail at jaxsom@shpo.nv.gov.

Sincerely,


Rebecca Lynn Palmer
State Historic Preservation Officer
21550

cc: Ms. Katharine Kerr, ACHP Program Analyst

901 S. Stewart Street, Suite 5004 ✦ Carson City, Nevada 89701 ✦ Phone: 775.684.3448 Fax: 775.684.3442

www.shpo.nv.gov

Letter from Air Force to SHPO regarding project notification: July 18, 2016

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 99TH AIR BASE WING (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
Commander
6020 Beale Ave.
Nellis AFB NV 89191

JUL 18 2016

Ms. Rebecca Palmer
State Historic Preservation Officer
State Historic Preservation Office
Department of Conservation and Natural Resources
901 South Stewart Street, Ste. 5004
Carson City NV 89701-5248

Dear Ms Palmer

The United States Air Force (USAF) is now preparing a *Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Land Withdrawal* extension and proposed expansion. Because the current NTTR land withdrawal (Attachment 1) will expire in 2021, the USAF seeks Congressional action to extend the currently withdrawn lands for the purpose of continuing the existing test and training activities. The USAF is also considering a proposal for Congress to expand lands withdrawn for the NTTR (Attachment 2) to provide additional security and safety while enhancing the functionality and capacity of the NTTR. The additional features associated with the proposed expansion are critical to meet increasing demands on the NTTR to satisfy national security requirements. Under this concept, the USAF proposes to expand the withdrawn lands associated with EC South on the west side of the range, 64C/D and 65D on the south side of the range and east of 62A/B, for a total of approximately 310,000 acres.

While Congress and the President ultimately make the decision with respect to legislative withdrawals such as this one, the USAF anticipates engaging in undertakings in the future, should the withdrawal be enacted. In addition, the proposed expansion would change the accessibility of these lands depending upon the alternative means of implementing these features as determined by Congress. Therefore, in accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 C.F.R. §800.1(c), the USAF seeks to consult with you early in the planning process in order to take into account any historic preservation concerns you may have as it formulates these undertakings.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. While the USAF has identified the general types of activities that will take place in the proposed withdrawal expansion area, specific activities and their locations cannot be defined until after enactment of any withdrawal legislation. As a result, the USAF is preparing an LEIS which is programmatic in nature. The LEIS will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those

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resources based on the types of activities that may occur in the future in these areas. Specific future activities would be subject to additional and appropriate NEPA analysis and NHPA consultation.

To develop the LEIS and meet NHPA obligations, the USAF would use existing cultural resource information for the current NTTR lands. It plans to initiate a Cultural Resources Study of 15,000 acres of land within the proposed withdrawal expansion areas to identify and characterize resources that may be present. Because the proposed expansion areas consist of over 300,000 acres and the results of the land withdrawal process may not be known until 2021, the Air Force has developed a draft plan to characterize cultural resources through a random-sample survey strategy in these areas. The plan will be supplemented by any previous studies in these areas and associated available data; all identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures). This survey will also serve to supplement and test a successful probabilistic model developed for work conducted previously on the adjacent NTTR property. The USAF has included the proposed plan to address characterization of historic properties as Attachment 3 to this letter.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with Nellis AFB (NAFB) include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The USAF initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/March of 2015.

In November of 2015, the USAF held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations to all seventeen federally recognized tribes was sent to all tribes on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

For consultation with your office, the USAF identifies the Area of Potential Effect as the extended and potentially expanded withdrawn NTTR lands. The USAF invites your comments regarding the following:

- Outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of the LEIS.

As the USAF develops the LEIS, it will continue consulting with you under Section 106 and provide the necessary information and determinations for established procedures under NHPA. We look forward to the NV SHPO's valuable contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please contact the NAFB cultural resource manager and tribal liaison Ms. Kish LaPierre, 702-652-5813 or kish.lapierre@us.af.mil.

Sincerely



MICHAEL A. FREEMAN, Lt Col, USAF
Commander

Attachments:

1. Location of the NTTR, Population Centers, Roadway Infrastructure, and Wilderness/Wilderness Study Areas
2. Alternative 3A, 3B, and 3C Locations and Acreages
3. Cultural and Paleontological Survey Plan (Duke, 2016)

cc:

Mr. Michael Ackerman (AFCEC/CZN)
Mr. Skip Canfield (Nevada State Clearinghouse)

E-mail from Air Force to SHPO regarding clarification on tribal consultations: July 20, 2016

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN [REDACTED]
Sent: Wednesday, July 20, 2016 9:57 AM
To: 'Rebecca Palmer'
Cc: LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA
Subject: RE: Nevada Test and Training Range Land Withdrawal Consultation Request Letter
Attachments: SHPO LEIS Consultation.pdf
Signed By: [REDACTED]

Dear Ms. Palmer,

I wanted to send one clarification/correction on the AF NHPA consultation request letter to your office. On the last paragraph of page 2 of the letter we state that we sent a government-to-government consultation request letter to all 17 Federally recognized tribes. As a point of clarification, there were 16 Federally recognized tribes as stated and identified in the prior paragraph. One of the 17 tribes listed in the prior paragraph is not Federally recognized. Apologies for any confusion.

If you have any questions on the letters or meetings, please let me know.

Sincerely,

-Mike

Mike Ackerman
 Air Force Civil Engineer Center
 NEPA Division (AFCEC/CZN)
 [REDACTED]

-----Original Message-----

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN
Sent: Tuesday, July 19, 2016 2:24 PM
To: 'Rebecca Palmer' [REDACTED]
Cc: LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA [REDACTED]
Subject: Nevada Test and Training Range Land Withdrawal Consultation Request Letter (Hard Copy to Follow)

Ms. Palmer,

I wanted to provide you with these electronic files as a courtesy before you receive the hard copies in the mail. You should be receiving a hardcopy

consultation request letter for the Nevada Test and Training Range land withdrawal in the next few days. We'll provide additional material with more

details on the proposal and alternatives leading up to our 5 August discussion. We'll provide read-ahead material no later than 1 August as requested. Also you will be receiving an updated copy of the Air Force's cultural survey plan (listed as Attachment 3 in the letter) prior to 1 August, so that we can obtain any additional thoughts or input you may have on the survey approach.

If you have any questions, please just let me know.

Sincerely,

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)

E-mail from Air Force to BLM regarding surveys: August 5, 2016

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN <[REDACTED]>
Sent: Friday, August 05, 2016 5:04 PM
To: Raymond, Anan; srowe@blm.gov; Lodge, Spencer; Akstulewicz, Kevin D.
Cc: Christy Smith; Kevin DesRoberts; Amy Sprunger; LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA; McLaurine, Henry C.
Subject: RE: NHPA Consultation Coordination
Attachments: NTTR Land Withdrawal NV SHPO Consultation Brief (5 Aug 16).pdf

Anan / Susan / Spencer,

I wanted to follow up with you on our call with SHPO. We went through the slide presentation attached. We are standing by to hear back from SHPO on their thoughts with respect to NHPA consultation approach. There was no initial guidance provided regarding consultation, and they requested time to review some of the materials we provided last month.

If you are available, I would like to set up an NHPA / cultural survey discussion next week. Would next Wednesday work for you both? Just let me know if there is a good time that would work.

Sincerely,

-Mike

Mike Ackerman
 Air Force Civil Engineer Center
 NEPA Division (AFCEC/CZN)
 [REDACTED]

-----Original Message-----

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN
Sent: Wednesday, August 03, 2016 10:21 AM
To: 'Raymond, Anan' <anan_raymond@fws.gov>
Cc: Christy Smith <christy_smith@fws.gov>; Kevin DesRoberts <kevin_desroberts@fws.gov>; Amy Sprunger <Amy_Sprunger@fws.gov>; Lodge, Spencer <spencer_lodge@fws.gov>; LAPIERRE, KISH D GS-12 USAF ACC 99 CES/CEIEA <[REDACTED]>; HENRY.C.MCLAURINE <[REDACTED]> 'Akstulewicz, Kevin D.' <[REDACTED]> <KEVIN.D.AKSTULEWICZ@[REDACTED]> srowe@blm.gov
Subject: NHPA Consultation Coordination

Anan,

We do plan on reaching out to you and BLM staff after this 5 August call with SHPO to discuss the way forward and make sure we understand what you need in advance of surveys. I actually wanted to have you and BLM's cultural POC on the call with us on the 5th so we could discuss the consultation process together, but SHPO wants to have a direct discussion with the AF first to discuss the consultation process.

I do want to see if we can schedule a call early next week with FWS and BLM cultural resources POCs so we can follow up with you and talk about the way forward. Is there a good time that would work for you Mon, Tues or Wed?

OCTOBER 2018

We are committed to making sure the cultural resource survey effort provides good information and supports effective future management of the resources.

Thanks for your thoughts below,

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)
[REDACTED]

-----Original Message-----

From: Raymond, Anan [mailto:anan_raymond@fws.gov]
Sent: Tuesday, August 02, 2016 7:01 PM
To: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN <[REDACTED]>
Cc: Christy Smith <christy_smith@fws.gov>; Kevin DesRoberts <kevin_desroberts@fws.gov>; Amy Sprunger <Amy_Sprunger@fws.gov>; Lodge, Spencer <spencer_lodge@fws.gov>
Subject: Fwd: brief for Congressionals

Dear Mike,

Christy forwarded to me your ppt. The ppt is a helpful overview. The ppt identifies a dedicated NHPA Section 106 consultation process with Tribes. Excellent!

But, the ppt does not identify a NHPA Section 106 consultation process with the FWS. The FWS has not yet received a Section 106 undertaking or APE letter from NTTR. I assume you will be sending this to FWS (Christy) after you have clarified things with SHPO later this week?

The ppt also indicates that NTTR plans to survey thousands of acres of FWS land in the fall of 2016. As we have indicated in earlier correspondence, the present NTTR survey plan for FWS land needs to better address the unique cultural resources of the FWS "Alamos" section of the proposed expansion. Your ppt has a slide that hints strongly you will do that. Thank you. We look forward to learning about that and working with you on a first-class CR survey plan. Spencer Lodge, our Desert NWR archaeologist will be your principal contact for this

As you also know, NTTR needs an ARPA permit from FWS before you survey FWS land. We also look forward to working with you on that.

Sincerely,
Anan

----- Forwarded message -----

From: Smith, Christy <christy_smith@fws.gov <mailto:christy_smith@fws.gov> >
Date: Tue, Aug 2, 2016 at 1:49 PM
Subject: Fwd: brief for Congressionals
To: Leanne Abel <leanne_abel@fws.gov <mailto:leanne_abel@fws.gov> >, Kevin DesRoberts <kevin_desroberts@fws.gov <mailto:kevin_desroberts@fws.gov> >, Anan Raymond <anan_raymond@fws.gov

<mailto:anan_raymond@fws.gov> >, Amy Sprunger <Amy_Sprunger@fws.gov <mailto: Amy_Sprunger@fws.gov> >, Polly Wheeler <polly_wheeler@fws.gov <mailto:polly_wheeler@fws.gov> >, Curtis McCasland <curtis_mccasland@fws.gov <mailto:curtis_mccasland@fws.gov> >

This is the presentation the AF will give to SHPO - I will pull info from this for the Congressional briefing...
C

Christy Smith, Project Leader

Desert National Wildlife Refuge Complex

4701 North Torrey Pines Drive
Las Vegas, NV 89130


christy_smith@fws.gov <mailto:christy_smith@fws.gov>

A Guiding Principal of the National Wildlife Refuge System:
Wild lands and the perpetuation of diverse and abundant wildlife are essential to the quality of American life.

----- Forwarded message -----

From: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN 
<mailto:michael.ackerman.2@us.af.mil> >
Date: Tue, Aug 2, 2016 at 1:20 PM
Subject: RE: brief for Congressionals
To: "Smith, Christy" <christy_smith@fws.gov <mailto:christy_smith@fws.gov> >

Christy,


I would add that AF is looking at a range of options and that the LEIS will be programmatic in nature. In other words, no specific ground disturbance proposals are being put forward at this time, and that we have been working together to figure out best approaches for generating good management data.

If you want to pull anything from this brief to SHPO (just finished it last evening), I can send that power point or select slides to you.

Just let me know.

Thanks Christy.

-Mike

Mike Ackerman
Air Force Civil Engineer Center
NEPA Division (AFCEC/CZN)


OCTOBER 2018

-----Original Message-----

From: Smith, Christy [mailto:christy_smith@fws.gov <mailto:christy_smith@fws.gov>]

Sent: Tuesday, August 02, 2016 10:06 AM

To: ACKERMAN, MICHAEL D CIV USAF AFMC AFCEC/AFCEC/CZN [REDACTED]

<mailto:[REDACTED]>

Subject: brief for Congressionals

Hi Mike - I've been given about 5 minutes to brief congressionals on our cooperation on the LEIS - I'm going to present the potential alternatives - is there anything specific you'd like to add?

Christy

Christy Smith, Project Leader

Desert National Wildlife Refuge Complex

4701 North Torrey Pines Drive

Las Vegas, NV 89130

[REDACTED]

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A Guiding Principal of the National Wildlife Refuge System:

Wild lands and the perpetuation of diverse and abundant wildlife are essential to the quality of American life.

--

Anan Raymond, Archaeologist, Regional Historic Preservation Officer Region 1 + Region 8 Cultural Resource Team US

Fish and Wildlife Service

20555 Gerda Lane, Sherwood, OR 97140

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Letter from Advisory Council on Historic Preservation to Air Force and SHPO regarding project notification: August 17, 2016



Preserving America's Heritage

August 17, 2016

Lieutenant Colonel Michael A. Freeman
Commander
99th Civil Engineer Squadron
6020 Beale Avenue
Nellis Air Force Base, NV 89191

Ms. Rebecca Palmer
State Historic Preservation Officer
Historic Preservation Office
901 S. Stewart Street
Suite 5004
Carson City, NV 89701-4285

*REF: Nevada Test and Training Area Land Withdrawal by Nellis Air Force Base
Clark, Lincoln, and Nye County, Nevada
ACHPConnect Log Number: 010399*

Dear Lt Col Freeman and Ms. Palmer:

The Advisory Council on Historic Preservation (ACHP) understands that the Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior (DOI) for military use in the State of Nevada, primarily for use within the Nevada Test and Training Range (NTTR). The Department of the Air Force intends to submit, in accordance with the Federal Land Policy Management Act (FLPMA), a Land Withdrawal Case File renewal request to continue the withdrawal, and a separate Land Withdrawal Case File for a request to withdraw 300,000 additional acres by November 2018. We have been asked whether the act of land withdrawal itself constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (NHPA). The ACHP has been consistent in stating that the transfer of property from one federal agency to another federal agency is not an undertaking subject to Section 106, because a federal agency still has responsibilities under Sections 106 and 110 of the NHPA for the land it controls. However, how a federal agency plans to utilize the land once transferred may be subject to Section 106 review.

We are aware that the 99th Civil Engineer Squadron (99CES), with support from the Air Force Civil Engineer Center's National Environmental Policy Act Center (AFCEC/NEPA Center), is preparing a Legislative Environmental Impact Statement (LEIS) to be included in the recommendation to Congress on the withdrawal proposal. A LEIS does not require a Record of Decision, as the decision on whether or not to approve the Land Withdrawal Case Files is made by Congress. However, we believe it is in the best interest of the 99CES to be considering effects to historic properties for the proposed use of the land proposed for withdrawal as early as possible in the process.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov

On July 26, 2016, the ACHP received a copy of the correspondence the 99CES sent to the Nevada State Historic Preservation Office (SHPO) for the extension and proposed expansion of the withdrawal, and the initiation of the Section 106 process. We applaud this proactive outreach to the SHPO, even though they do not have a regulatory role in the development of the LEIS. As the ACHP is assisting both the SHPO and the 99CES in improving its working relationship under Section 106, we wish to provide both parties with the following initial suggestions and recommendations as this discussion continues:

- The undertaking should be clearly defined as the *consideration* of the use of acquired withdrawal land for the purposes of meeting the mission of the NTTR. This means that the 99CES focuses consultation on the mission of the NTTR, how the newly acquired land could assist that mission, and how historic properties may be affected by mission activities on the land.
- The Section 106 regulations do not require a federal agency to identify every single historic property within an Area of Potential Effects (APE), but to make a “reasonable and good faith effort” to identify historic properties. A strategy to survey a sample of the proposed withdrawal land should be developed in consultation with the SHPO, federally recognized Indian tribes, and other applicable federal agencies (it is our understanding this includes the Bureau of Land Management (BLM) and the United States Fish and Wildlife Service (USFWS) currently managing the land) to identify historic properties. It is recommended that the 99CES should first complete a grey literature search of survey work completed by the BLM and the USFWS for the proposed withdrawal land and using that as a base line for a new survey.
- The 99CES has presented a draft Cultural Resources Study (CRS) to the SHPO for review and comment. The current draft CRS is intended to characterize cultural resources through a random-sample survey strategy.
 - After completing the grey literature search, the 99CES should update the CRS accordingly to meet the goal of a phased approach to the identification of historic properties within the proposed withdrawal land.
 - This phased approach should include a model for the initial survey and define a process for continuing the identification effort within areas of the proposed withdrawal land once designated for NTTR mission use.
 - The CRS should include a time frame for when the survey work will be completed and when consulting parties will be given the opportunity to review the findings.
- Once the 99CES and the SHPO have a working knowledge of the range of potential historic properties within the proposed withdrawal land, and before you begin to assess effects of the proposed undertaking, we would appreciate an update on the status of the consultation and survey results.

Should you have any questions regarding our recommendations or require additional assistance, please contact Ms. Katharine R. Kerr at (202) 517-0216 or by e-mail at kkerr@achp.gov and reference the ACHPConnect Log Number.

Sincerely,



Tom McCulloch, Ph.D., R.P.A.
Assistant Director
Office of Federal Agency Programs
Federal Property Management Section

OCTOBER 2018

Letter from SHPO to Air Force: September 12, 2016

NEVADA
**STATE HISTORIC
PRESERVATION OFFICE**

Department of Conservation and Natural Resources

Brian Sandoval, Governor
Kay Scherer, Interim Director
Rebecca L. Palmer, SHPO

September 12, 2016

Lt. Col. Michael A. Freeman
Commander
99 Civil Engineer Squadron
Department of the Air Force
6020 Beale Ave
Nellis Air Force Base, Nevada 89191

Re: 300,000 Acres NTTR Land Withdrawal from BLM and FWS
#02-2016-NTTR/Undertaking # 2016-4330

Dear Lt. Col. Freeman:

The Nevada State Historic Preservation Office (SHPO) acknowledges receipt of the *Cultural and Paleontological Resources Survey Plan (Draft)* and *Nevada Test and Training Range Prehistoric and Ethnographic Synthesis: Technical Data Summary* from the Department of the Air Force – Nellis Air Force Base, Nevada (Air Force).

The SHPO notes that the *Cultural and Paleontological Resources Survey Plan* only accounts for prehistoric era archaeological resources and paleontological resources. As currently written this plan does not acknowledge or account for any other types of potential historic properties within the 300,000, including listed properties located in the expansion area. This plan is incomplete.

Furthermore, the *Nevada Test and Training Range Prehistoric and Ethnographic Synthesis: Technical Data Summary*, which provides the foundational data and research used to develop *Cultural and Paleontological Resources Survey Plan*, only accounts for and uses existing Air Force cultural resource inventories. How will the Air Force incorporate information from the gray literature completed by other federal agencies (e.g., the Bureau of Land Management and the U.S. Fish and Wildlife Service) into these documents as noted in the Advisory Council on Historic Preservation's (ACHP) letter, dated August 17, 2016?

Should you have any questions concerning this correspondence, please contact Jessica Axsom at (775) 684-3445 or by e-mail at jaxsom@shpo.nv.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Rebecca Lynn Palmer'.

Rebecca Lynn Palmer
State Historic Preservation Officer

cc: Ms. Katharine Kerr, ACHP Program Analyst

901 S. Stewart Street, Suite 5004 ✦ Carson City, Nevada 89701 ✦ Phone: 775.684.3448 Fax: 775.684.3442

www.shpo.nv.gov

National Historic Preservation Act Consultation request from Air Force to U.S. Fish and Wildlife Service, Region 8: October 18, 2016



DEPARTMENT OF THE AIR FORCE
99TH CIVIL ENGINEER SQUADRON (ACC)
NELLIS AIR FORCE BASE NEVADA

Lieutenant Colonel Michael A. Freeman
Commander
4430 Grissom Ave., Ste. 101
Nellis AFB NV 89191-6520

OCT 18 2016

Mr. Paul Souza
U.S. Fish and Wildlife Service
Regional Director – Pacific Southwest (Region 8)
2800 Cottage Way
Sacramento, CA 95825

Subject: National Historic Preservation Act (NHPA) Section 106 Consultation Request; Nevada Test and Training Range (NTTR) Land Withdrawal at Nellis Air Force Base, Nevada

Dear: Mr. Souza,

The United States Air Force (USAF) is now preparing a Legislative Environmental Impact Statement (LEIS) for the Nevada Test and Training Range (NTTR) Military Land Withdrawal. The Military Lands Withdrawal Act of 1999 (Public Law 106-65) withdrew 2,919,890 acres from the Department of Interior for use by the Department of Defense. The current withdrawal will expire in 2021. As a result, the USAF is working with the Department of the Interior (DoI) to support Congressional legislation to extend and possibly expand the current footprint of the NTTR to support military training and testing requirements.

In addition to extending the current existing land withdrawal, USAF alternatives being evaluated in the LEIS include 3 sub-alternatives that involve NTTR expansion by up to 301,507 acres. Options include withdrawing ~18,000 additional acres on the South side of the North Range, withdrawal of an additional ~57,000 acres on the South side of the NTTR South range, and withdrawal of ~227,000 acres of land overlapping the Desert National Wildlife Refuge (DNWR) to the East of the NTTR.

In furtherance of meeting requirements of Section 106 and other provisions of the National Historic Preservation Act (NHPA), the USAF has identified the USFWS as an appropriate NHPA consulting party to this action due to the nature of the proposal and the ownership/management of identified land areas. The USAF has also identified lands within Attachment 1 as the Area of Potential Effect, or APE, for the NTTR land withdrawal proposal.

The types of activities that are now taking place on existing withdrawn lands will not change under the withdrawal extension. The USAF has identified the general types of activities that may take place in the proposed withdrawal expansion area. New activities in proposed withdrawal expansion areas would include establishment of electronic emitter and radar sites, overland movement by small tactical teams of 10-12 military personnel, establishment of an airstrip, limited road and trail construction, fencing, and establishment of controlled access to ensure public safety during military operations. Specific locations for

these activities cannot be defined until after enactment of any withdrawal legislation. The USAF is not proposing any site-specific activities that would involve ground-disturbance at this time. Accordingly, the USAF is preparing a programmatic LEIS that will identify cultural resources within proposed withdrawal areas, and to the extent possible address impacts to those resources based on the types of activities that may occur in the future in these areas. Specific future activities on any withdrawn lands would be subject to the appropriate level of future NEPA review and associated supporting consultations at the time they are proposed. The Air Force anticipates completing a Programmatic Agreement (PA) to meet its Section 106 consultation requirements and, with this letter, invites the USFWS to participate as a consulting party in the formulation of the PA.

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR 800.1(c), the USAF initiated consultation with the Nevada State Historic Preservation Office (NVSHPO) in July 2016 for the NTTR military land withdrawal proposal. Nellis Air Force Base (NAFB) also initiated discussions with affiliated Native American tribes early in the planning process in order to take into account tribal concerns. With this letter, the USAF is also formally requesting the initiation of NHPA consultation with the US Fish and Wildlife Service for the NTTR military land withdrawal proposal given that the APE under consideration may impact your agency and cultural resource management programs.

Sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, that have an interest in the NTTR Land Withdrawal LEIS have been contacted and offered an opportunity to partner in cultural resource studies and participate as consulting parties. Tribes affiliated with NAFB include: the Benton Paiute Tribe, Fort Independence Paiute Tribe, Duckwater Shoshone Tribe, Timbisha Shoshone Tribe, Yomba Shoshone Tribe, Ely Shoshone Tribe, Big Pine Paiute Tribe, Lone Pine Paiute-Shoshone Tribe, Bishop Paiute Tribe, Fort Mojave Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Kaibab Band of Southern Paiutes, Las Vegas Paiute Tribe, Moapa Band of Paiutes, Pahrump Paiute Tribe, Paiute Indian Tribe of Utah (Tribes). The Air Force initiated discussions with these Tribes by visiting tribal offices and informally discussing the NTTR land withdrawal project in February/ March of 2015.

In November of 2015, the Air Force held a second informational meeting on NAFB, where the tribes were invited to comment on the project and provide feedback on issues important to them. As a result of this meeting, the tribes requested that four additional meetings be held at locations around Nevada and California that were more conveniently located for tribal members to attend. These meetings were held from April 25-29 at the Bishop Paiute Tribe Reservation, the Ely Shoshone Tribal Reservation, the Mojave Tribal Reservation, and at the Las Vegas Paiute Tribal Reservation. A government-to-government letter initiating formal consultations was sent to all sixteen federally recognized tribes, as well as the Pahrump Paiute Tribe, on June 22, 2016. In addition to these interactions, the tribes are providing input on special studies associated with the LEIS. The attached Cultural and Paleontological Survey Plan (Duke, 2016) was submitted to the NAFB affiliated tribes for review and input in March 2016. So far, the Tribes have not requested any modifications to the survey strategy.

As discussed, on 18 July 2016 the USAF initiated NHPA Section 106 consultation with the NVSHPO regarding this proposed action (copy of letter provided as Attachment 2); the Air Force held a discussion with the NVSHPO on 5 August 2016 to provide additional background information on the proposed project.

The Air Force plans to initiate a Cultural Resources Study within the proposed withdrawal expansion areas to identify and characterize resources that may be present. The Air Force has coordinated the survey plan with USFWS, and has updated the plan to include USFWS recommendations for Phase I cultural surveys in these areas. The USAF coordinated this plan with Mr. Anan Raymond (Regional Historic Preservation Officer for Regions 1 and 8) and Mr. Spencer Lodge Staff Archaeologist) in August 2016. USFWS input has been incorporated into the updated plan which has been provided back to these POCs and is available upon request. The plan will be supplemented by any previous studies in these areas and any available data

from the NVSHPO and partner agencies. All identified cultural resources 50 years or older will be recorded as part of the survey (including historical structures).

In support of NHPA consultation efforts for this undertaking the USAF seeks information from the USFWS on historic property sites and concerns within the area of potential effect, input on methods for data gathering, as well the USFWS' perceived historic property identification needs. The USAF also invites your comments regarding:

- Any outstanding cultural and/or tribal resources.
- The potential for irresolvable management conflicts, such as areas where it would be difficult or impossible to avoid, minimize, or mitigate impacts from future actions.
- Any other issues or concerns you request be considered during preparation of consultation documentation or the LEIS.

As the USAF develops the LEIS and works through the NHPA Section 106 consultation process with the NVSHPO, tribes, and other consulting parties, we look forward to the USFWS' contributions as we work collaboratively for the preservation of the historic resources entrusted to the stewardship of the USAF on the withdrawn NTTR lands.

If you have any questions or comments regarding the information presented in this letter, please direct them to Ms. Kish Lapierre by e-mail at kish.lapierre@us.af.mil or by phone at (702) 652-5813. Thank you for your attention to this matter.

Sincerely,



Michael A. Freeman
Lieutenant Colonel, USAF
Commander

Cc:

Polly Wheeler, Assistant Regional Director for Refuges, Pacific SW Region
Christy Smith, Desert National Wildlife Refuge Complex
Anan Raymond, USFWS Cultural Resources Management
Spencer Lodge, USFWS Cultural Resources Management
Rebecca Palmer, NV State Historic Preservation Office

B.10.2 Endangered Species Act Section 7 Consultation

Biological Assessment



**BIOLOGICAL ASSESSMENT FOR THE
NEVADA TEST AND TRAINING RANGE
AND PROPOSED EXPANSION ALTERNATIVES**

**The Nevada Test and Training Range
Nellis Air Force Base**



November 2017

Prepared for:
United States Air Force
Nellis Air Force Base

**BIOLOGICAL ASSESSMENT FOR THE
NEVADA TEST AND TRAINING RANGE AND
PROPOSED EXPANSION ALTERNATIVES**

Prepared for the
U.S. Air Force
Through the
U.S. Army Corps of Engineers
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Delivery Order No. DS01
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November 2017

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Acronyms and Abbreviations

ACEC	Areas of Critical Environmental Concern
ATV	All-Terrain Vehicles
BA	Biological Assessment
BLM	Bureau of Land Management
BiOp	Biological Opinion
CAFB	Creech Air Force Base
CWA	Clean Water Act
DNWR	Desert National Wildlife Range
DOD	U.S. Department of Defense
DOI	U.S. Department of the Interior
DT	Desert Tortoise
DU	Depleted Uranium
EMR	Electromagnetic Radiation
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAARP	Forward Area Arming and Refueling Points
GIS	Geographic Information Systems
GPS	Global Positioning System
INRMP	Integrated Natural Resources Management Plan
MOU	Memorandum of Understanding
LEIS	Legislative Environmental Impact Statement
MPH	Miles per Hour
MSL	Mean Sea Level
NAFB	Nellis Air Force Base
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNRP	Nellis Natural Resources Program
NPBO	NTTR Programmatic Biological Opinion
NRCS	Natural Resources Conservation Service
NTTR	Nevada Test and Training Range. Also, the new name for 98th Range Wing
OHV	Off Highway Vehicle
STATSGO2	U.S. General Soil Map
TSPI	Time-Space-Position Information
USAF	United States Air Force
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance

Introduction

The United States Air Force (USAF) is in the process of renewing the withdrawal of land for military operations and training on the Nevada Test and Training Range (NTTR). The current withdrawal will expire on November 6, 2021, unless Congress enacts legislation to extend it. In accordance with Section 3016 of the Military Land Withdrawal Act (MLWA), the USAF, in coordination with Department of Defense (DoD), has notified Congress of a continuing military need for the NTTR withdrawal. Furthermore, the USAF plans to submit a Legislative Environmental Impact Statement (LEIS) that supports a legislative proposal through the Department of the Interior (DOI) to extend the withdrawal. The Endangered Species Act of 1973 (ESA), as amended, provides for the protection of plants and animals that are in danger of becoming extinct. The ESA is administered by the U.S. Fish and Wildlife Service (USFWS) and requires federal agencies to consult with the USFWS to determine if an action will adversely impact a threatened or endangered species. This consultation, formally called a Section 7 Consultation, requires the federal agency requesting the withdrawal to prepare a Biological Assessment (BA) of potentially impacted federally listed threatened and endangered species. After the USAF initiates formal consultation with the USFWS, the USFWS reviews the BA, determines that adequate information is provided in the BA, and prepares a programmatic Biological Opinion (BiOp). The BiOp is to be provided as part of the LEIS submission package to Congress.

As part of coordination with the USFWS, the USAF scheduled a meeting with the USFWS Ecological Services at the Las Vegas Office of the USFWS on February 9, 2017 to discuss the species to be included in the BA prepared for the renewal and expansion of the land withdrawal for the NTTR. An official list of potentially impacted special status species was also requested via <https://ecos.fws.gov/ipac/>. It was determined that the only listed species potentially impacted by the land withdrawal was the Mojave desert tortoise (*Gopherus agassizii*) (DT), which is currently listed as “Threatened”. Therefore, the DT was designated as the species to be addressed by the BA for the actions associated with the NTTR land withdrawal renewal and expansion.

PURPOSE AND OBJECTIVES OF THE BIOLOGICAL ASSESSMENT

The purpose of this BA is to provide the information required by the USFWS to formulate a BiOp of the implementation of the renewal and potential expansion of the land withdrawal for the NTTR and its impacts on the DT. This is a BA for the preparation of a programmatic BiOp, and does not preclude the need for further consultation for site-specific actions on the Action Area in the future. A programmatic BA addresses the general actions by the military that may potentially impact DT populations and habitat and provides guidelines to formulate and design plans that will minimize impacts to DT and its habitat. Analysis of the proposed action primarily focuses on the proposed use of the Action Area from a conceptual and qualitative perspective, and site-specific consultation will be required in the future for specific action locations and access routes once a decision on the withdrawal has been made and detailed planning has been initiated. In general, the USAF will avoid or minimize impacts to DT habitat for any development activities and military actions on the withdrawn land as is current practice.

The objectives of this BA are the following:

- Review the history of the USFWS consultation on the NTTR to date
- Describe the USAF mission and operations programs and actions resulting from those programs
- Describe the Action Area
- Discuss the biology and habitat of the DT
- Describe the historic and current status of the DT on the Action Areas

- Present a DT Habitat Suitability Model to determine habitat in the Action Area that could support DT populations
- Describe potential impacts imposed on the DT by the Proposed Action
- Propose measures to avoid, minimize, and mitigate impacts imposed by the Proposed Action

SCOPE OF THE BIOLOGICAL ASSESSMENT

The BA presents the proposed action by the USAF and its potential impacts on the DT population and habitat on the Action Area. The intent of the BA is to provide sufficient information to allow the USFWS to prepare a programmatic BiOp for the protection and conservation of the DT on the Action Area. The Action Area for this BA includes the South Range of the current NTTR which is approximately 1,005,891 acres in Lincoln, Clark, and Nye counties in Nevada. The USAF is also proposing to expand the current withdrawn lands to include three additional alternative areas shown in Figure 1. Expansion Alternative 3A is 17,906 acres lying along the southwest boundary of the North Range of the NTTR, northeast of Beatty, Nevada. Range 77, currently located in the North Range of the NTTR, is included as part of the Western Action Area. Expansion Alternative 3B is 56,501 acres located immediately south of the South Range of the NTTR both east and west of Indian Springs, Nevada. Alternative 3C is 227,027 acres immediately east of the South Range of the NTTR and west of the Sheep Mountain Range in the Desert National Wildlife Refuge (DNWR). Figure 2 shows the Action Area that potentially supports DT populations that will be discussed in this BA. Based on the conclusions of the previous BiOp, the North Range Study Area is not in the habitat range of the DT and will not be included in this BA (U.S. Fish and Wildlife Service, 2003). For the purposes of this BA, the Action Area is divided into the Eastern Action Area comprised of the South Range of the NTTR, Alternative 3B, and Alternative 3C, and the Western Action Area comprised of Alternative 3A and Range 77 (Figure 2). The latest version of the DT habitat model shows some scattered areas of habitat north of the boundary of Range 77 which are included in this analysis, but are not in the Action Area proper. All recommendations to protect DT include these scattered North Range areas. Access to the Action Area by wheeled vehicles will only be allowed via improved or gravel roads or trails already established outside of the Action Area through controlled entry areas or locked gates that are carefully monitored by security personnel or surveillance equipment. Personnel can also access the Action Area by foot, helicopter or parachute drop. The Action Area as mapped in Figure 2 includes all areas potentially impacted by the proposed action including staging areas, borrow pits, waste disposal, etc.

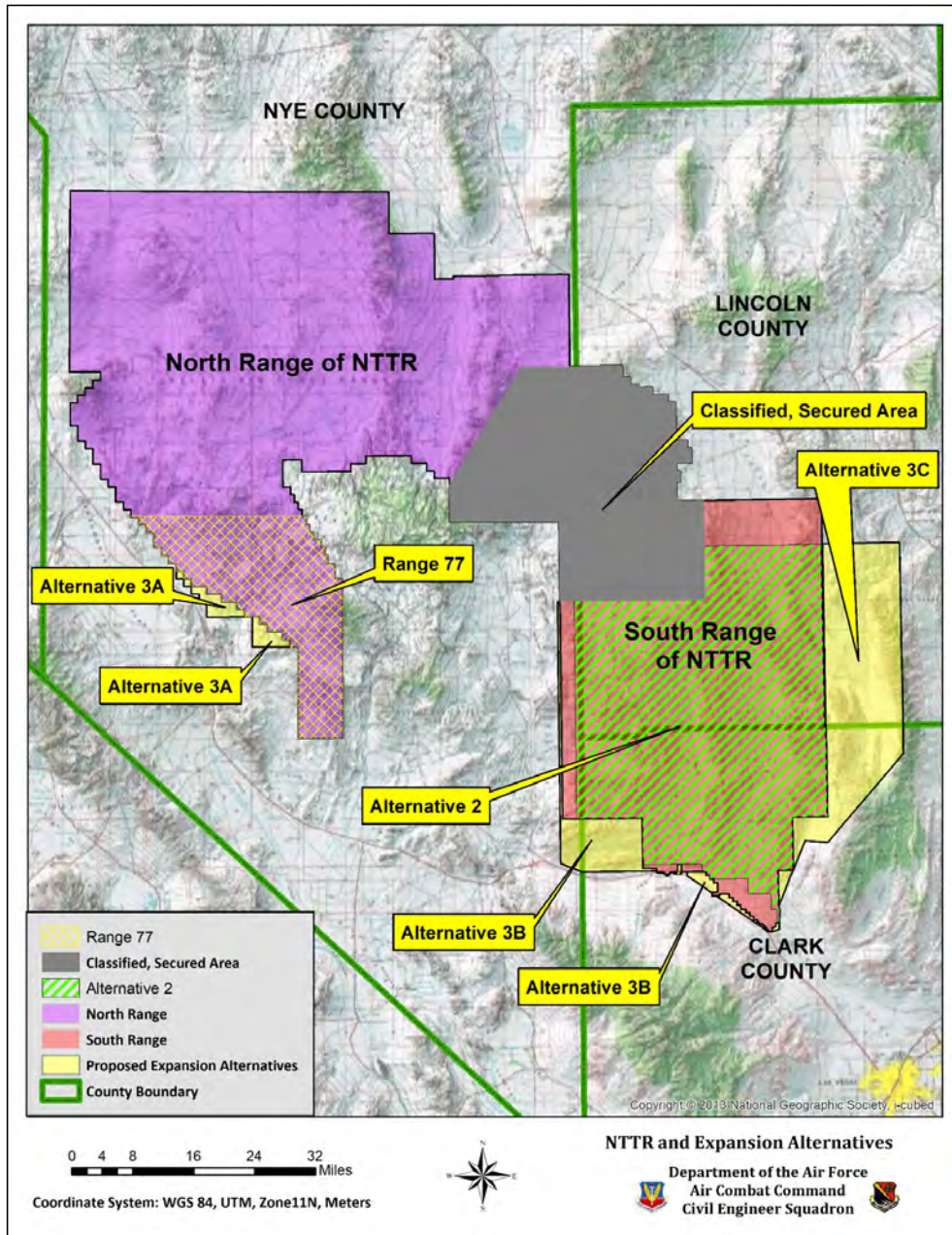


Figure 1. The current boundaries of the NTR and proposed expansion alternatives for the withdrawn land.

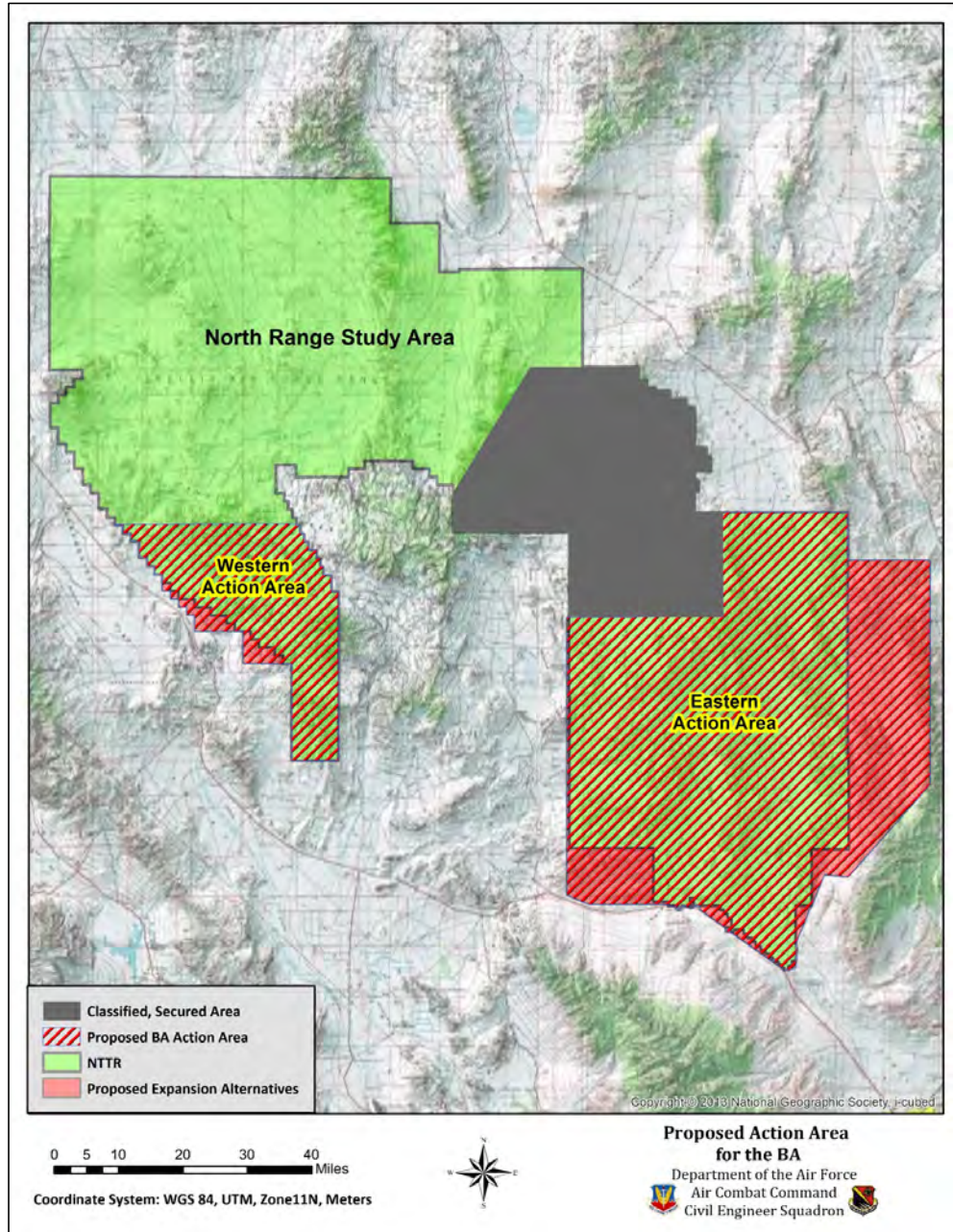


Figure 2. The proposed Action Area for the BA. For the purposes of this BA, the Action Area is divided into the Eastern Action Area and the Western Action Area.

HISTORY OF SECTION 7 FORMAL CONSULTATION

The Endangered Species Act of 1973 (ESA), as amended, is administered by the USFWS and provides for the protection of plants and animals that are in danger of becoming extinct. The ESA requires that all federal agencies shall seek to conserve endangered and threatened species and shall utilize their authorities to further the purpose of this Act. During 1995 and 1996, the USFWS was directed by Congress to assess the legal protection levels provided by the ESA. The evaluation process led to a set of new protection policies for rare plants and animals in the United States. The current protection status for each of these species can be found in detail on the Federal Register.

Section 9 of the ESA explicitly restricts the “taking” of a listed species. “Take” is defined in the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. In addition to the protection of actual species of concern, the ESA provides protection for the habitats necessary for the viability of listed species. Incidental takes are permissible under Section 7 of the ESA through: 1) formal consultation with the USFWS; 2) issuance of an incidental take permit (as in conjunction with issuance of a BiOp); or 3) issuance of a scientific collecting permit under Section 10 of the ESA.

Section 7(a)(2) provides an administrative mechanism for a federal agency to consult with the USFWS to determine whether a proposed action is likely to adversely impact listed threatened and endangered species either directly or through destruction or modification of its habitat. The USAF has consulted with the USFWS under Section 7 of the ESA for several projects that potentially impacted the DT on the NTTR. A BA and a programmatic BiOp were prepared for the current activities on the NTTR as part of the previous land withdrawal. Formal and informal consultations with the USFWS concerning the NTTR and proposed expansion areas are discussed below.

Formal and Informal Section 7 Consultations for the NTTR

U.S. Fish and Wildlife Service. July 19, 1994. *Biological Opinion for Continuing Current Weapons Test/Training on the U.S. Department of the Air Force Weapons and Tactics Center Range Complex.*

On December 30, 1993, the USAF requested formal consultation with the USFWS pursuant to Section 7 of the Endangered Species Act of 1973 regarding the continuation of weapons training/testing on the USAF’s Weapons and Tactics Center Range Complex (WTCRC) located on the DNWR. Specifically, this request outlined the possible impacts to potential DT populations and habitat within the WTCRC. Additionally, the USAF requested that formal consultation for development of the new Cluster Bomb Unit (CBU) target area be included under the scope of the BiOp. Mitigation efforts to minimize impacts to DT populations and habitat in WTCRC/DNWR, proposed by the USAF, included prohibiting off-road vehicle use within these areas; except for those activities necessary to clear and dispose of ordnance; developing a reclamation plan for unused or retired weapons delivery areas and roads within DT habitat restricting all traffic to roads (paved, gravel, or dirt) and a maximum speed limit of 25 mph.

The USFWS determined that an estimated 12 DT would be affected each year from continued operations in the WTCRC/DNWR, and that these operations would further degrade approximately 971 acres of previously disturbed DT habitat. However, the USFWS noted that the mitigation efforts proposed by the USAF to offset these losses would minimize these impacts.

The USFWS’ resulting BiOp indicated that the continued operations in WTCRC/DNWR would not likely jeopardize the DT population, and no critical habitat would be impacted. The BiOp authorized the incidental take of DT (2 killed per year and 10 captured, removed, or displaced) if appropriate measures were implemented to minimize the potential for incidental takes. These measures included: 1) measures to minimize mortality or injury due to weapons training and testing operations; 2) measures

taken to minimize destruction of DT habitat due to weapons training and testing operations; and 3) measures taken to ensure compliance with prudent measures outlined in the BiOp (i.e. reporting requirements).

U.S. Fish and Wildlife Service, January 9, 1995. *Biological Opinion for Continuing Current Weapons Testing/Training on the U.S. Department of the Air Force Weapons and Tactics Center Range Complex (Amendment Letter). Response to USAF comments on the first amendment and the changing of design for the DT proof fence.*

The USFWS issued BiOp Number 1-5-94-F-162 to the USAF on July 19, 1994. This BiOp amendment letter summarizes the results of a November 14, 1994, meeting between the USFWS and the USAF personnel to amend the July 19, 1994 BiOp. During the meeting, an alternate fence design differing from that described in the original BiOp was proposed by the USAF and supported by the USFWS. The letter constituted written concurrence from the USFWS that the new fence design was approved.

U.S. Fish and Wildlife Service, June 5, 1995. *Biological Opinion for Continuing Current Weapons Testing/Training on the U.S. Department of the Air Force Weapons and Tactics Center Range Complex (Second Amendment Letter).*

The USFWS issued a second amendment letter for BiOp Number 1-5-94-F-162 to the USAF on July 19, 1994. Term and Condition No. 2 of the BiOp required that the USAF submit a written vegetative rehabilitation plan for approval by the USFWS by July 19, 1995. However, it was later determined that review of the plan, as well as the implementation of a pilot study and monitoring program, would require more time than the deadline. Therefore, it was determined that this deadline should be adjusted. The USFWS concurred with the USAF opinion, and this amendment letter served as a revision to Term and Condition No. 2. Under the revised Term and Condition, the vegetative rehabilitation plan would be due October 31, 1995, and the pilot study would begin June 1996 to end in December 2001. All other terms and conditions of the original BiOp were to remain in effect.

U.S. Fish and Wildlife Service, June 7, 1995. *Comments on the Draft Revegetation and Monitoring Plan, Nellis Air Force Base.*

In January 1995, the USAF submitted the draft revegetation and rehabilitation plan to meet Term and Condition No. 2 of BiOp Number 1-5-94-F-162. The USFWS responded with comments in a letter dated June 7, 1995. The comments, both general and specific, were minor as the USFWS was in general agreement with the overall plan.

U.S. Fish and Wildlife Service, February 1997. *Biological Opinion on the Re-initiation of Formal Consultation for Continuing Current Weapons Testing and Training on U.S. Department of the Air Force Weapons and Tactics Center Range Complex.*

On July 8, 1996, the USAF requested formal consultation with the USFWS, pursuant to Section 7 of the Endangered Species Act of 1973, regarding the continuation of weapons training/testing for a five-year period on the USAF WTCRC located on the DNWR. Specifically, this request outlined the possible impacts to potential DT populations and habitats within the WTCRC/DNWR.

The BiOp summarized the previous formal consultations between USFWS and USAF concerning the project location, specifically the BiOp issued July 19, 1994 (File No. 1-5-94-F-162), and the amended BiOp issued February 14, 1995 (File No. 1-5-94-F-162.AMD). Additionally, the BiOp noted that innovations in

electronic guidance equipment have refined ordnance delivery and reduced impact areas within WTCRC/DNWR by 10 percent, and DT information was issued to all new WTCRC personnel, increasing DT awareness of on-site staff.

The USFWS BiOp stated that the continued operations in WTCRC/DNWR would not likely jeopardize the DT population, and no critical habitat would be impacted. The BiOp authorized the incidental take of DT (2 killed per year and 10 captured, removed, or displaced) if appropriate measures were implemented to minimize the potential for incidental takes. These measures included: 1) measures to minimize mortality or injury due to weapons training and testing operations; 2) measures taken to minimize destruction of DT habitat due to weapons training and testing operations; 3) a transfer of \$50,000 into the DT Habitat Conservation Fund Number 730-9999; and 4) measures taken to ensure compliance with prudent measures outlined in the BiOp (reporting requirements).

U.S. Fish and Wildlife Service, December 3, 1999. *Request to amend the Biological Opinion for Weapons Testing/Training on the Weapons and Tactics Center Range Complex (Amendment Letter).*

The USFWS issued BiOp Number 1-5-94-F-278R to the USAF in February of 1997. This BiOp amendment letter summarized the request of the USAF to place 11 borrow pits (four of which were in DT habitat) within the complex as outlined in the Final Environmental Assessment for Borrow Pits on the Nellis Air Force Range, Nevada. The pits were to be used to supply base material for road improvements. The Service responded that maintenance of the roads was consistent with the 1997 BiOp and was covered in that opinion. The letter constituted written concurrence from the USFWS that the request was approved and the 1997 BiOp was amended to cover the four borrow pits in DT habitat.

U.S. Fish and Wildlife Service, January 2, 2002 File No. 1-5-02-I-455. *Informal Consultation Requesting Formal Consultation for Construction of the 64-10 By-Pass Road.*

The USFWS requested that the USAF initiate formal consultation for the construction of the Target 64-10 by-pass road because five DT burrows were found during surveys of the area and the USFWS did not concur with the USAF determination that the proposed project would not likely adversely affect the DT at the site.

U.S. Fish and Wildlife Service, January 16, 2002. *Request to Extend the Term of the Biological Opinion for Activities on the Air Force's Weapons and Tactics Center Range Complex.*

This concurrence letter granted the USAF request to extend the term of the February 1997 BiOp for six months to allow the USAF additional time to develop the Nevada Training Initiative and determine the needs of the NTTR for a 10-year period. The USFWS concurred with the request and extended the BiOp term from February 5, 2002 until August 5, 2002.

U.S. Fish and Wildlife Service. January 2, 2002. *Biological Opinion for Dogbone Lake/Target 62-1 Bypass Road, Lincoln County, Nevada.*

On July 2, 2002, the USAF requested concurrence through informal consultation with the USFWS that DT studies conducted in association with the proposed construction of three bypass roads (62-1, Dogbone Lake, and 64-10 bypass roads) would not adversely affect DT populations. Construction of these bypass roads were proposed to increase safety and reduce road degradation of existing facilities. No DT or DT sign were identified during the 64-10 survey, and the USFWS concurred that construction of this bypass

road was “not likely to adversely affect” DT at this site. However, the USFWS did not issue concurrence with a “not likely to adversely affect” decision for the 62-1 and Dogbone Lake bypasses because DT signs were identified during their surveys. In summary, the USFWS recommended formal consultation of the 62-1 and Dogbone Lake bypass roads to address the direct and indirect effects to DT that may occur due to project implementation. The BiOp summarized the previous formal consultations between the USFWS and the USAF concerning the project area, specifically BiOp No. 1-5-97-F-251 and No. 1-5-98-F-053.

Based on a review of information available for the project site, the USFWS concluded the following in the BiOp: “After reviewing the status of the DT, the environmental baseline for the action area, the effects of the proposed road re-alignment, and the cumulative effects; it is the Service’s biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the DT. Critical habitat for the DT has been designated in portions of the Paiute and El Dorado Valleys, Mormon Mesa, Gold Butte, and Beaver Dam Slope areas of Nevada; however, this action does not affect those areas and no destruction or adverse modification of that critical habitat is anticipated.”

The BiOp authorized the following amount of take: 1) No DT may be incidentally injured or killed by project activities; 2) No DT eggs were anticipated to be destroyed during construction activities; 3) No DT were anticipated to be taken in the form of indirect mortality through predation by ravens drawn to trash in the project area; and 4) an unknown number of DT may be taken indirectly in the form of harm through increased noise and ground vibrations associated with construction, use of heavy equipment, and other project activities.

The BiOp outlined reasonable and prudent measures to reduce the amount of take associated with DT on the project site. These measures included: 1) implementing measures to minimize injury or mortality of DT due to project-related activities; 2) implementing measures to minimize predation on DT by predators drawn to project areas; 3) implementing measures to minimize destruction of DT habitat, such as soil compaction, erosion, or crushed vegetation due to construction activities; and 4) implementing measures, terms and conditions, reporting requirements, and re-initiation requirements in this BiOp. Terms and conditions consistent with best management practices were also described in the BiOp.

U.S. Fish and Wildlife Service. June 17, 2003. File No. 1-5-02-F-522. Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada.

This programmatic BiOp was prepared and based on a review of programmatic and project specific activities proposed by the USAF on the South Range of the NTTR over a 16-year period. Specifically, this BiOp addressed the potential effect of mission activities on DT populations. The term of the BiOp terminates on March 1, 2019, which coincides with the NTTR land withdrawal from Bureau of Land Management (BLM) control.

Based on a review of information available for the coverage area, the USFWS concluded the following: “After reviewing the current status of the DT, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the USFWS’ BiOp that implementation activities on the South Range as described in the January 2003 BA, are not likely to jeopardize the continued existence of the threatened Mojave population of the DT. Critical habitat for this species has been designated within 14 Critical Habitat Units in Nevada, California, Arizona, and Utah; however, the proposed action does not affect any of those areas and no destruction or adverse modification of that critical habitat is anticipated.”

This decision was based on the following reasons: “1) The South Range does not include any areas designated for recovery of the DT; 2) few DT are likely to be killed or injured by the USAF actions which would be minimized by measures proposed by the USAF; and 3) no new actions will proceed under this programmatic biological opinion until the USAF submits required information on each project that may adversely affect the DT and a response has been received from the USFWS in accordance with the USFWS’s protocol for programmatic biological opinions.”

The USFWS BiOp stated that based on the minimization efforts employed on the South Range of the NTTR and an analysis of potential impacts, the following take of DT may occur:

1. To ensure that the protective measures were effective and were being properly implemented, the USAF shall contact the USFWS immediately if a DT is killed or injured. Upon locating a dead or injured DT within the action area, notification must be made to the Ecological Services Division of the USFWS. At that time, the USFWS and the USAF shall review the circumstances surrounding the incident to determine whether additional protective measures are required. Project activities may continue pending the outcome of the review, provided the protective measures and any appropriate terms and conditions of this BiOp have been and continue to be fully implemented. It was estimated that no more than one DT may be killed or injured on the South Range of the NTTR, per year. For the Nevada Training Initiative (NTI) project, the USFWS estimated that no more than two DT may be killed or injured as a result of project activities.
2. All DT found in harm’s way in work areas may be captured and moved to a safe location. Based on the incidental take associated with prior activities, no more than five DT will be taken on the South Range of the NTTR through capture and movement, per year. No more than 20 DT will be captured or moved during the NTI project.
3. An unknown number of DT eggs may be disturbed or destroyed during surface-disturbing activities on the South Range. However, the number of nests and eggs affected by the project would be no more than one over the term of the proposed action, including the NTI project.
4. An unknown number of DT may be taken in the form of indirect mortality through predation by ravens drawn to trash in the project area. The level of raven or subsidized predator predation on DT will be greater as a result of programmatic activities than the existing baseline conditions.

The BiOp outlined reasonable and prudent measures to reduce the amount of take associated with DT on the project site. These measures included: 1) implementing measures to minimize the incidental take of DT resulting from weapons testing and training activities, including minimizing attraction of DT predators to activity sites; 2) implementing measures to minimize harm to DT as a result of impacts to DT habitat such as soil compaction, vegetation damage and destruction, and erosion; 3) implementing measures to minimize the incidental take of DT that may result from project and road construction projects; and 4) implementing measures to minimize the incidental take of DT that may result from capture, handling, and relocation of DT, as required or authorized in this BiOp. Terms and conditions consistent with best management practices are also described in the BiOp.

US Fish and Wildlife Service. June 30, 2004. *Amendment to the Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range (NTTR), and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada.*

This amendment, File No. 1-5-02-F-522.AMD1, granted the USAF permission to implement DT monitoring and clearing on NAFB, NTTR, and NTI in-lieu of constructing and maintaining DT barriers. The reasoning behind this change in techniques is that DT barriers were being rendered ineffective by target range impacts. The USFWS determined that a monitoring and clearing strategy would be equally or more effective than DT barriers. As such, Term and Condition 1.a and 1.d, were amended to reflect monitoring and clearing activities in accordance with Term and Condition 3.b as quoted below:

The Nevada Training Initiative Project (640 acres), Target 62-6, and new proposed projects that would involve surface disturbance will be cleared of DTs in accordance with Term and Condition 3.b. In addition to the project site clearance, on a case-by-case basis, a perimeter around the project area will also be cleared as determined by the Nellis AFB Natural Resources Manager and Service. The determination to conduct perimeter clearance will be based on the quality of DT habitat in the project area and/or likelihood of DTs appearing on the project site. DTs found and removed from the project site may be fitted with radio telemetry devices as determined on a case-by-case basis. Telemetered tortoises will be monitored and data collected at least until project construction is completed to determine if tortoises return to the area of capture. Telemetry data will be provided to the Service within 30 days of the conclusion of telemetry monitoring activities. Tortoises that return will be moved out of harm's way in accordance with Terms and Condition 3.b. Tortoises that are found in harm's way shall continue to be captured, moved, and released until surface disturbance ceases. Tortoises may be moved up to 1 mile from point of capture. A tortoise monitor will be present on the project sites during all project construction/earthmoving activities until the project is completed.

Additionally, the USFWS acknowledged and commended the USAF for its efforts to delineate and map all DT habitats on the NTTR and to develop a DT management plan as part of the INRMP.

Request for Concurrence with DT Habitat Delineation on the Nevada Test and Training Range, Clark and Lincoln Counties, Nevada (August 27, 2009)

This document is a letter from the USFWS, File No. 1-5-02-F-522, approving the DT habitat map for use as a guide to identify areas where clearance surveys and monitoring would be required on the South Range of the NTTR. The map only serves as a guide because desert tortoise habitat delineations can only provide an estimate of such areas, it is likely that areas mapped as potential habitat are not occupied at this time by desert tortoises and tortoises may occur outside areas identified as potential desert tortoise habitat on the map. The USFWS specified four measures in the programmatic BiOp that applied towards activities in DT habitat:

1. Provide DT awareness training. The training should be provided to anyone working in or traveling through potential DT habitat.
2. Impose a speed limit of 25 miles per hour in DT habitat. The USFWS recommended that speed limit signs be posted on roads that enter DT habitat and ensure that these speed limits are enforced.
3. Rehabilitate disturbances of DT habitat and/or pay a per-acre remuneration fee.
4. Conduct clearance surveys for DTs or construct DT exclusionary fencing for actions in potential DT habitat.

Figure 3 is the DT habitat map approved by the USFWS for the NTTR and the current withdrawn land.

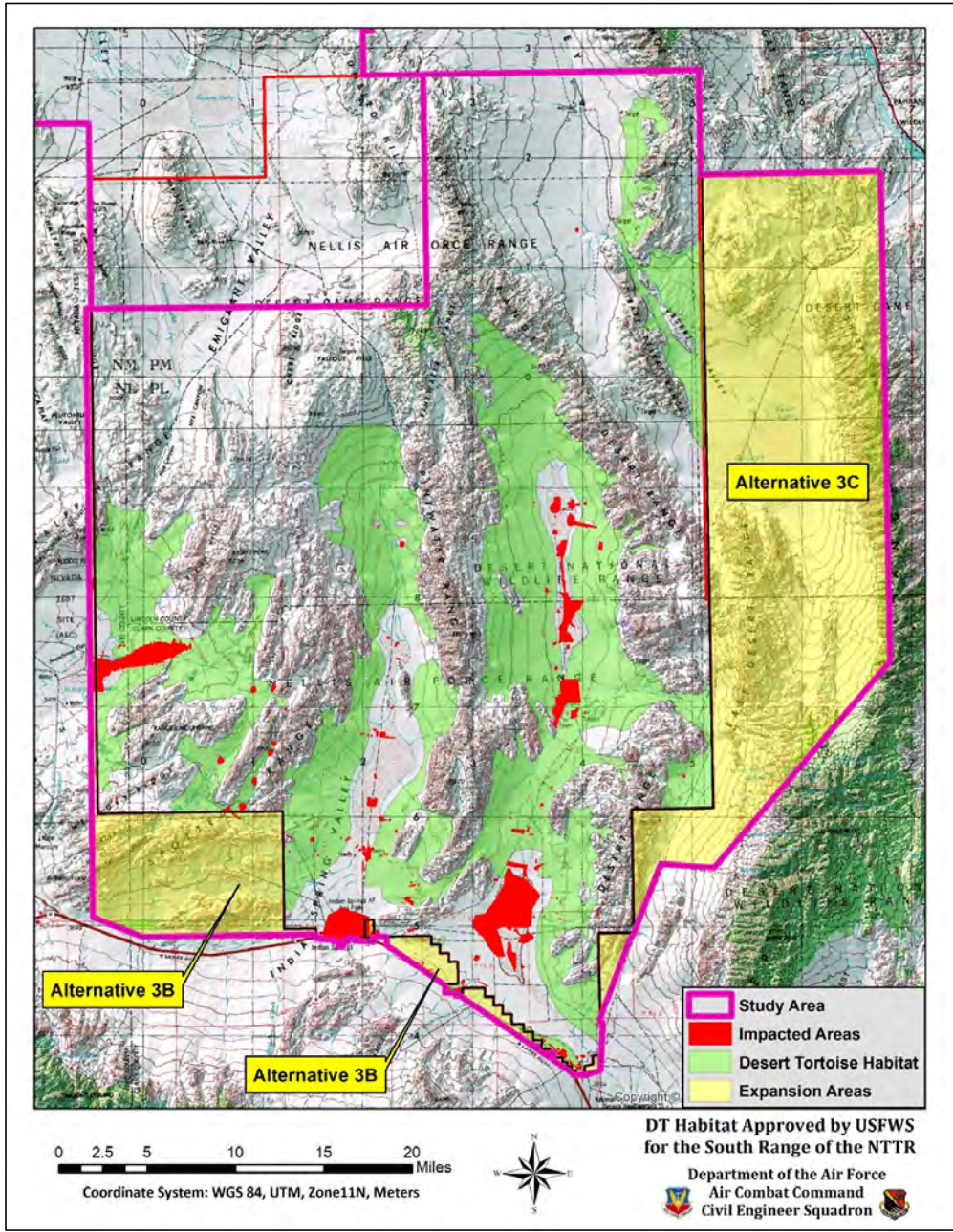


Figure 3. Desert Tortoise habitat map approved for NTTR by the USFWS on August 27, 2009. Impacted Areas indicates those areas that have been impacted by target use or infrastructure construction during or before the current BiOp was implemented.

Alternative 2

Alternative 2 involves a “ready access” component for the South Range that would allow increased training opportunities in the South Range. Currently, approximately 590,000 acres of the NTTR’s South Range overlaps the Desert National Wildlife Range (DNWR), which are designated as proposed Wilderness and managed as de facto wilderness by virtue of USFWS land management policy. Generally, areas that were proposed for wilderness in the South Range correspond to elevations above 4,000 feet above mean sea level. Existing roads (mountain roads/passages) other than those used below 4,000 feet are off limits, as is troop movement, ground disturbance and the development of new locations such as emitter sites and communication sites. Previously used targets that are located in areas that were proposed as wilderness in 1971 are also off limits.

Alternative 3A

Alternative 3A is located northeast of Beatty, Nevada in Nye County on the northern extent of DT habitat range. The land is undeveloped and only used for cattle grazing and recreation. Nye County is preparing a Habitat Conservation Plan (HCP) for the DT and it will only include private lands in Alternative 3A if Alternative 3A is not included in the expansion of the withdrawn land. According to the BLM, this area falls under the programmatic BiOp for the BLM and no surveys have been conducted on the area to date (Personal communication with Gregory Brooks, Sept. 20, 2017, BLM).

Alternative 3B

Alternative 3B includes land between the south boundary of NTTR and U.S. Highway 95. The western part of this area is located in the DNWR, while the remainder is managed by the BLM under their programmatic BiOp. DT surveys have not been conducted in these areas (Personal communication with Gregory Brooks, Sept. 20, 2017, BLM).

Alternative 3C

Alternative 3C lies within the DNWR. No USFWS consultation has occurred in this area, but would be required if impacts to DT are imposed by any federal actions. Critical habitat has been designated for the DT in the vicinity of the DNWR, but none has been designated within the boundaries of the DNWR. The nearest critical habitat lies in Pahrnagat Valley about 4 miles east of the eastern boundary of Alternative 3C and separated from Alternative 3C by the Sheep Mountain Range. Critical habitat has not been designated for any of the land lying within the DNWR because as a wildlife refuge, it affords full protection for the species within its management area boundaries. However, under the INRMP for NAFB, NTTR, and CAFB, an exemption of critical habitat designation under Section 4(a)(3)(B)(i) under the Endangered Species Act may be enforced. Such an exemption would preclude the need for critical habitat designation as long as the Secretary of the Interior determines in writing that the INRMP provides sufficient benefit to the species for which the critical habitat is being proposed.

Biological Opinions in the Vicinity of the Action Area

U.S. Fish and Wildlife Service. May 12, 1993. Formal Section 7 Consultation for the Issuance of a Right-of-Way Permit for the Southwest Intertie Project. File No. 1-5-93-F-91. This BiOp was issued for a transmission line running from Shoshone Idaho to Las Vegas Nevada. The last 53.2 miles of the transmission line impacted DT habitat. This habitat was located east of the east boundary of the DNWR. Impacts to DT were not anticipated. An extensive list of mitigative measures were included in the BO.

Recovery Plans

1994 DESERT TORTOISE (MOJAVE POPULATION) RECOVERY PLAN

The 1994 DT (Mojave Population) Recovery Plan (U.S. Fish and Wildlife Service, 1994B) presents conservation strategies for recovery of the DT population from the endangered status to delisting. Under the

plan, six evolutionary groups, or recovery units, were identified and targeted for DT recovery efforts (within the Mojave population). Recovery units were established based on differences in population genetics, ecology, and/or behavior. Management zones where DT populations would be allowed to recover were established in each recovery unit and classified as Desert Wildlife Management Areas (DWMAs). Additionally, Critical Habitat was established under the authority of the ESA, with portions of the established DWMAs overlapping with DT Critical Habitat. No Critical Habitat has been designated on the NTTR. According to this recovery plan, the NTTR and the study area lie within the Northeastern Mojave Recovery Unit. No DWMA are located within the boundaries of the study area.

Five criteria are stipulated by the 1994 Desert Tortoise (Mojave Population) Recovery Plan (USFWS 1994) that the species must meet to be eligible for delisting:

- The population must exhibit a statistically significant upward trend or remain stationary for at least 25 years (one DT generation); trends must be measured using a scientifically credible monitoring plan, with population estimates taken at five-year intervals.
- Sufficient habitat must be protected within a recovery unit (at least one DWMA of >1,000 miles²) or, in unusual circumstances, the DT populations must be managed intensively enough to ensure long-term population viability.
- At each DWMA, population growth rates must be maintained at or above 1.0 into the future.
- Regulatory mechanisms, or land management commitments, must be implemented to ensure long-term protection of DT and their habitats.
- The population in the recovery unit should not need protection under the ESA in the foreseeable future (as determined by detailed genetic, demographic, physiological, behavioral, and environmental analyses).

Once populations meet all five criteria within a DWMA, the species may be considered recovering and possibly delisted for that area. Once all populations have recovered in the DWMAs, the species would be eligible for delisting on a national level.

2011 DESERT TORTOISE (MOJAVE POPULATION) REVISED RECOVERY PLAN

In 2011, the 1994 Desert Tortoise Recovery Plan was revised to accommodate impacts caused by the implementation of renewable energy development (U.S. Fish & Wildlife Service, 2011). These impacts could potentially cause habitat fragmentation, isolation of DT conservation areas, and subsequent possibility of restricted gene flow between conservation areas. Some of the recommendations included in the revised recovery plan included the following:

- Locate solar project facilities outside of DWMAs and ACECs (Areas of Critical Environmental Concern).
- Conserve and protect sensitive areas that potentially connect functional habitat or improve management capability of surrounding areas that may be open to renewable energy development.
- Connect blocks of DT habitat to maintain gene flow between populations.
- Quantify the lost or restoration of habitat as it relates to renewable energy and other projects.
- Evaluate the effects of corridors and barriers imposed by energy development and other infrastructure on DT movement and recovery.

According to the 2011 Desert Tortoise Revised Recovery Plan, the study area was moved into the Eastern Recovery Unit. No DWMAs were established within the boundaries of the study area. DT critical habitat has not been designated within the boundaries of the Action Area (Figure 4). However, the DNWR is located within the boundaries of the study area and is important for the conservation of the species. The DNWR has not been designated as critical habitat due to the fact that, as a refuge, it inher-

ently protects endangered species inhabiting the area. However, actions potentially impacting the DT on the DNWR still require formal consultation.

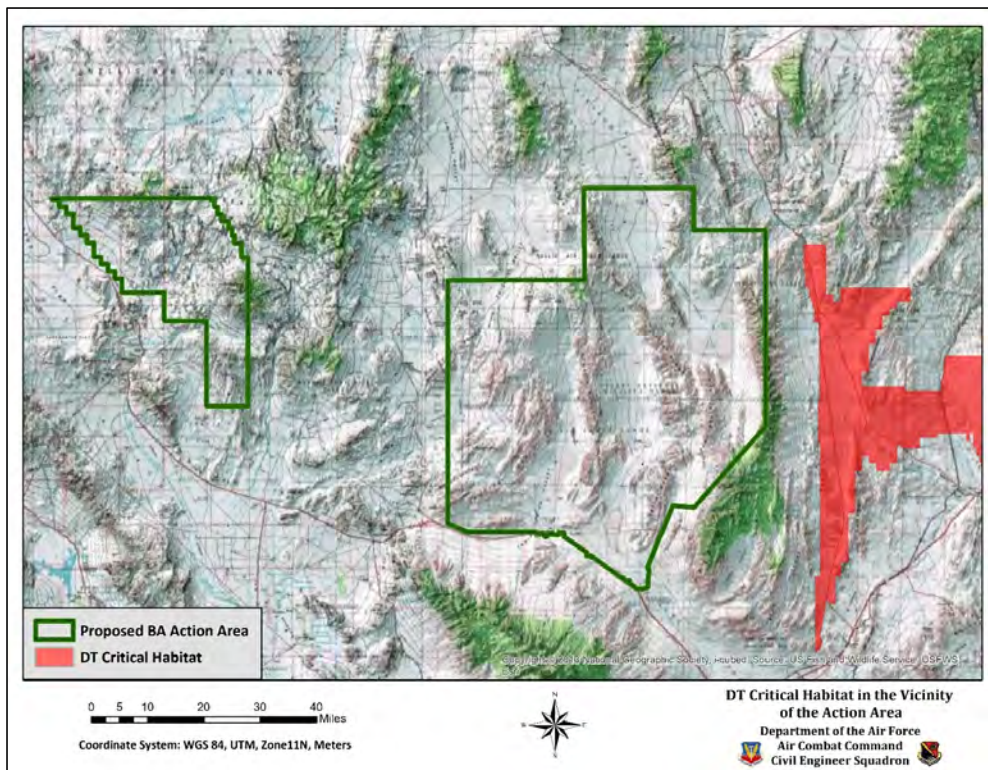


Figure 4. DT critical habitat located in the vicinity of the Action Area.

DESCRIPTION OF ACTIONS POTENTIALLY TAKEN BY THE USAF ON THE ACTION AREA

In the paragraphs that follow, actions potentially undertaken by the USAF in the Action Area on the current withdrawn land (NTTR South Range and Range 77) and potentially occurring under Alternative 2, and Expansion Alternatives 3A, 3B, and 3C will be described in sufficient detail to allow evaluation of potential effects and to identify minimization measures. Please note that the Action Area does not include most of the North Range of NTTR because it does not contain DT habitat per the previous programmatic BiOp (U.S. Fish and Wildlife Service, 2003). Habitat extending beyond the northern boundary of the Eastern Action Area falls in an area that is secure and classified and is not included in the Action Area. The small area of habitat lying north of the Western Action Area is included as part of this analysis and is subject to any recommendations for protection of the DT in those areas.

Baseline and Alternative 2 NTTR South Range Actions

Actions to be implemented on the current withdrawn land on the South Range of the NTTR will remain the same as described in the current BiOp, but volume, frequency, and duration of activity on existing target impact areas will increase, and infrastructure development and ground training activities will po-

tentially occur over a larger area. Details on the estimated acreage of impacts is described in the Direct Impacts section of this BA. Congress reserved the current withdrawn land for use by the Secretary of the Air Force for the following military uses:

- An armament and high-hazard testing area;
- Training for aerial gunnery, rocketry, electronic warfare, and tactical maneuvering and air support;
- Equipment and tactics development and testing; and
- Other defense-related purposes.

The NTTR provides a premium location to test weapon systems and tactics to meet nationally directed missions. It also offers a secure environment where testing and training can be conducted free from outside interference. Actions on the South Range of the NTTR potentially impacting the desert tortoise are discussed below.

BASELINE OF CURRENT DISTURBED AREAS

Prior to the preparation of this BA, the Action Area has experienced soil disturbing activities caused by infrastructure construction and target use. These activities occurred under the current BiOp, past BiOps, or prior to listing of the DT under the ESA. Total acres of disturbed land in DT habitat, including roads currently found on the South Range is 12,252 acres (8,874 acres of disturbed or developed land and 3,378 acres of roads and trails) (Figure 5). Table 1 lists the current total acreages and DT habitat acreages of the South Range and expansion alternatives and those acreages further refined to roads and disturbed areas.

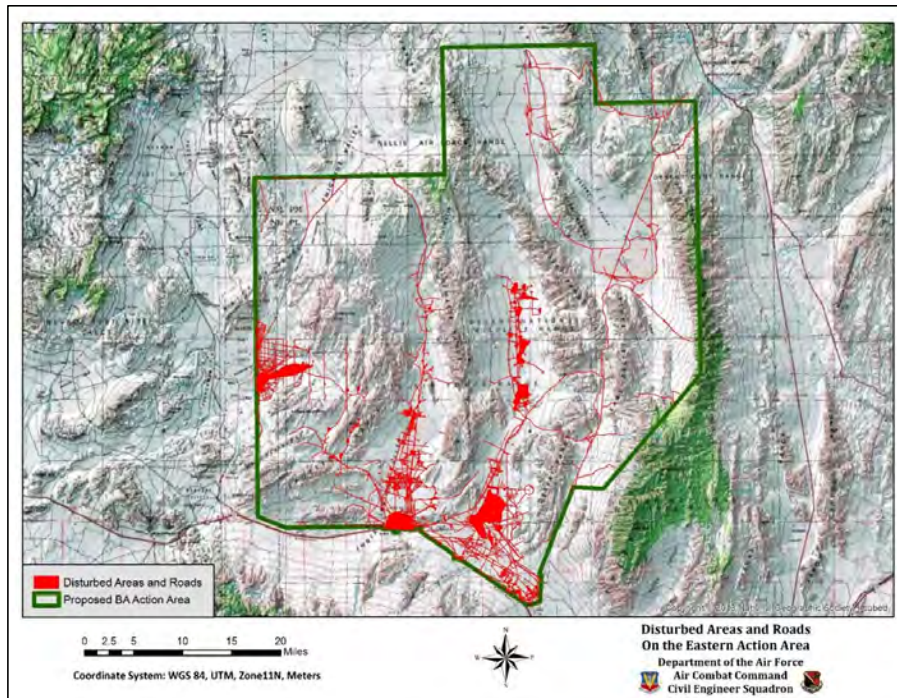


Figure 5. Disturbed Areas including roads and trails on the Eastern Action Area.

Table 1. Total acreages and DT habitat acreages of South Range and Expansion Alternatives, including roads and disturbed areas.

Action	Total Area (Acres)	Area in DT Habitat (Acres)	Total Linear miles	Linear miles in DT Habitat
Acres of DT Habitat				
South Range of NTTR	1,005,891	627,051	N/A	N/A
Expansion Alternative 3A	17,906	7,913	N/A	N/A
Expansion Alternative 3B	56,501	44,537	N/A	N/A
Expansion Alternative 3C	227,027	135,388	N/A	N/A
Range 77 + Northern Area*	244,203	54,290	N/A	N/A
Total	1,538,495	866,260	N/A	N/A
Disturbed Areas Minus Roads				
South Range of NTTR	16,167	8,874	N/A	N/A
Expansion Alternative 3A	0.10	0	N/A	N/A
Expansion Alternative 3B	819	474	N/A	N/A
Expansion Alternative 3C	7.65	7.38	N/A	N/A
Range 77 + Northern Area*	231	56	N/A	N/A
Total	17,225	9,411	N/A	N/A
Roads and Trails				
South Range of NTTR	4,285	3,378	1,371	1,122
Expansion Alternative 3A	177	64	29	14
Expansion Alternative 3B	296	252	98	89
Expansion Alternative 3C	444	370	149	105
Range 77 + Northern Area*	1,099	417	213	80
Total	6,301	4,481	1,860	1,410

*Includes Range 77 plus DT habitat located beyond the northern boundary of Range 77

READY ACCESS (Alternative 2)

Ready access is required for the desired implementation of the military mission on the Action Area. Ready access allows the USAF to have primary jurisdiction over lands within its boundary and the ability to access land and schedule activities at its discretion. It opens the entire range to use for military activities and operations. The North Range currently has Ready Access. The South Range is restricted by the current Memorandum of Understanding (MOU) with the USFWS. Under the MOU, the majority of the South Range is within the DNWR and managed by the USFWS as proposed wilderness. As a result, the USAF cannot access the areas of the South Range outside target impact areas for purposes of military training without permission of the USFWS. Placing the South Range Study Area under Ready Access would allow the same activities as the North Range Study Area. Thus, troops could conduct ground activities anywhere on the area. However, vehicles would be restricted to roads and trails. Bombing and live munitions would be restricted to existing weapons delivery areas and no new weapons delivery areas are being planned. Any soil disturbing activities in DT habitat would be avoided or minimized as is current USAF practice.

Ready access will mostly be occurring in the interstitial areas, which are areas located outside of target impact areas. These activities generally involve squads of Special Operations Forces (SOFs) or regular service personnel, conducting ground training in support of the military mission. These activities would typically involve groups of no more than twelve personnel. Ready access may include use of fixed- and rotary-wing aircraft to insert or extract troops and equipment or conduct personnel drops (paradrops) onto established drop zones or landing zones. Training would not involve large forces.

Airdrops (ADs) involve the insertion of personnel via release of troops or equipment over land-based drop zones. This activity would support training activities. Aircraft would fly at 1,250 ft. above ground level (AGL) for static line drops and up to 25,000 ft. AGL for free fall drops depending on personnel and

equipment type or requirements. During a paratroop, the aircraft typically makes first contact at the drop zone, flying between 500 to 1,000 ft. AGL, conducts the drop, and then moves to orbit at 5,000 ft. AGL, typically offset from the drop zone by about 5 to 10 miles with run-in typically at 130 knots indicated air speed. Items dropped may include approximately 15 cubic foot container of water (about 300 lbs.) and/or containerized delivery systems (about 500 lbs.).

As is its current practice, the USAF would strive to avoid direct impacts to DT and DT habitat. Impacts could be minimized by not establishing drop zones or landing zones in DT habitat. However, ready access would allow the USAF to manage all of the land area and evaluate potential uses for military training. This would not preclude the need to comply with regulatory requirements of the National Environmental Policy Act (NEPA), Clean Water Act (CWA), ESA, National Historic Policy Act (NHPA), or other regulations. As a result, uses involving ground disturbing activities could occur, but these would be limited to minor disturbances associated with emitter pad construction, existing road and trail improvements, and non-mechanized ground troop movements over land (any mechanized troop movements would occur on existing roads and trails). Under the current proposal for the land withdrawal, no new weapons delivery areas/live fire areas will be developed. Any actual site-specific, ground disturbing or construction activities would require additional formal or informal consultation with the USFWS, environmental assessment as required by NEPA, and compliance with the CWA, NHPA, and other regulations. Under the purview of this BA, and as with the previous BiOp, the direct impacts associated with incidental DT takes would likely be associated with non-mechanized ground troop movement over land as well as mechanized troop movement over roads and trails. These impacts will be minimized by compliance with the conservation measures discussed later in this BA.

For the purpose of analyzing the potential impacts associated with ready access and the increase in overall range utilization, a projected 30 percent increase is estimated for test and training activities. On the South Range Study Area, the 30% increase relates to aircraft activity only as compared to the current level. Therefore, aircraft operations, munitions expenditures, and motorized vehicular activity are projected to be 30 percent greater than current levels. The only new roads being proposed are those required for accessing new emitters. However, existing road use would increase by 30%. It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations. Ground activity will be a new potential impact because it is currently not allowed on the South Range outside of existing target impact areas. Most of the activities will be foot traffic associated with small troops (less than 12 soldiers) and impacts are anticipated to be minimal with proper DT awareness training. Vehicular traffic will be restricted to roads and trails and is anticipated to significantly increase on the wilderness area of the DNWR and the expansion alternatives, since it is currently at minimal levels. Take of DT will be minimized by implementation of the conservation measures described later in this BA.

WEAPONS DELIVERY AREAS

Weapons delivery areas are targets that are used for live ordnance and munitions. The South Range of the NTTR contains five weapons-delivery target impact areas, which are subdivided into 74 target complexes containing approximately 1,363 targets. These areas were previously covered by the current BiOp for NTTR and will remain the same because no new target impact areas are being proposed for the renewal of the land withdrawal. The location of weapons delivery systems will remain the same, but the number of bombs dropped may increase by 30% over current baseline levels. The majority of weapons delivery areas in the South Range are located in playas (dry lakebeds) within the Indian Springs Valley and Three Lakes Valley outside of DT habitat and accommodate ground-disturbing military testing or training activities including live and inert ordnance. A full range of weapons including unguided ordnance, laser-guided bombs, air to ground missiles, small arms munitions, and self-protection devices

(flares and chaff) are used at targets. Targets range from airfields, bridges, command and control bunkers, weapons storage facilities, mobile air defenses, tactical missile systems, tanks, armored vehicles, and troop concentrations. These targets impact the DT mostly by ground disturbing actions caused by exploding and non-exploding ordnance and small arms bullets. Clearing, excavation, and construction of targets also entails soil disturbing actions. Target impact areas, totaling 111,291 acres, have been designated on the South Range and include all areas that could potentially be impacted by weapons delivery actions (Figure 6). These areas were designated as areas under the jurisdiction of the USAF according to the MOU. The amount of this acreage in DT habitat is discussed in the Direct Impacts section of the BA.

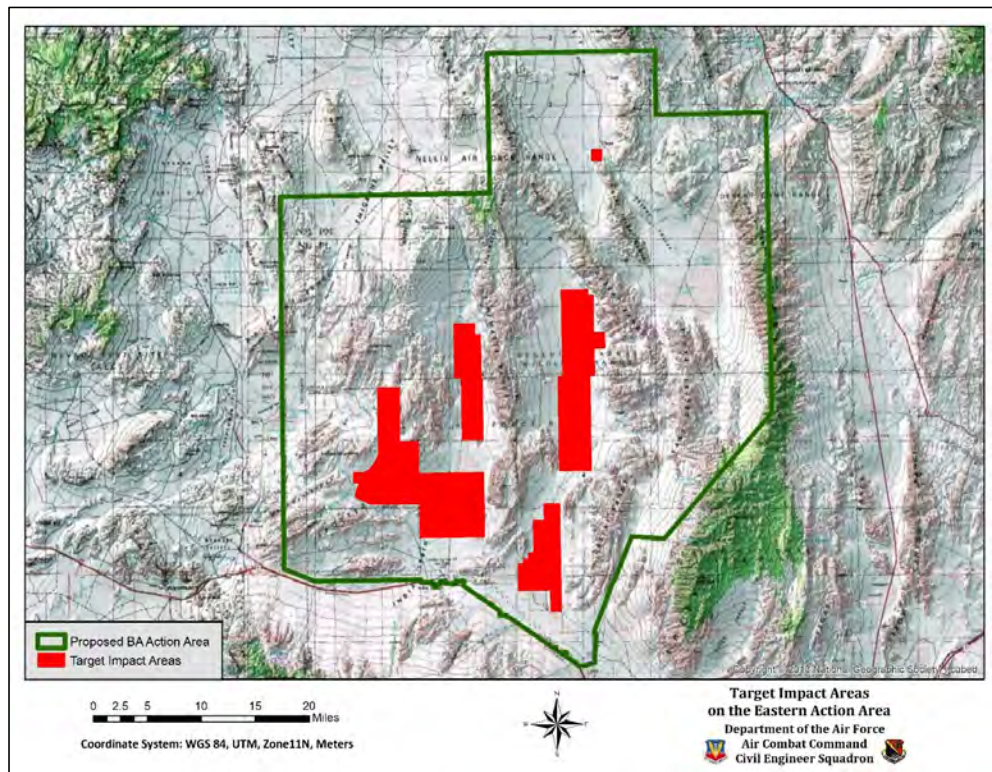


Figure 6. Target impact areas located on the Eastern Action Area.

Weapons used on the South Range on the NTTR include various caliber hand guns, rifles and machine guns, grenades, incendiary devices, shoulder-launched missiles, and light vehicle mounted weapons. Ammunitions include depleted uranium rounds, dummy bombs, live bombs, explosive incendiary rounds, and bullets.

Targets include the following items or structures:

- Enemy items: Trucks, tanks, heavy equipment, vehicles (Fuel removed as well as lubricants, fluids, glass, and gauges)

- Cities, houses, air fields, and factories usually constructed of wood, aluminum, or stacked Conex storage units
- Roads, runways, and tarmacs usually constructed by blading areas to represent their use
- Simulated railroads, scud and other missile launchers, radar and antenna sites, and other launching devices
- Moving targets simulating convoys and other enemy troop equipment movement

The current BiOp estimates that 971 acres of DT habitat would be impacted by target activity. No new targets are anticipated to be installed on the South Range or expansion alternatives as part of the land withdrawal action. If a new target is installed in the future, separate consultation with the USFWS would be required. Discussion of the anticipated impacts of ordnance on DT will be discussed later in the BA.

WEAPONS DELIVERY AREAS CLEANUP

Weapons delivery areas are periodically cleaned and repaired or removed. This requires personnel to remove unexploded ordnance and debris from the weapons delivery areas on foot and in vehicles. Heavy equipment is used to remove larger material and to grade the target site. Live and spent munitions are removed and unexploded ordnance is detonated. Destroyed targets are removed from the area. If depleted uranium rounds were employed, spent rounds are located and properly disposed. The weapons delivery areas are cleaned, graded and targets are usually replaced and/or rebuilt. All of these actions involve soil disturbance and concentrated vehicular/heavy equipment activity. The original BiOp estimated 971 acres of DT habitat would be impacted by target use and cleanup in the South Range. No new weapons delivery areas are currently being planned for live ordnance use on the Action Area.

THREAT EMITTERS

The USAF has specific selection standards for the placement of conceptual threat emitters. Threat emitters (e.g., radars) must be located within topography that will permit advanced detection to the east and north, which is required to implement the two-axis concept. To reduce overall impacts, the USAF would, to the extent possible, locate threat emitters along existing roads or unpaved two-tracks to minimize the need to construct new access roads. New emitters would only be placed in the South Range and potentially in alternative 3C. Soil disturbance would involve clearing an area approximately 150 ft. by 150 ft. Up to 15 emitters are anticipated to be constructed on the Action Area on the South Range or Alternative 3C. This, coupled with up to four acres of road improvements, would cause up to 11.5 acres of DT habitat being destroyed if all emitter pads and roads were placed in DT habitat. However, emitters and roadway construction/disturbance will be located outside of DT habitat where possible. Each emitter requires a 1.5 kilovolt generator to operate. Electromagnetic radiation (radio waves), microwaves, or lasers may be emitted by some of the emitters.

INFRASTRUCTURE CONSTRUCTION AND MAINTENANCE

Buildings, roads, and equipment staging/storage areas require periodic maintenance or re-configuration (change in the design or layout within existing developed areas and weapons delivery areas in the South Range). New facilities may be constructed. At the present time, the type or location of such facilities is not known, but any new facilities constructed in DT habitat would require formal consultation with the USFWS. The goal would be to locate new facilities in previously developed areas or outside of DT habitat. Improved roads may require repair and the shoulders must be periodically graded to remove invasive weeds and to provide a level surface. Unimproved roads also require periodic grading and repair, especially after significant storm events. Buildings and other infrastructure may require maintenance and even replacement. Other infrastructure requiring maintenance and installation include:

- Scoring towers
- Siting and measurement devices
- Security equipment, fencing, and buildings
- Communication Towers
- Emitters and antennas
- Electrical lines (above and below ground)
- Communication Lines (above and below ground)
- Wells (Ground water)
- Generators
- Convoy turn points

NTTR manages invasive plants in developed areas and along improved roads by periodic mowing, grading and herbicide application. Manual cutting and stump treatment with herbicides is the common method used for controlling salt cedar (*Tamarix ramosissima*). Currently, cleaning of equipment after soil disturbing activities before moving to another site is not required on NTTR.

BORROW PITS

Borrow pits are areas that are excavated to obtain fill material and gravel to maintain roads and support infrastructure. Borrow pits may be installed in various locations on the South Range of the NTTR, but none are currently being planned. These areas tend to be relatively small in area, but involve extensive excavation and heavy equipment movement. The Action Area has 25 borrow pits totaling 536 acres and ranging in size from 1.5 to 130 acres in size (Average of 21 acres) (Figure 7). Of those borrow pits, 21 are in the South Range impacting a total of 494 acres. Soil disturbance and vehicular movements are the major activities involved with this action.

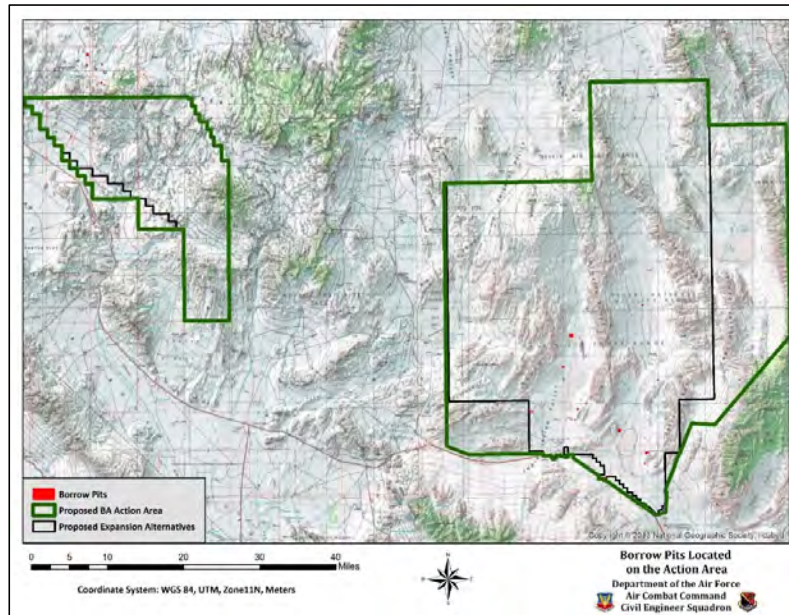


Figure 7. Location of borrow pits on the Action Area.

TEST AND EVALUATION (T&E)

T&E tests and evaluates equipment to determine whether the equipment meets the specifications outlined by government contracts. T&E also determines how the equipment can be used and the environment and tactics best suited for the equipment. These T&E capabilities include an electromagnetic environment that is free of interference, test infrastructure available to measure critical Time-Space-Position Information (TSPI) of weapons and various platforms, and the ability to measure and reproduce T&E environments. Depending on the equipment being reviewed, impacts can vary from soil disturbances to electromagnetic emissions. Most of these activities would be staged in areas that have already been cleared for specific use (emitters, radar, targets, etc.).

BATTLEFIELD TRAINING

Typical battlefield training includes both ground training with the use of air and vehicle operations support. Ground training includes a number of activities, but is generally the movement of small groups of soldiers through interstitial areas (areas between roads, infrastructure, and targets). Troop movements are typically stealthy as units transition from one objective to another. These troops are usually Special Forces teams operating in groups of one to twelve soldiers. To increase the realism of the training events, some training ammunition (blank small-arms), hand flares, smoke grenades, or other training munitions (such as paint balls) are expended during certain operations. In almost all cases, ground training on foot involves movement under covert, clandestine conditions without leaving any evidence of troop presence. Troop movement is usually in small groups and large troop movements impacting large areas would not occur. Land navigation training may occur during daytime or nighttime and usually involves the use of a compass, maps, and GPS. Troop movement on foot may also be used for training in search and rescue, personnel recovery, and reconnaissance. Personnel movement usually occurs on established roads, along mountainous terrain, and washes. Movements would occur in such limited frequency over the same area that the physical impact on the ground would be negligible. All troops potentially encountering DT during movements and operations in DT habitat receive DT awareness training prior to those activities.

Typical troop movement activity includes the following:

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

Ground support vehicles are occasionally integrated into the training to deliver and retrieve the participating troops or provide support and logistics. Ground vehicle movement is normally restricted to the existing road and trail network, but some training integrates the use of all-terrain vehicles (ATVs).

INSERTION/EXTRACTION (DROP ZONE/LANDING ZONE) AND OVERLAND NAVIGATION

As part of battlefield training, troop insertion and extraction points and overland navigation in level, rolling and mountainous terrain is required. Insertion points are established for user groups that conduct training and testing that integrate ground and air operations. Overland navigation between insertion/extraction points may be conducted with or without unmanned aerial systems. Insertion/extraction points are usually unimproved surfaces or clearings located for inserting/extracting paratroops or para-

dropping equipment or palletized supplies. These equipment or supplies are palletized and rigged with multiple automatically deploying parachutes.

Airborne operations associated with these activities include the use of rotary or fixed-wing aircraft for the insertion, extraction, movement, or supplying of ground troops. This could include the delivery or extraction of special forces via an aircraft to an insertion/extraction point or para-drops (delivery of equipment or supplies using parachutes). Some insertion points are used for touchdown and takeoff of fixed-wing and rotary military aircraft. Under the proposed action in Alternative Area 3C this would involve one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an austere (i.e., unpaved) active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. However, it is anticipated that the active runway would be a dirt runway. The training activities would be associated with various aircraft conducting Forward Area Arming and Refueling Points (FAARP) during the training activities. As the name indicates, FAARP consists of two training activities (refueling and munitions loading of aircraft) that occur in austere areas. Current plans are for runways to be located on playas outside of DT habitat, thus impacts to DT and DT habitat are highly unlikely.

Insertion and extraction activities cannot be conducted safely in areas that may contain UXO, so those impact areas on the South Range of the NTTR cannot be used for insertion/extraction activities. Thus, active targets cannot be used for insertion and extraction areas. Areas opened by allowing ready access will allow for these activities to be conducted on the South Range of the NTTR and would potentially occur in DT habitat.

FIRE SUPPRESSION

All of the Action Area is subject to wildland fires ignited by natural or artificial sources. Regardless of the cause of fires, the fires will be suppressed as soon as possible. A wildland fire management plan was prepared by the NTTR which includes a discussion of constraints for fire suppression with respect to the DT (99 Civil Engineering Squadron, 2011). These will be summarized in the Conservation Measures section of this BA.

Alternative 3A

Actions proposed for Alternative 3A (not including Range 77) that could potentially impact DT populations include the following:

- Surface area currently impacted by roads and trails is 177 acres of which 64 acres is in DT habitat (Figure 8, Table 1). Less than 0.1 acres of the alternative has been impacted by other disturbances.
- Construction of up to 25 miles (30.3 acres) of fencing on the proposed boundaries that do not abut the current NTTR boundary. The fencing would be constructed to meet BLM fencing requirements dependent on the topography and wildlife present as outlined in BLM's H-1741-1 Fencing Manual, and the objective of the fencing would be to provide a physical barrier to prevent public access while allowing wildlife passage. For example, if the topography in an area supports bighorn sheep predominantly, fencing would be constructed using BLM H-1741-1 Fencing Manual conducive to bighorn sheep passage. In order to conduct programmatic analysis, the following fencing specifications were used. The fencing would consist of four strands of wire. The bottom strand would be smooth while the three upper wires would be barbed. The maximum fence height would 40 inches. Wire spacing from the ground up would be 16 inches and then spacing between wires would be 6 inches, 6 inches, and 12 inches (i.e., 16 inches, 22 inches, 28 inches,

and 40 inches above ground level) which is the standard for BLM antelope fencing. This action would involve soil disturbance associated with moving equipment to the boundary to install the fence and clearing areas for fence installation, where required. The level of soil disturbance would likely be minimal. The fence would not impede movement of DT. This is the only construction anticipated for this alternative.

- Munitions would not be used in the area
- Road construction and maintenance
- Safety buffer for live weapons deployment on the interior of Range 77
- Ready access as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR
- Insertion and extraction activities as described for the South Range of the NTTR

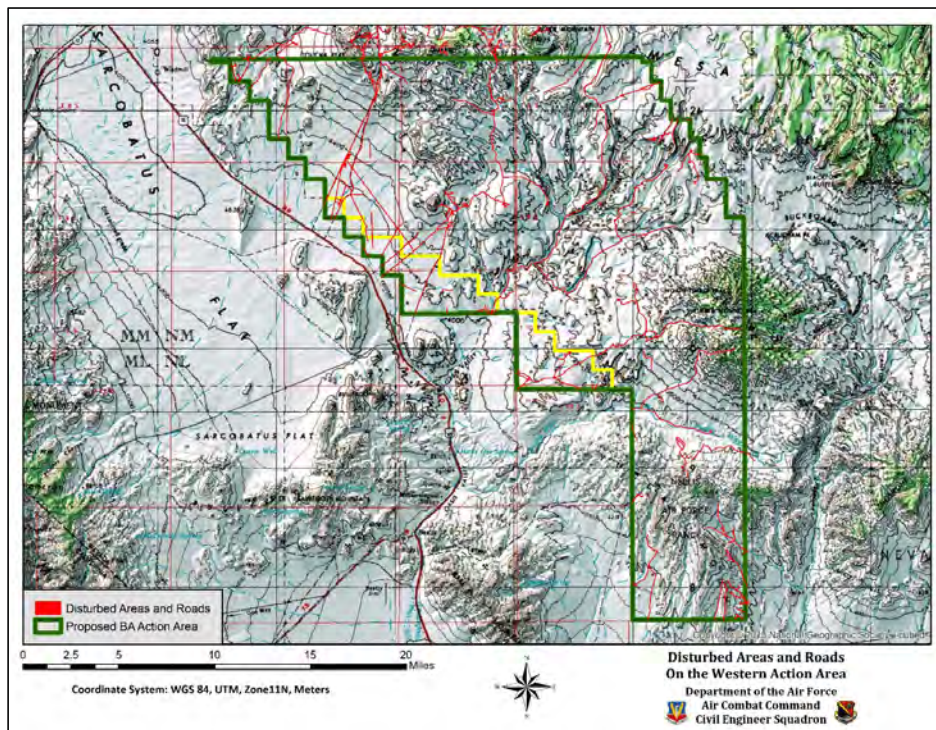


Figure 8. Disturbed areas and roads on the Western Action Area

Range 77

Actions occurring in Range 77 that could potentially impact DT populations include the following:

- Infrastructure maintenance and construction, including monitoring wells, roads, and detention basins. Currently, approximately 473 acres of DT habitat are disturbed in Range 77 of which 417 acres are roads and trails, and 56 acres are other soil disturbances (Figure 8, Table 1).
- Live munitions may be used in the area
- Ready access as described for the South Range of the NTTR

- Threat emitters as described for the South Range of the NTTR
- Test and evaluation as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR
- Insertion and extraction activities as described for the South Range of the NTTR

Alternative 3B

Actions occurring in Alternative 3B that could potentially impact DT populations include the following:

- Currently, approximately 726 acres of DT habitat are impacted by soil disturbance of which 252 acres are impacted by roads and trails and 474 acres are impacted by other soil disturbances (Figure 8, Table 1).
- Depending on topography, construction of up to 30 miles (36.4 acres) of fence along the proposed boundaries of Alternative 3B that do not abut the current NTTR boundary, similar to that described for Alternative 3A. This action would involve soil disturbance associated with clearing areas for fence installation, where required, and a DT monitor would be required if the activity occurred in DT habitat. Holes for the fence posts would be excavated using augers. If the holes remain open overnight or during times when a DT monitor is not present, covers will be placed on them to prevent DT from falling in the hole. Equipment will be transported to the boundary to install the fence via established roads and trails, where possible. Otherwise, off highway vehicles (OHV) would be used. If OHV were required in area supporting DT habitat, applicable avoidance or minimization measures would be used. The level of soil disturbance would likely be minimal. The fence would not impede movement of DT because the first strand of wire is at least 16 in. above the ground surface. This is the only construction anticipated for this alternative.
- Live munitions would not be used in the area
- This alternative will serve as a safety buffer for live weapons deployment on the South Range of the NTTR
- Ready access as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR
- Road construction and maintenance
- Insertion and extraction activities as described for the South Range of the NTTR

Alternative 3C

Actions occurring in Alternative 3C that could potentially impact DT populations include the following:

- Currently, approximately 2,322 acres are impacted by soil disturbance of which 370 acres are impacted by roads and trails and 7.38 acres are impacted by other soil disturbances (Figure 8, Table 1).
- Depending on topography, construction of up to 60 miles (72.7 acres) of fence along the proposed boundaries of Alternative 3C that do not abut the current NTTR boundary, similar to that described under Alternative 3A. This action would involve soil disturbance associated with moving equipment to the boundary to install the fence and clearing areas for fence installation, where required. The level of soil disturbance would likely be minimal. The fence would not impede movement of DT. This is the only construction anticipated for this alternative.
- Insertion and Extraction as described for the South Range of the NTTR. The insertion point would include one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations.

However, it is anticipated that the active runway would be a dirt runway and operational levels would occur at a tempo of 520 take-offs and landings annually. The runway will likely be located outside of DT habitat in a dry lake.

- Road construction and maintenance
- Ready access as described for the South Range of the NTTR
- Battlefield training as described for the South Range of the NTTR. Additionally, the training activities would be associated with various aircraft to include: A-10, C-17, C-130, CV-22, HH-60, and AH-64. FAARP would be used during the training activities. FAARP consists of two training activities (refueling and munitions loading of aircraft) that occur in austere areas such as a dry lake bed.
- Up to 15 threat emitters (as described previously) may be placed in the South Range Action Area, including in Alternative 3C, resulting in an impact of up to 11.5 acres if all emitters and roadways are constructed within DT habitat. As with other actions, an emphasis will be made to place emitters outside of DT habitat.
- Live munitions would not be used in this alternative.

Action Area Description

Topography

The Action Area lies in the Basin and Range physiographic region consisting of a series of north-south trending mountain ranges and intervening basins (Fenneman, 1931). Most of the Eastern Action Area lies in the Mojave Desert with most of the Western Action Area falling in the southern Great Basin Desert (Figure 9). The basins and valleys between the mountain ranges increase in elevation from south to north such that elevation as well as latitude contributes to the decline in thermal regimes to the north and the consequent vegetation change along the basins. This is evident across the entire Action Area where plants communities are dominated by creosote bush (*Larrea tridentata*) in the southern basins and Joshua tree (*Yucca brevifolia*)/blackbrush (*Coleogyne ramosissima*) in the northern basins. General landforms are found within the Action Area and include playas, valleys or basins, foothills or bajadas, and mountain ranges.

The South Range and Alternatives 3B and 3C are found in topography characterized by mountains and valleys running in a north-south direction (Figure 10). Mountain ranges include the Buried Hills, Spotted Range, Pintwater Range, Desert Range, East Desert Range, and Sheep Range. Basins or valleys found in these areas include Frenchman Flat, Indian Spring Valley, Three Lakes Valley, Tikaboo Valley, and Desert Valley. Most of the valleys and bajadas in this portion of the action area support potential DT habitat with the exception of playas and dry lakes. Most notable of the playas in this area include Dry Lake in Alternative 3C, Dogbone Lake and Frenchman Lake in the South Range.

Elevations range from 3,000 ft. MSL in the valleys to over 6,000 ft. MSL in the mountains. Most of Alternative 3A lies in the Sarcobatus Flats. Oasis Valley cuts through the middle of Alternative 3A and Beatty Wash flows southeast of the southern boundary (Figure 11). Major topographic features found in Range 77 include Thirsty Canyon, the Timber Mountains, and the Yucca Mountain Range. Sarcobatus Flats lies along the western edge of Range 77 and Beatty Wash flows through the southern part of Range 77 just north of the Yucca Mountain Range. Most of this area is not topographically attractive to the DT, but potential habitat may be found in Sarcobatus Flats, the Oasis Valley, and Beatty Wash.

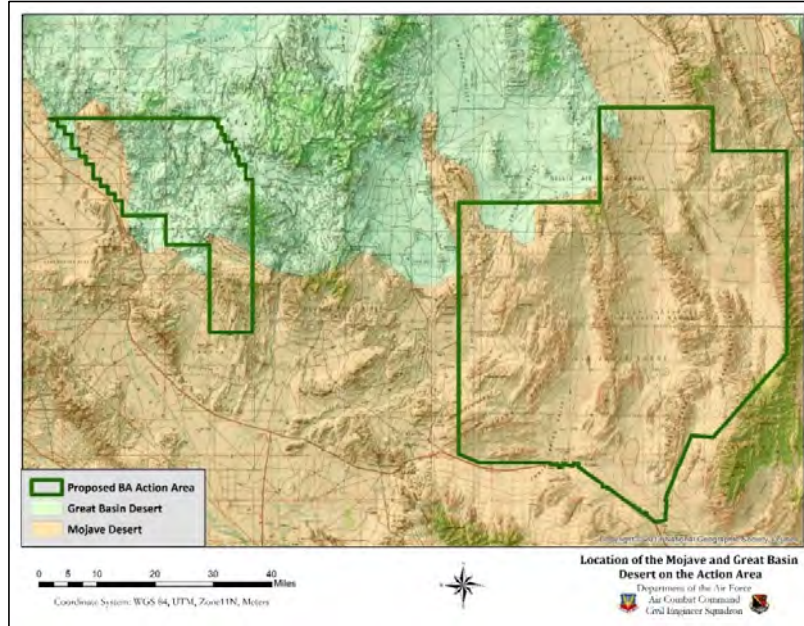


Figure 9. Location of the Mojave Desert and Great Basin Desert on the Action Area

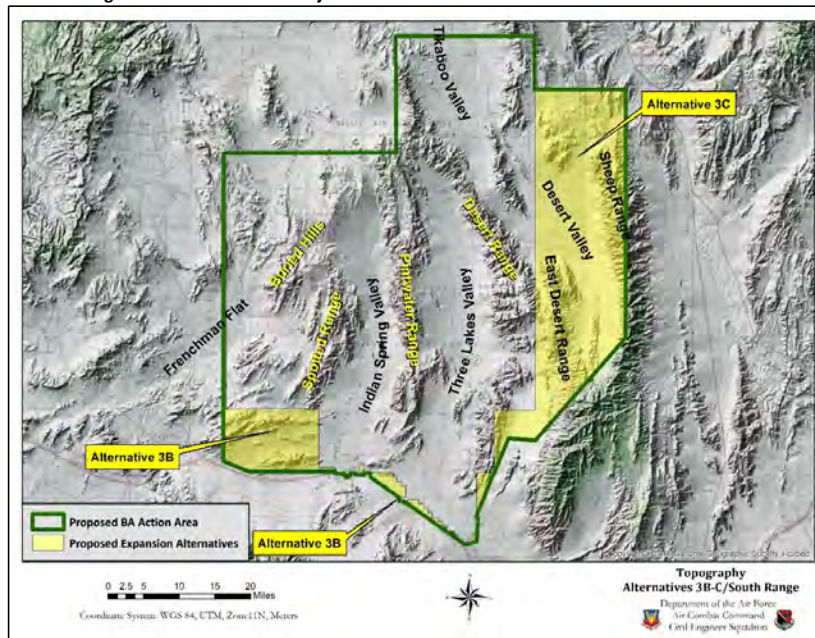


Figure 10. Topographic features found in Alternative 3B, 3C, and the South Range of the Action Area.

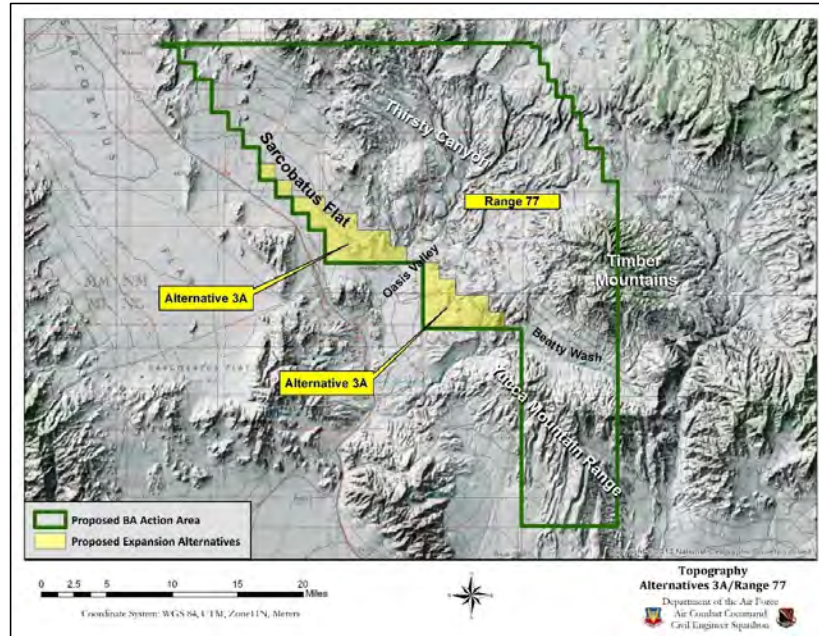


Figure 11. Topographic features found in Alternative 3A and Range 77 of the Action Area.

Climate

Indian Springs (average over 1961-1990) had average high temperatures that range from a 58.5°F in December to a high of 102.6°F in July (Desert Research Institute, 2017). Lows ranged from 21.8°F in December to 65.0°F in July (Figure 12). Alternative 3A and Range 77 are more characteristic of Beatty, which has a mean annual temperature of 59°F. Daily maximum temperatures in the valleys or basins across the Eastern and Western Action Areas often exceed 100°F in the summer months. The project area is very dry with humidity generally ranging from 10-20%.

Precipitation is limited throughout the Action Area (Figure 8). At Indian Springs, the average annual precipitation is about 3.9 in. (Desert Research Institute, 2017). As shown in Figure 8 the mountains receive significantly more precipitation than the valley floors. Annual precipitation ranges from 0-4 in. in the valleys to 14-16 in. on the upper elevations of the mountains. About half of the rainfall occurs in April through September (U.S. Air Force, 2002A). Thunderstorms can be highly concentrated with heavy rainfall and rapid runoff causing excessive erosion, especially on the alluvial fans or bajadas. Regular, strong winds, combined with low relative humidity, yield an annual evaporation rate that exceeds precipitation by as much as 10 times.

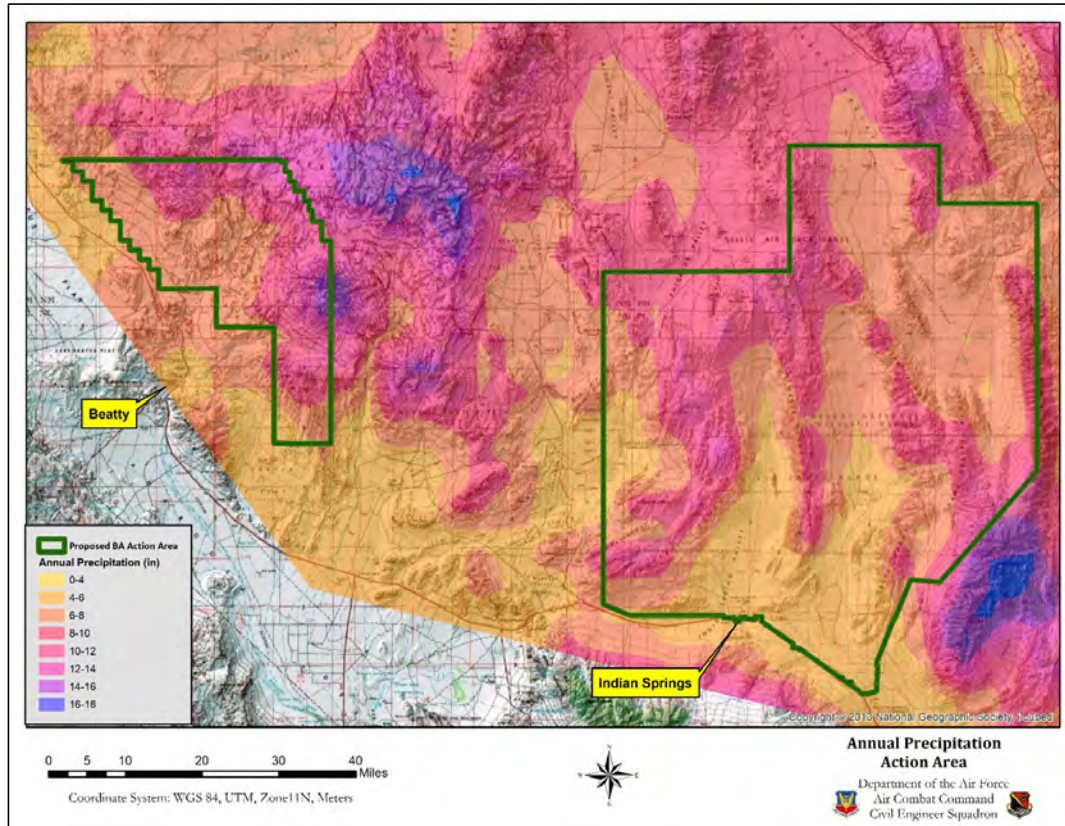


Figure 12. Annual precipitation on the Action Area.

Soils

In general, soils on the Action Area are predominantly alluvial soils derived from carbonate parent material. The B horizons, or subsoils, have a cumelic character due to the substantial influx of silt and clay-sized particles. The soils on the Action Area have not been mapped in detail; however, soils associations have been mapped by the NRCS using satellite photography and other sources and are shown in Figures 13 and 14.

On the Eastern Action Area, soil associations potentially supporting DT populations included the following:

- Cave-Ajo-Cave Family
- Tencee-Weiser-Colorock
- Keefa-Leo-Univega
- Canutio-Cave-Weiser

In the Western Action Area, soil associations that are likely to support DT populations based on their topographic location and structure include the following:

- Yerm-Gynelle-Greyeagle

- Rock Outcrop-St. Thomas-Tecopa
- Zibate-Zalda-Longjim
- Lower elevations of Stewval-Rock Outcrop-Gabbvally
- Handpah-Zadvar-Rattleflat

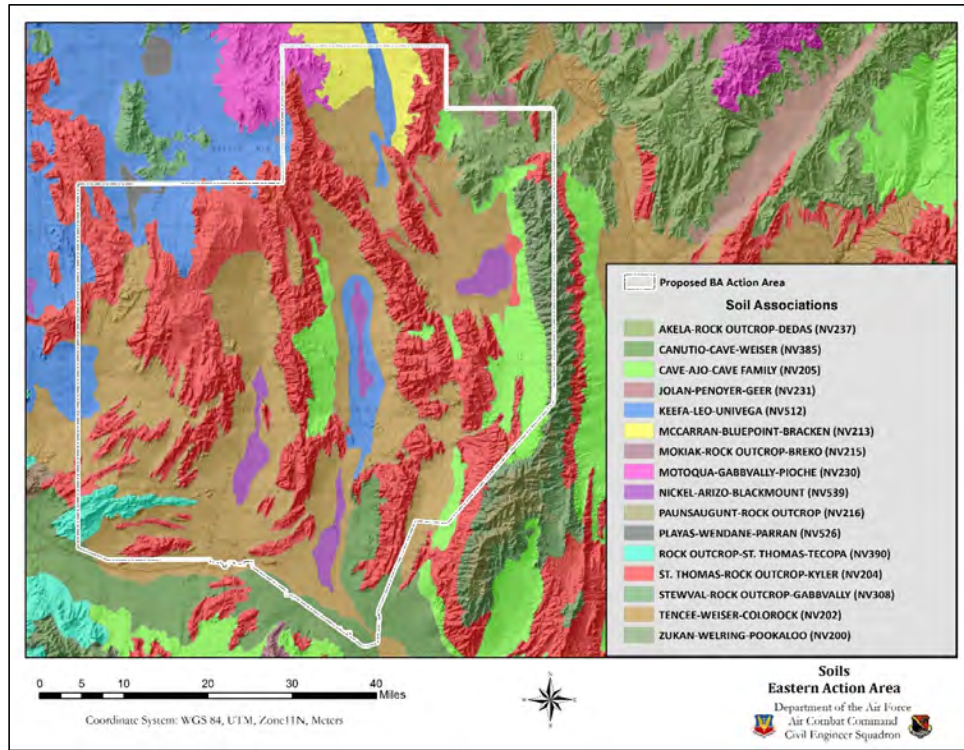


Figure 13. Soil associations found on the Eastern Action Area

Note that these are soils associations which contain several different soil mapping units having a wide variety of textures and structures. Thus, even though an association may be located in a topographically ideal area for the DT, it may not have the soil texture or structure for burrow excavation by the DT. Most of the soil associations that are not listed as likely to support DT populations are characterized by rocky surfaces and mountainous terrain. Soils in the dry lakes are often saline or contain thick accumulations of alkaline mineral salts at or near the surface resulting in areas of sparse vegetation. Desert pavement is also common on much of the Eastern Action Area.

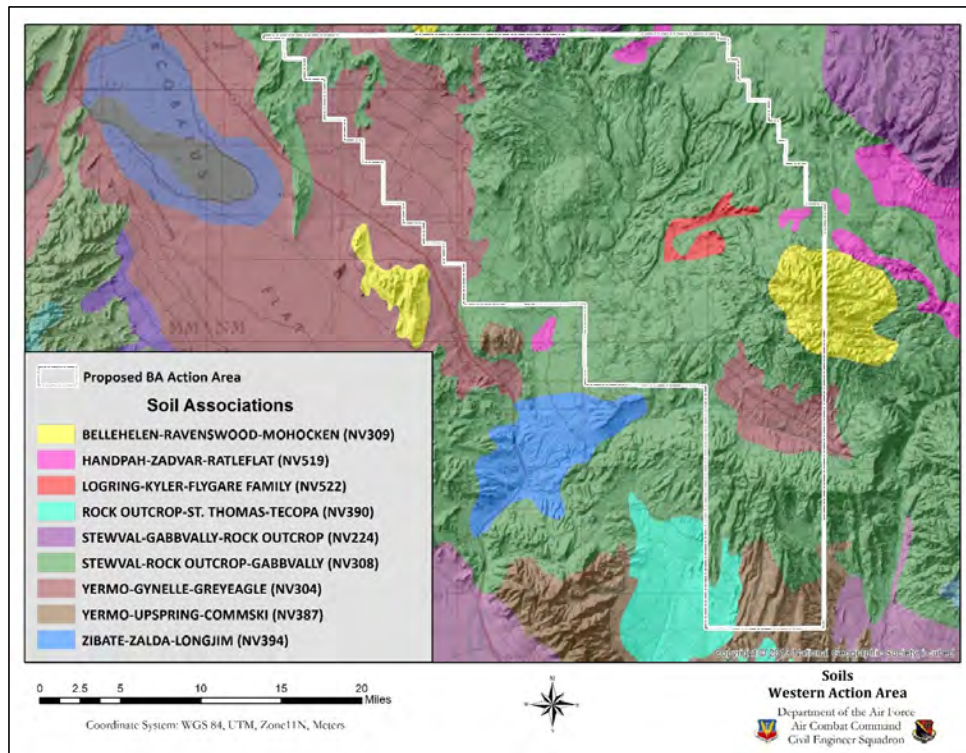


Figure 14. Soil associations found on the Western Action Area

Geology

The mountain ranges in the Eastern Action Area are dominated by Paleozoic carbonate rocks mixed with smaller amounts of quartzite, sandstone, and shale. Valleys in this area contain thick deposits of alluvium originating from erosion of adjacent mountain ranges. Sedimentary rocks originating from lakes and rivers have been deposited in shallow basins and outcrop in several locations within the Action Area, particularly in the southern Spotted Range, the Pintwater Range, and the Desert Range. Older Tertiary valley-fill sediments which were uplifted with the underlying Paleozoic bedrock are exposed on the flanks of the mountains (Nevada Bureau of Mines and Geology, 1997) (Longwell, Pampeyan, Bowyer, & Roberts, 1965).

Volcanic rocks dominate the geology of the Western Action Area. The Timber Mountain Caldera and Black Mountain are the centers of volcanic activity found in the Western Action Area (Cornwall, 1972; Nevada Bureau of Mines and Geology, 1997). The geologic outcrop most likely to support DT on the Action Area are alluvial deposits that dominate the Eastern Action Area and are also found on the west side of the Western Action Area. This formation is typified by relatively deep sedimentary deposits of loam or silt loam soils. They are usually found from the edges of playas to the base of mountain ranges and comprised of alluvial fans or bajadas.

Hydrology

The Action Area is located in a mountain and basin drainage system where most of the hydrology is internally drained. The only areas on the Action Area that drain externally and are connected to navigable waters making them fall under the jurisdiction of the U.S. Army Corps of Engineers are shown in Figures 15 and 16. The Eastern Action Area is almost completely internally drained with the exception of a small portion of the southeastern corner which drains into the Las Vegas Wash and, eventually, the Colorado River (Figure 15). Much of the Western Action Area drains into the Amargosa River, but about one third of the area is internally drained into Sarcobatus Flats which is a closed basin (Figure 16). Local drainage patterns are comprised of alluvial fans having complex networks of braided channels. Surface waters are all ephemeral and the source of hydrology is precipitation. Storm events can result in rapid accumulation of storm water in washes causing local flash floods and extensive erosion. Many of these washes cut through areas covered with rocks and coarse gravel, not conducive to burrowing activities of the DT. The channels often provide exposed banks free of rocks and gravel that are often used by the DT for burrows.

Water flows from the mountains and bajadas into the dry lakes, where it accumulates for short periods of time. Very few perennial water sources are found in the Action Area and most of those are springs and wildlife water developments located in the mountains. Detailed information on the hydrology of the Action Area is discussed in a summary report prepared for the LEIS (U.S. Air Force, 2017A).

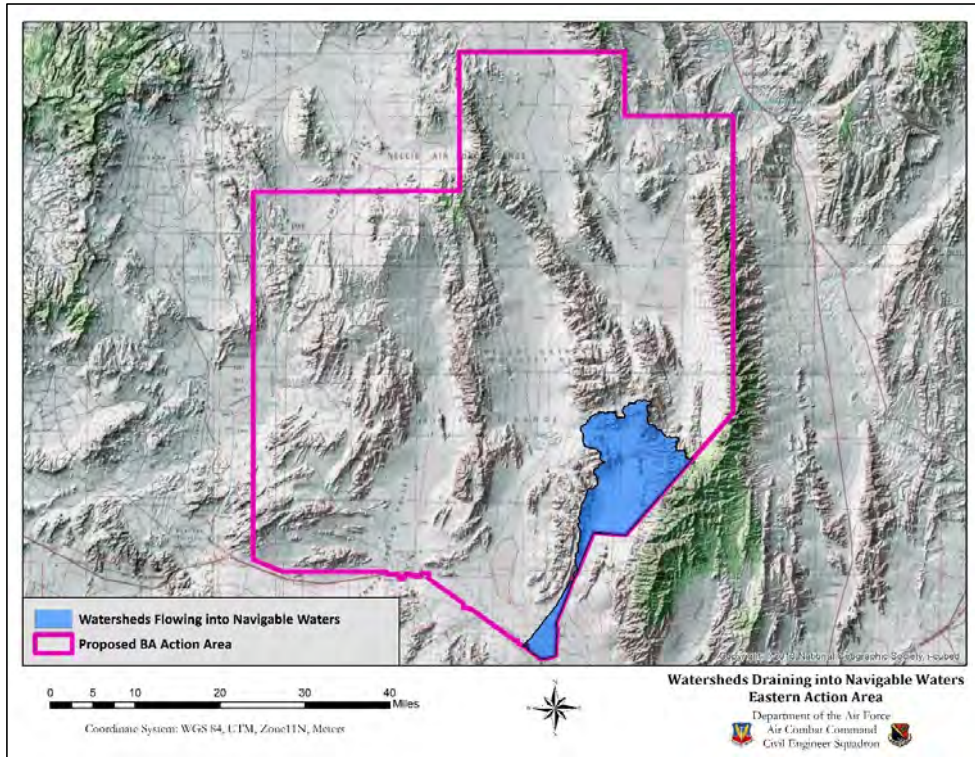


Figure 15. Watersheds on the Eastern Action Area draining externally into navigable waters (Las Vegas Wash/Colorado River). All other watersheds drain internally in closed basin systems.

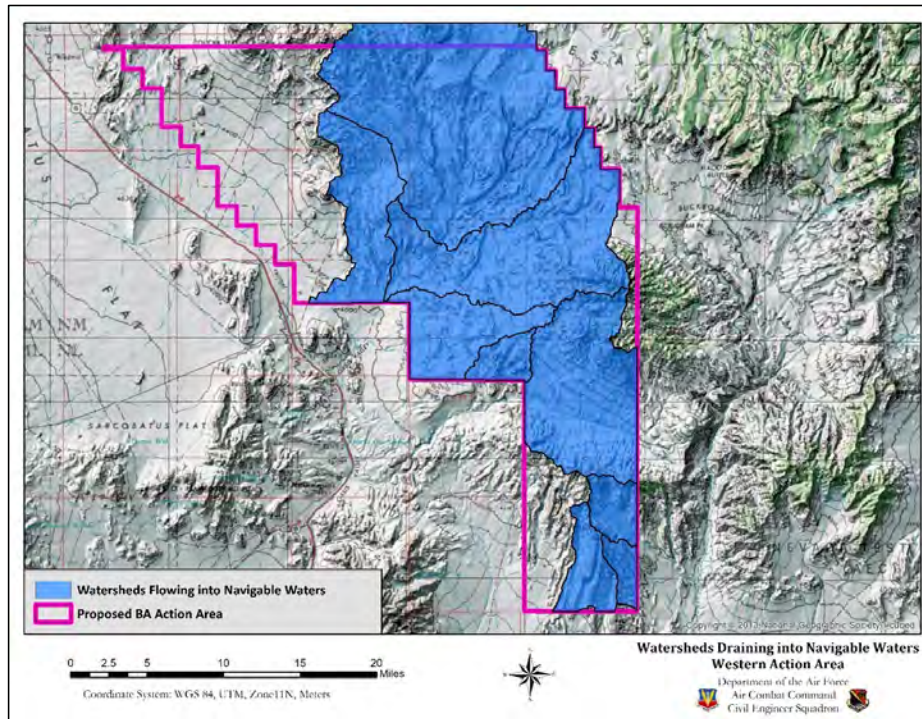


Figure 16. Watersheds on the Western Action Area draining externally into navigable waters (Amargosa River). All other watersheds drain internally in closed basin systems.

Vegetation

Plant communities have been tentatively mapped for the Action Area by the USAF which is provided in detail in a separate report (Figures 17 and 18) (U.S. Air Force, 2017B). This discussion only highlights the plant communities found on the Eastern and Western Action Areas.

Eastern Action Area

The Eastern Action Area mostly lies in the Mojave Desert, where creosote bush (*Larrea tridentata*)/white bursage (*Ambrosia dumosa*), and saltbush communities are the most common vegetation communities on the South Range of the NTTR. Where soils are especially alkaline and clay-rich, as on the margins of dry lake beds (playas) at the lowest elevations, saltbush species, including four-wing saltbush (*Atriplex canescens*) and shadscale (*A. confertifolia*), dominate the vegetation. Saltbush communities, especially near playas, may consist exclusively of these species.

Vast areas of the basins and bajadas in the Mojave Desert, below approximately 3,940 ft. MSL, support plant communities dominated by creosote bush and white bursage. Saltbush species, joint firs or Mormon teas (*Ephedra* spp.), brittlebush (*Encelia farinosa*), desert mallow (*Sphaeralcea ambigua*), cacti (especially prickly pears and chollas [*Opuntia* spp. and *Cylindropuntia* spp.]), and Mojave yucca (*Yucca schottigera*) may also occur in this community.

At higher elevations (approximately 3,940 ft. to 5,900 ft. MSL) blackbrush (*Coleogyne ramosissima*) often is the dominant plant in the community. In addition to blackbrush, this plant community includes joint

Biological Assessment

Nevada Test and Training Range and Proposed Expansion Alternatives

firs, turpentine-broom (*Thamnosma montana*), and littleleaf ratany (*Krameria erecta*). Joshua tree (*Yucca brevifolia*) is another plant establishing significant populations at higher elevations of the creosote bush-white bursage and at most elevations of the blackbrush communities. While it is rarely the dominant species in terms of numbers or cover in these communities, the Joshua tree contributes a significant proportionate biomass in the local area, and its mature height of up to 20 feet contributes to its visual domination over the surrounding low shrubs, most of which grow to less than 3 feet tall.

The sagebrush/pinyon-juniper community comprises a woodland habitat that is present on parts of the Eastern Action Area and is distinctive of the higher elevations of the Mojave and Great Basin Deserts. At these higher elevations, increased precipitation and lower temperatures facilitate the development of this woodland habitat. The dominant species include big sagebrush (*Artemisia tridentata*), single leaf piñon pine (*Pinus monophylla*), and Utah juniper (*Juniperus osteosperma*) in habitats with deeper soils, and black sagebrush (*Artemisia nova*) or dwarf sagebrush (*Artemisia arbuscula*) in areas with shallow, rocky soils. On the Eastern Action Area, scattered populations of Utah juniper may be found. Mormon tea (*Ephedra viridis*), snakeweed (*Gutierrezia* spp.) and rabbitbrush species (*Chrysothamnus* spp.) are common sub-dominants in this woodland. On the Eastern Action Area, the blackbrush and sagebrush/pinyon-juniper communities are more limited in distribution, being restricted to higher elevations than the creosote bush/white bursage and saltbush communities.

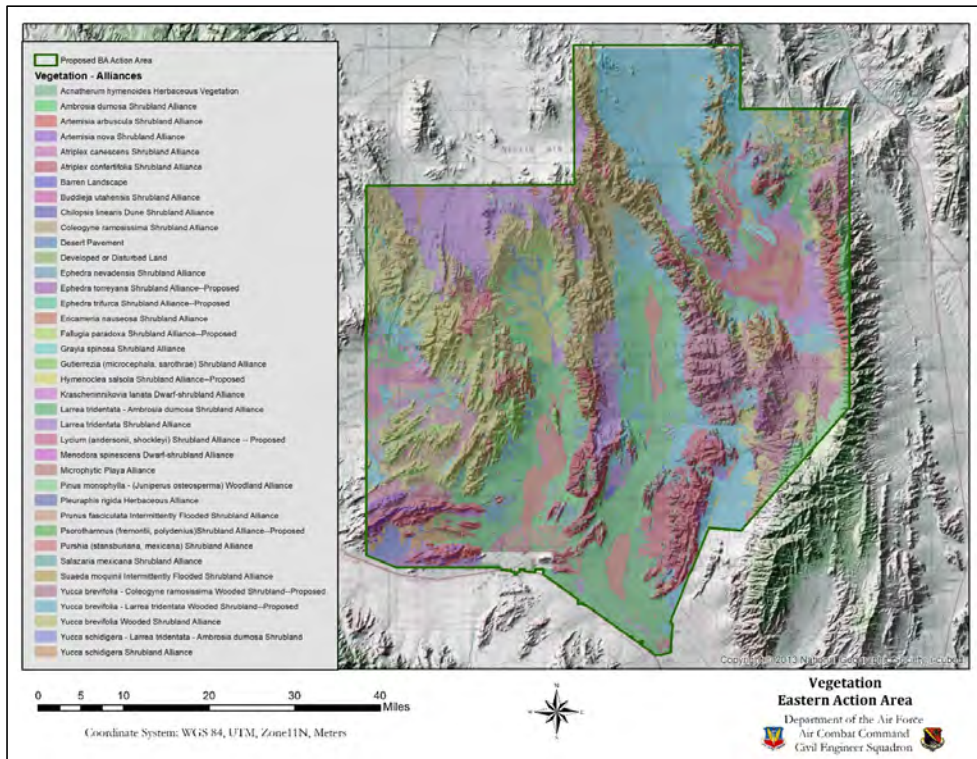


Figure 17. Plant alliances found on the Eastern Action Area.

Western Action Area

The vegetation on the southern half of the Western Action Area is similar to the Eastern Action Area. However, on the northern half of the Western Action Area, vegetation of the basin floors is typified by shadscale and greasewood (*Sarcobatus vermiculatus*). Both salt-tolerant shrubs may occur in relatively monotypic stands, or may be co-dominant with winter fat (*Krascheninnikovia lanata*) and green molly (*Kochia americana*). Intermediate elevation slopes are dominated by various species of horsebrush (*Tetradymia* spp.), rabbitbrush (*Chrysothamnus nauseosus*, *C. viscidiflorus*), hopsage (*Grayia spinosa*), greasewood, shadscale, and budsage (*Picrothamnus desertorum*). With increasing elevation to the north and around the Timber Mountains, Utah juniper and pinyon pine become the dominant overstory with an understory of various species of sagebrush. Other species that occur in this community include rabbitbrush, joint fir, and occasional Joshua tree. Greasewood may occur as a co-dominant with sagebrush. The blackbrush vegetation occurs in the southerly portions of the Western Action Area at intermediate elevations between the shadscale community and sagebrush-pinyon-juniper community.

A vegetation transition zone found between the Mojave and Great Basin deserts occurs on the Action Area, and includes plants from both deserts distributed in a mosaic pattern. Specific indicators of this transition might also be identified. In the existing scientific and technical literature, the author who most directly addressed this issue was Janice Beatley (Beatley, 1976). Beatley identified and described a vegetation transition zone dominated by blackbrush and other plants, such as boxthorn (*Lycium* spp.),

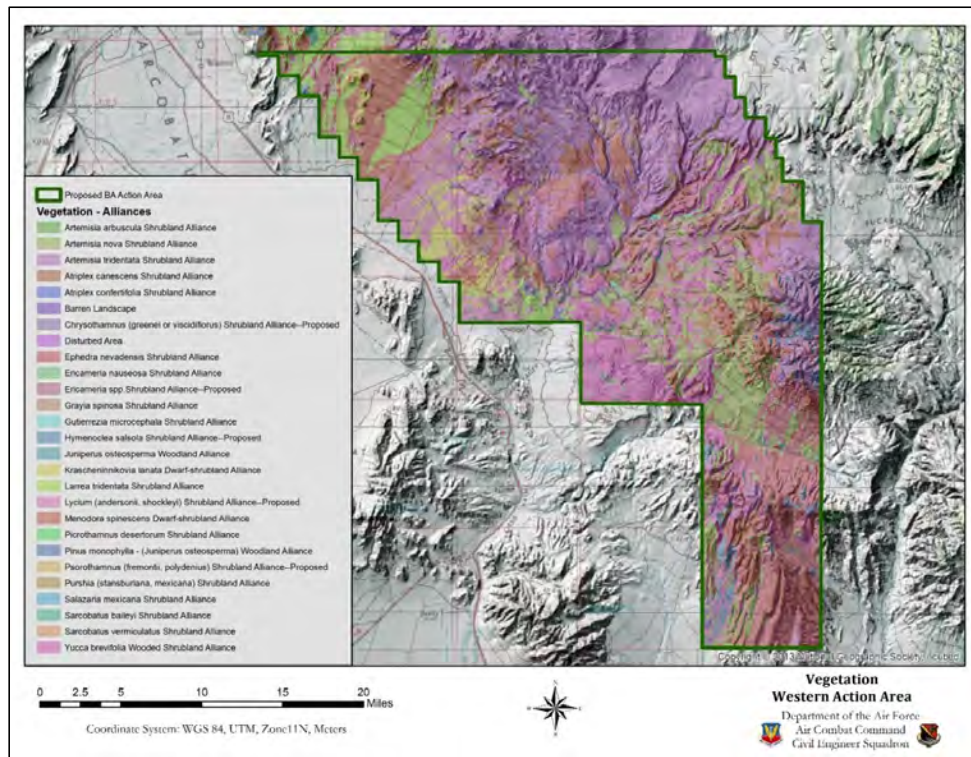


Figure 18. Plant alliances found on the Western Action Area.

hopsage, and saltbush species, located largely on the Nevada Test Site (see also (Beatley, 1975; El-Ghonemy, Wallace, & Romney, 1981)) and occurring on the Western Action Area.

This transition zone represents an important region on public lands because it supports species from different biotic regions. A greater diversity of plant and animal species is likely to be found there, and may harbor unique species. Transition zones serve as corridors for some species and as barriers for others, because the transitional habitats can be optimal for some species while being inhospitable for others.

Wildlife

Beginning in 2005, the NNRP initiated extensive surveys to provide baseline information on wildlife populations on the NTTR. The DNWR also conducted a limited number of surveys on the refuge outside of the South Range of the NTTR. In 2016, golden eagle and migratory bird surveys were conducted by Leidos on the alternative expansion areas. Summary reports of historic and recent surveys that were prepared for the LEIS for the renewal and expansion of the withdrawn land include the following:

- Migratory Birds (U.S. Air Force, 2017C)
- Large Mammals (U.S. Air Force, 2017D)
- Golden Eagle and Raptors (U.S. Air Force, 2017E)
- Special Status Wildlife Species (U.S. Air Force, 2017F)

In addition to these reports, annual project reports have been prepared for the NTTR by the Nellis Natural Resources Program (NNRP) to include large mammals, golden eagles, migratory birds, reptiles, small mammals, and bats. These are available upon request to the NNRP at NAFB.

Of importance to the DT are those species that compete with the DT for forage and species potentially preying on the DT. Probably the greatest competitor for forage is lagomorphs, especially the desert cottontail (*Sylvilagus audubonii*) and the black-tailed jackrabbit (*Lepus californicus*) which are common on the Action Area and forage on many of the succulent, herbaceous annuals preferred by the DT. Several small mammals are also common on the Action Area and may consume some of the forages used by the DT, but most are granivores and do not rely heavily on green vegetation. Predators of the DT (Boarman, 2002) that have been observed on the Action Area include:

- Raptors (Various species including the golden eagle)
- Common Raven (*Corvus corax*)
- Coyote (*Canis latrans*)
- Badger (*Taxidea taxus*)

Species Description

BIOLOGY

The DT is Nevada’s official state reptile and is currently listed by the USFWS as “Threatened”, and classified as a State Protected and Threatened Species by the Nevada Department of Wildlife (NDOW) (Nevada Department of Wildlife, 2012). The Mojave Desert population occurs in both the Mojave and Sonoran Deserts north and west of the Colorado River in southwestern Utah, southern Nevada, southeastern California, and northwestern Arizona (Nevada Fish & Wildlife Office, 2013) (Berry K. , 1989). Currently, five recovery units for the DT have been designated by the USFWS based on geographic boundaries and genetic differences between DT populations. Although the species is listed as merely distinct population segments, it is possible that future regulations may apply to separate subspecies (Digital West Media, Inc., 2013).



DT resting in the shade of a Mojave Yucca.

DTs are long-lived species that have a carapace length of 1.4 inches at birth and reach 11-16 inches when mature. Adult DTs weigh over 10 pounds. Adults have a domed carapace and relatively flat, unhinged plastrons. Their shells are brown to dark brown in color with orange to yellow scute centers. A gular horn is located on the anterior end of the plastron (bottom of the shell) and is pronounced in males. Males tend to have shorter claws, longer and thicker tails, a concave plastron, and large chin glands compared to females (Boarman, 2002).

DTs are slow growing, requiring 13 to 20 years to reach sexual maturity, and have low reproductive rates during a long period of reproductive potential (Turner, Medica, & Lyons, 1984) (Bury, Esque, DeFalco, & Medica, 1994) (Germano D. , 1994). Growth rates are greater in wet years when annual plant production is higher (Medica, Bury, & Turner, 1975). The number of eggs (1-10) as well as the number of clutches (1-3) that a female DT can produce in a season is dependent upon a variety of factors including environment, habitat, availability of forage, drinking water, and physiological condition (U.S. Fish & Wildlife Service, 2011) (Turner, Burge, Robertson, & Hayden, 1986) (Turner, Berry, Rabdall, & White, 1987) (Henen, 1997). As a desert species, DTs tolerate water, salt, and energy imbalances on a daily basis. This ability



DT found on South Range of NTTR

allows them to use unpredictable and ephemeral resources to meet nutritional requirements for survival (Peterson, 1996). However, these stresses can have long term reproductive consequences on individuals and populations.

The activity peak of Mojave DTs occurs in spring (Luckenbach, 1982), where they begin daily foraging around the last week in March or first week in April and are generally aestivating by mid to late June (Jennings, 2002). They are most active in April and May, with the level of summer activity being higher in eastern populations (Averill-Murray, Martin, Bailey, & Wirt, 2002). DTs in the western portion of its range likely spend more time aestivating during summer than those in eastern populations due to the lack of summer rains in the west (Devender, Averill-Murray, Esque, & Holm, 2002). DTs hibernate in their burrows during the winter. On a research site on the northern edge of the Mojave Desert in southwestern Nevada, 98% of individuals hibernated from mid-November to mid-February (Meyer, 2008). Nesting occurs in May and June in the Mojave Desert (Averill-Murray, Martin, Bailey, & Wirt, 2002) (Turner, Burge, Robertson, & Hayden, 1986) (Turner, Medica, & Lyons, 1984) (Wallis, Henen, & Nay, 1999), and slightly later in the Sonoran Desert (Meyer, 2008). Eggs hatch from September to October in the eastern Mojave Desert and August to September in the western Mojave Desert (Averill-Murray, Martin, Bailey, & Wirt, 2002).

Due to the DT being ectothermic (cold blooded), ambient temperatures strongly influence DT activity level. Although DTs can survive body temperatures below freezing (Bailey, Schwalbe, & Lowe, 1995) (Vaughan, 1984) to over 104°F, most activity occurs when body temperatures are 79°F to 93°F (Vaughan, 1984; Rundel & Gibson, 1996). The influence of ambient temperature is reflected in daily activity patterns, with DTs active late in the morning during spring and fall, early in the morning and late in the evening during the summer, and occasionally becoming active during relatively warm winter afternoons (Vaughan, 1984; Rundel & Gibson, 1996).

The herbivorous diet of the DT is also highly variable, but is mostly comprised of grasses and forbs. Although non-native plant species generally do not comprise a major portion of their diet, some can be important components where populations have adapted to changes in vegetative communities caused by soil disturbances or wildland fires. Native or non-native dominant plants found in any location will comprise over 60% of the DT diet with less common plants comprising the remaining 40% (Meyer, 2008). As many as 79 plant species have been listed as part of the DT diet depending on the location (Jennings, 2002; Vaughan, 1984; Martin & Devender, 2002; Esque, 1994). Most of these species are annuals and herbaceous perennials. The forage mainly consists of leaves, stems, flowers, fruits and seeds of species. Within the Mojave Desert populations, diets may include plantains (*Plantago* spp.), milkvetches (*Astragalus* spp.), lupines (*Lupinus* spp.), threeawns (*Aristida* spp.), gramas (*Bouteloua* spp.), evening primrose (*Camissonia* and *Oenothera*), phacelia (*Phacelia* spp.), desert dandelions (*Malacothrix* spp.), big galleta (*Galleta* spp.), and smooth brome (*Bromus tectorum*) (Jennings, 2002) (Vaughan, 1984) (Esque, 1994) (Martin & Devender, 2002) (Ofstedal, Hillard, & Morafka, 2002) (Ernst, Lovich, & Barbour, 1994). Spurge (*Euphorbia* spp.) and narrowleaf silverbush (*Argythamnia lanceolata*), as well as desert shrubs and the pads or fruits of the prickly pear (*Opuntia* spp.), are occasionally important components of the DT diet (U.S. Fish & Wildlife Service, 2011).

DTs spend the majority of their time in a shelter. However, movements of up to 660 ft. per day are common and long-distance movements do occur. The common, comparatively short-distance movements presumably represent foraging activity, traveling between burrows, and possibly mate-seeking or other social behaviors. Long-distance movements could potentially represent dispersal into new areas and/or use of peripheral portions of the home range (Meyer, 2008). Estimates of DT densities vary from less than 13 DT/sq.mi. on sites in southern California (Berry K. H., 1986) to over 800 DT/sq.mi. in the western Mojave (Meyer, 2008). The often-overlapping home ranges of DTs generally average from 10 to

100 acres, although average home ranges are as small as 2.2 acres and as large as 131 acres. Variations in home range sizes are likely due to differences in gender, season, and the availability of resources (Meyer, 2008).

HABITAT DESCRIPTION AND REQUIREMENTS

Optimal habitat for the DT has been characterized as creosote bush scrub in which precipitation ranges from 2 to 8 inches (Nussear, et al., 2009) (Germano, Bury, Esque, Fritts, & Medica, 1994) (U.S. Fish and Wildlife Service, 2009). These plant communities have a relatively high diversity of perennial plants, and high productivity of herbaceous plant (Luckenbach, 1982) (Turner R. , 1982) (Turner & Brown, 1982). Soils must be sufficiently friable for digging burrows, but adequately firm to prevent collapsing of burrows (U.S. Fish and Wildlife Service, 2012). DTs occur from below sea level to an elevation of



DT occupying a burrow

7,300 ft. MSL, but the most favorable habitat occurs at elevations of approximately 1,000 to 3,000 ft. MSL (Luckenbach, 1982). In addition, they occur in cheesebush scrub, blackbrush scrub, hopsage scrub, shadscale scrub, Mojave saltbush-allscale scrub, and scrub-steppe vegetation types of the desert and semi-desert grassland complex (U.S. Fish and Wildlife Service, 1994B).

Within these vegetation types, DTs potentially can survive and reproduce where their basic habitat requirements are met. These requirements include a sufficient quantity and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and overwintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow (U.S. Fish and Wildlife Service, 2012). Throughout most of the Mojave Region, DTs occur most commonly on gently sloping terrain with sandy-gravel soils, scattered shrubs, and abundant inter-shrub space for growth of herbaceous forage plants (Nussear, Esque, Haines, & Tracy, 2007) (W.B. Jennings, 2015). Throughout their range, however, DTs can be found in steeper, rockier areas (Gardner & Brodie, 2000) (U.S. Fish and Wildlife Service, 2012) .

Status of the Desert Tortoise in the Action Area

PREVIOUS ACTIVITIES AND DISTURBANCES AFFECTING THE SPECIES

South Range of the NTTR

Previous activities and general disturbances that have occurred on the South Range of the NTTR include weapons delivery areas (targets), target cleanup, threat emitters, infrastructure construction and maintenance, and test and evaluation. The current BiOp covers all the actions that occurred after 2003 (U.S. Fish and Wildlife Service, 2003). Activities prior to 2003 were approved through individual consultation and BAs specific to those actions. Specific disturbances occurring on South Range of the NTTR include the following:

- 1994: Installation of 15 waste disposal sites
- 1994: Relocation of a cluster bomb unit weapons delivery areas (U.S. Fish and Wildlife Service, 1994A)
- 1999: Installation of borrow pits for road construction and maintenance
- 2002: Construction of a bypass road for accessing a target on the western edge of Dogbone Lake (U.S. Fish and Wildlife Service, 2002)
- 2002: Construction of a High-Technology Test and Training Complex (One sq. mi. footprint)
- 2006: Construction of an equipment pad in the southern part of the South Range of the NTTR
- 2006: Construction of an equipment pad in the central part of the South Range of the NTTR at the Urban Combat Training Center
- 2007: Construction of the Creech Air Force Base (CAFB) bypass road.
- 2008: Construction of new training facilities at Silver Flag Alpha(SFA) on the southeast corner of the South Range of the NTTR
- 2008: Installation of training markers for the Thunderbirds
- 2010: Additional expansion of the training area at SFA
- 2010: Remediation of depleted uranium
- 2015: Demolition of buildings on the east side of CAFB
- 2015: Installation of a new fence for the Mile Range Equipment Storage Area.

Range 77

Previous activities and general disturbances on Range 77 include the following:

- Infrastructure maintenance and construction, including monitoring wells, roads, and detention basins
- Test and evaluation

Alternative 3A

The only actions that have occurred previously on Alternative 3A were road construction and maintenance and public access.

Alternative 3B

Previous actions occurring on Alternative 3B were minor and have mostly occurred on the southern part of the alternative and were associated with the construction and maintenance of U.S. Highway 95 (borrow pits, access roads, etc.). The remainder of this alternative was protected as a potential wilderness area and was impacted by minor road maintenance on previously constructed roads.

Alternative 3C

Because this entire area is included in the DNWR, previous actions on this alternative were minor and associated with road maintenance and construction and public access.

HISTORIC SURVEYS

Presence/Absence Surveys

Sharp, B.E. 1989. Desert Tortoise Survey on the Desert National Wildlife Refuge 1989-1980. U.S. Fish and Wildlife Service, Portland, Oregon (Sharp, 1989). A survey was conducted to determine the relative abundance of DT on the DNWR to update previous surveys conducted by Schneider and Turner in 1981. Surveys were conducted from October 16, 1989 to October 26, 1989 using the triangular survey methodology described by Berry (1984). The survey found 135 DT burrows, 20 scat, eight carapaces, and one live tortoise. All the DT and sign were found below 4,000 ft. MSL.

Zellar, B. L. 1990. Survey of Desert Tortoise Habitat on the Southern Desert National Wildlife Range May 1990. U.S. Fish and Wildlife Service. Las Vegas, Nevada (Zellar, Survey of Desert Tortoise Habitat on Southern Desert National Wildlife Range May 1990, 1990). Random triangular 1.5-mile survey transects were randomly conducted on the south side of the DNWR. During the survey, 20 burrows, two scat, and seven carapaces were observed during a total of 10 transects. It was concluded that the DT density was slightly higher on the southern part of the DNWR compared to the eastern part. Overall, DT density was considered low.

Zellar, B. L. 1994. Survey of Desert Tortoise Habitat near a Gravel Pit on the East Side of US 93. U.S. Fish and Wildlife Service. Las Vegas, Nevada (Zellar, 1994). Four 0.5-mile transects were surveyed around a gravel pit located slightly north of mile marker 19 on US 93. During the survey, two scat and two burrows were observed. It was concluded that the DT density in the area was low and unlikely to be jeopardized by equipment operating in the area currently disturbed by the gravel pit.

Zellar, B. L. 1995. Survey of Desert Tortoise Habitat on the Southwest Boundary of the Desert National Wildlife Range. U.S. Fish and Wildlife Service. Las Vegas, Nevada (Zellar, 1995). The DT survey was conducted along the unfenced boundary of the DNWR on May 10, 1995. The transect covered approximately 3.25 miles on a relatively flat bajada. During the survey, three burrows and one carapace were observed. Overall the DT's density was determined to be low.

Environmental Research Center, Barrick Museum of Natural History, UNLV-Las Vegas. May 1990. A Desert Tortoise Investigation of the Dogbone Lake Site, Range 62, Nellis Air Force Range for the Nellis Air Force Base, USAF (Pratt, 1990). On May 5 and May 12, 1990, an approximate 720-acre area of the Dogbone Lake Site, Range 62, NTTR (located in Section 8, T13SA, R58E, Clark County, Nevada) was searched for the presence of DT activity. Search objects included live DT, DT scat, tracks, burrow entrances, pellets, and other evidence of species activity. Results of the survey uncovered twenty-five active burrows and pellets, fifteen inactive burrows, and eleven disused burrows and pellets. Additionally, five live specimens (two in burrows and three active individuals) and three DT carcasses were observed. In total, 57 signs were identified for a relatively low density of 0.1 signs per acre for the 720-acre project area.

Science Applications International Corporation. March 1, 1991. Mojave Desert Tortoise Survey at Range 63, Nellis Air Force Base, Nevada (Weinstein, 1991). A survey was conducted on February 9th and 10th, 1991, to evaluate a 206-acre parcel of land located in Range 63 (South Range) of NAFB for the presence of DT sign. Range 63, located near Indian Springs, Nevada, is part of both the Desert National Wildlife Refuge (DNWR) and NAFB weapons testing grounds. The survey was conducted under the pro-

toocol recommended by the USFWS. Based on the results of the survey, no “live DT, burrows, carcasses, scat, or tracks” were identified within the surveyed area.

Dames & Moore. January 7, 1994. Report: Desert Tortoise Survey South Range Disposal Sites for Nellis Air Force Base (Dames and Moore, 1994A). In December of 1993, Dames & Moore personnel conducted DT surveys in association with site characterizations of waste disposal sites intended to ascertain whether the presence of waste burial pits had resulted in impacts to soil or groundwater media. Of the fifteen total waste sites, it was determined that only nine site characterizations (all on NTTR South Range) had the potential to impact DT populations or habitat. Subsequent surveys and zones of influence surveys of these nine areas were conducted by qualified biologists, and DT sign was recorded. The surveys did not find any live signs of DT or active burrows; however, possible burrows were identified on two of the zone-of-influence surveys. The condition of the possible burrows indicated that neither had been used for several years, and the overall results of the survey activities indicated that this portion of the South Range of the NTTR was not presently being used by DT. These findings were in agreement with previous surveys which indicated that this particular region is either low-density or unsuitable DT habitat.

Dames & Moore. January 11, 1994. Biological Assessment of the Proposed CBU Target Site at the Nellis Air Force Base Range (Dames and Moore, 1994B). Dames & Moore prepared a BA to address potential impacts to DT populations and habitat resulting from relocating the existing cluster bomb unit (CBU) target area approximately 1.5 miles southwest of its 1994 location. The report noted that previous studies identified in the literature review indicated that DT populations at NTTR are low to moderate (0-99 animals per square mile) and relatively stable under normal base operations. Potential impacts identified by the assessment included: 1) removal or destruction of habitat from explosive detonations; 2) loss of habitat features (i.e. burrows); 3) actual loss of animals from bombing activities; 4) degradation of potential habitat from soil disturbances and noise increases; and 5) disturbance of animals by blast pressures and ground vibrations.

The report further advises that compensation for losses of DT habitat could be off-set by rehabilitating the retired CBU range. Additionally, the assessment recommended that a DT education program be implemented for all employees working at the site and a protocol be implemented for reporting dead DT and transporting injured or ill animals to a veterinarian.

EG&G Energy Measurements. 1994. The Northern Boundary of the Desert Tortoise Range on the Nevada Test Site. U.S. Department of Energy. Las Vegas, Nevada (Rautenstrauch, Brown, & Goodwin, 1994). A DT study was conducted in 1993 to determine the northern boundary of the range of DT on the NNSS. Approximately 210 Miles of transects were walked to make this determination. During the survey, 53 tortoise sign were recorded. Information was used to develop a map of the northern extent of DT habitat. A copy of the map is provided in in Figure 19.

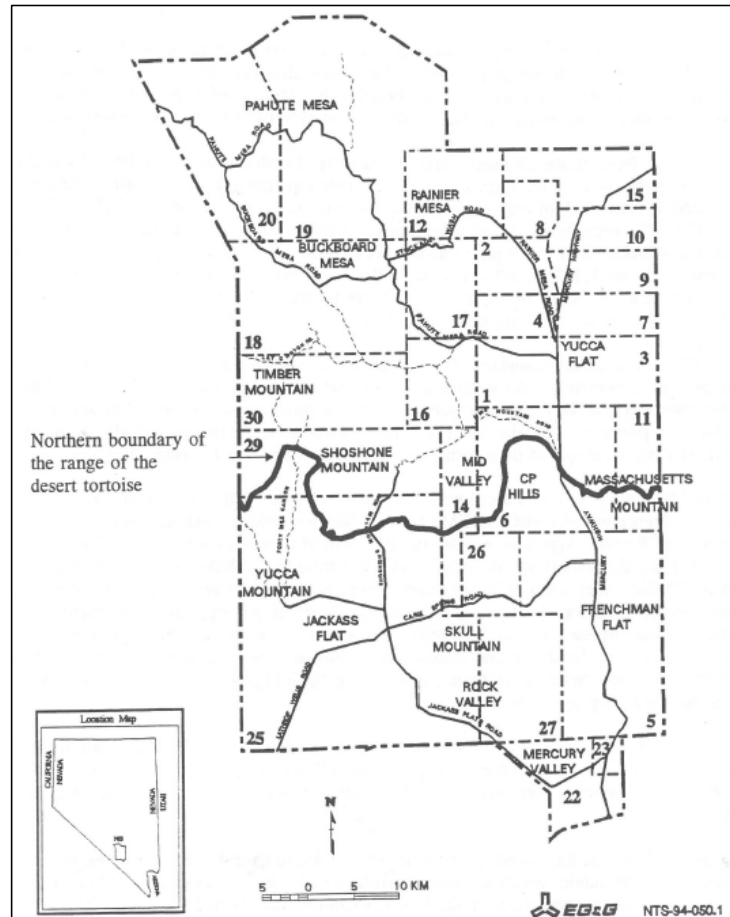


Figure 19. Map of the northern extent of DT habitat on the NNSS as determined in 1994.

U.S. Air Force. July 2002. Biological Assessment for Desert Tortoise (U.S. Air Force, 2002A). This BA was prepared to evaluate whether impacts to DT habitat and populations would occur from implementation of one of three alternatives involving construction of a High-Technology Test and Training Complex (HTTC). The HTTC complex would have a surface footprint of approximately one square mile. Two alternatives (Alternatives 1A and 1B) as well as no-action alternative were evaluated. Alternative 1A (869 acres) is located within Range 62B and Alternative 1B (946 acres) is located in Range 64B; both of which are near the western boundary of the South Range of the NTR and within the Desert National Wildlife Range (DNWR).

Survey activities at the Alternative 1A location indicated that the site supports a low-density DT population. Surveying activities identified three live DT, tracks, 40 burrows, 14 pallets, and two carcasses. The estimated DT density for this location was 5-10 DT per square mile. Minimal sign was recorded at the Alternative 1B project location. Identified sign included only several inactive burrows; however, suitable DT habitat was identified on the project area.

The BA concluded that while some impacts to DT habitat and populations would occur from implementation of the proposed action, based on the results of survey activities, Nellis training initiatives, and planned mitigation activities, the DT population would not be significantly impacted.

National Security Technologies LLC. 2008. Biological Assessment for the Effects of National Nuclear Security Administration Activities at the Nevada Test Site on the Desert Tortoise. Las Vegas, Nevada (National Security Technology LLC, 2008). This BA was prepared to present potential impacts to DT as a result of activities on the NNSS over the next five years. Background information on DT distribution and relative abundance was provided in the BA. Additionally, the VA described proposed actions and mitigative measures to eliminate, reduce, or compensate for negative impacts. A map of DT habitat was provided in indicated that the northern extremity of habitat followed a line just slightly north of Beatty, Nevada. DT density on the project area ranged from very low or none (0-10 DT/sq. mi.) to moderate (44-90 DT/sq. mi.). The conclusion of the report was that the proposed activities would likely impact individual desert tortoises but would not threaten the continuing existence of the species on the NNSS.

Stantec Consulting Services Inc. 2012. US Ecology Nevada Facility—Biological Evaluation. Beatty, Nevada (Stantec, 2012). This biological evaluation also included the results of a DT survey report for the project area, which was located north of Beatty, Nevada. According to both reports, no DT or DT sign were found in the action area. Because the facility itself is fenced and basically DT proof, it was recommended that no impacts to DT would occur and no further action to protect DT would be required.

NNSS. Annual. Ecological Monitoring and Compliance Program Annual Reports. Las Vegas, Nevada. Each year the NNSS prepares an annual report summarizing all of the ecological monitoring and compliance programs conducted for the NNSS. Part of this includes a summary of DT surveys and monitoring. DT populations are continually monitored and clearance studies are conducted for all activities potentially impacting DT populations. Annual reports indicate that DT populations are relatively stable and continue to be at a relatively low density similar to surrounding areas. The northern boundary of DT habitat is still considered the same as that mapped in 1994.

Monitoring/Clearance Surveys

L. Cunningham. May 26 to June 17, 2004. Nellis Air Force Range Desert Tortoise Monitoring Report. Construction of a target by personnel from DynCorp on the HTTC site was monitored for DT from 25 May 2004 to 17 June 2004. Almost all DT and signs were found along the eastern area of the HTTC, where a fan sloped down from low hills and mountain bases, and strips of Galleta grass (*Pleuraphis torr.*) alternated with desert pavement. Highest density appeared to be around the military barracks, where all live DT, active burrows, and a nest were observed. Tracks were common along canals on the east side and a few on dirt roads to the south and to the north of the main city. No DT or signs were found around the playa to the west where an airport and runway were constructed.

The following DT signs were recorded during the monitoring period: one adult female, one adult male, and one juvenile (live DT); one nest with five eggs; one dead DT; two areas of shell fragments; two active burrows; two inactive burrows; and seven sets of tracks.

NNRP. 2006. DT clearance survey for construction of an equipment pad for monitoring mission activities on NTTR in Range 63A. No formal report was written for this survey.

NNRP. 2006. DT clearance survey for construction of an equipment pad for the Urban Combat Training Center in Range 62B. No formal report was written for this survey.

NNRP. 2007. DT clearance survey for construction of the Creech Air Force Base bypass road. No formal report was written for this survey.

NNRP. 2008. DT clearance survey for construction of new training facilities at Silver Flag Alpha. No formal report was written for this survey.

NNRP. 2008. DT clearance survey for installation of Thunderbird training markers. No formal report was written for this survey.

NNRP. 2010. DT monitoring for expansion of Silver Flag Alpha on the NTTR. No formal report was written for this survey.

NNRP. 2010. DT monitoring for remediation of depleted uranium area on the South Range of the NTTR. No formal report was written for this survey.

Works, A. 2010. Desert National Wildlife Refuge Tortoise Survey Report for U.S. Fish and Wildlife Service. SNEI Biological and Botanical Services, Las Vegas, Nevada (Works, 2010). SNEI was contracted by the USFWS to conduct a DT presence/absence survey for a fence line being installed on the southern side of the DNWR. This survey was not located on the action area. The fence was approximately three miles long. No live desert tortoises were observed during the survey, but one pallet and two burrows were observed.

Adams Ecology Inc. August 6-23, 2012. Installation of a Fiber Optics Cable on BLM Land in Indian Springs, Nevada to Service CAFB. The Indian Springs Fiber Optics Installation Project site was monitored for DT as required by the BLM for CAFB. Construction personnel were cooperative and alert to DTs during construction, and no negative incidents occurred. No live DTs or DT sign were observed within the bounds of the project during the time of the monitoring events. A preliminary survey of the project site indicated that the site did not appear to support DT populations. However, monitoring was conducted since the site was located in viable DT habitat. On August 6, 2012, DT biologists conducted a clearance survey to ensure that no DTs were on the project site prior to any vehicles or equipment being moved onto the area. No DTs were observed. Prior to each day's construction activities, the project area was surveyed for DTs. All personnel working on the site were given formal DT training and were required to complete a check list to document the topics covered by the training session. During the entire project life from August 6 through August 23, no DTs or DT sign were observed. Several burrows were identified, but were found to be created by other mammals and not created or used by DTs.

Adams Ecology Inc. January 21, 2015. CAFB Clearance Survey. On January 21, 2015, NNRP conducted a desert tortoise and burrowing owl clearance survey of a project area just outside of the boundaries of CAFB that previously supported a casino, gas station, small strip mall, and RV park. These areas were scheduled for demolition and eventual development and incorporation into CAFB. The clearance survey concentrated efforts on desert tortoise and burrowing owls to ensure that these species would not be impacted by construction activities. Four qualified biologists conducted the clearance surveys in compliance with current USFWS protocol. The biologists walked transects approximately 20 feet apart inspecting all ground surfaces for live desert tortoises, desert tortoise sign, live burrowing owls, and burrowing owl sign. This clearance survey successfully covered 100% of the project area.

During this survey, no live tortoises, tortoise sign, live burrowing owls, or burrowing owl sign were observed. The project area was heavily impacted by public use and development. None of the project area would be considered habitat conducive to either of these species. It was concluded that this area did not support burrowing owl or desert tortoise populations, and any construction activity planned for this project area would not impact desert tortoise or burrowing owl populations.

Adams Ecology Inc. April 28 to May 20, 2015. Mile Range Equipment Storage Area DT Monitoring. The NNRP provided DT monitoring for the installation of a new fence around the equipment storage area in Range 64C, which is located on the South Range of the NTTR. The project began on April 28 and contin-

ued through May 20. Because the site was located in an area adjacent to DT habitat, a monitor was requested to ensure no take of DT. During the monitoring event, all workers were given DT training and the work areas were subjected to clearance surveys at the start of each work day. No tortoises were observed during the project and the work crew was cooperative and in full compliance with the 2003 Programmatic BiOp.

Density and Relative Abundance Surveys

Revegetation Innovations. May 1992. Fighter Weapons Center Range Complex Biological Assessment for the Desert Tortoise (Revegetation Innovations, 1992). Between December 1991 and May 1992, standard transect surveys for DT were conducted at the Tactical Fighter Weapons Center Range Complex. A total of 431 sections comprising 459 square miles (293,760 acres) were surveyed. The BA was conducted to evaluate if expansion of air-to-ground ordnance impact areas would adversely affect DT populations. Surveyors searched for signs of DT activity including live specimens, pellets and burrows, scat, eggshells, drinking and mating areas, and DT tracks. Of the 431 transects performed, evidence of DT activity was present along 110. This number should be considered with caution, however, as the survey transects were conducted during a period of relative DT inactivity, and the survey data may underestimate the presence of DT within the project area. Though the study was unable to determine the precise DT population densities within the project area, survey data indicated that the population densities appeared to be consistent with other areas in southern Nevada. Potential direct, indirect, and cumulative effects to DT populations were unclear from the study; therefore, absent of further data collection, it was concluded that negative and significant impacts would be realized by DT populations in association with the proposed action.

TRW Environmental Safety Systems, Inc. 1997. The Distribution and Relative Abundance of Desert Tortoise at Yucca Mountain. U.S. Department of Energy. Las Vegas, Nevada (TRW Environmental Safety Systems, Inc., 1997). This report summarized DT surveys that were conducted on the NNSS from 1981-1995. Past surveys had indicated that the northern boundary of the distribution of DTs was slightly north of the Yucca Mountain project. It was concluded that the relative density of DT was approximately 25-31 DT/sq.mi. overall, the relative abundance of tortoises was considered low compared to Southern Clark County but similar to that of Nye and Lincoln County.

Bechtel Nevada. September 1998. The Relative Abundance of Desert Tortoises on the Nevada Test Site within Ecological Landform Units (Woodward, Rautenstrauch, Hall, & Ostler, 1998). DT sign-survey transects were conducted in 1996 to estimate the relative abundance of desert tortoises on the NNSS. Approximately 332 transects totaling 552 miles were conducted on 206 ecological landform units which are small areas that are uniform or homogeneous in ecological characteristics. During the survey, 281 DT sign were counted. Results of the survey indicated that 70% of the area sampled was low DT abundance, 29% was low abundance, and 1% was moderate abundance. A map showing the relative abundance of DT on the NNSS was provided.

CURRENT STATUS

NTTR South Range DT Surveys

Methodology

Initiated in 2010 and continuing through 2016, transect surveys were conducted to determine the presence/absence and relative abundance of the DT population on the South Range of the NTTR, as required by the INRMP and the Programmatic Biological Opinion for the NTTR (NPBO). The INRMP will require updating based on the outcome of the withdrawal process. Applicable programmatic BiOp requirements will be incorporated into the INRMP. According to the current programmatic BiOp for the NTTR,

the action area for consultation included only the South Range of the NTTR and not the North Range of the NTTR because “the North Range occurs outside the range of the DT” (USFWS File No. 1-5-02-F-522). This is the same assumption associated with this BA. The goal of the survey was to provide the USAF with a map showing the relative abundance and general location of DT populations on the South Range of the NTTR. With the exception of project specific surveys as required by the current programmatic BiOp for the NTTR and summarized in the “Historic Surveys” section of this BA, the last comprehensive DT surveys that were conducted for the NTTR were located on the South Range in 1992. These surveys were relative abundance surveys that indicated that the DT population was low density in areas that supported DT. The current relative abundance surveys are being conducted for the preparation of the Range Renewal in 2021 and to re-evaluate suitable habitat in accordance with the current programmatic BiOp for the NTTR. These surveys were a modification of the protocol issued by the USFWS DT Recovery Office, titled 2010 USFWS DT Pre-Project Survey Protocol using relative abundance transects as described by Berry and Nicholson (1984). The methodology was developed with informal coordination and approval by the Las Vegas Office of the USFWS and the Natural Resources Manager of NAFB. All surveys were conducted during the active season of DT (Table 1), but scheduling was unpredictable and was subject to access approval by the USAF based on security and safety issues inherent on a secured USAF facility.

The survey method is used to classify areas according to abundance categories, which are 0-20, 20-50, 50-100, 100-250, and greater than 250 DT/sq.mi. For the surveys on the South Range of the NTTR, the first class was further divided into 0-5 (DT populations are very low density or may not be present) and 6-20 (Low abundance). Past surveys by Woodman indicate that this method is a reasonable measure of the actual abundance category for areas (Woodman, 2006; Berry & Nicholson, 1984). The method involves two steps:

1. Observing and recording the types and numbers of sign along a transect
2. Conversion of sign counts to DT density

For this method, two parallel 0.75-mile belt transects that were 30 ft. wide and approximately 100 ft. apart were walked by qualified DT biologists. Thus, approximately 2.5 acres were surveyed per transect (Total of 5.0 acres). The survey was designed to cover all DT habitat previously mapped by the USAF and approved by the USFWS as DT habitat in 2009. Each group of two transects totaling 1.5 miles of transect were walked per square mile. The square miles covered by each group of two transects were arranged by Section, Township, and Range as designated on USGS topographic maps. Thus, within each section, 1.5 miles of transects (5.0 acres) was surveyed. During the survey, all DT sign was recorded including live DTs, scat, burrows, pellets, and DT carcasses. Photographs of all live DT were taken, along with any other sign that was noteworthy. If necessary, an adjustment was made to convert total sign to Total Corrected Sign (TCS). For example, if a live DT was observed and it was in a burrow with scat, this was listed as three total sign (live DT; scat; burrow) and one TCS. This rarely occurred on the South Range of the NTTR due to the apparent low density of the DT population.

A Garmin GPS unit was used to record the location of the start, middle, and end of each transect in WGS 1984 UTM Zone 11N Meters projection. Additionally, the location of any observed sign was recorded on the GPS. The GPS was also used to ensure that the transect was walked in a relatively straight line, usually in a north/south direction. Some townships and ranges were smaller and oddly shaped if they occurred near the edge of the mapped DT habitat, usually near mountains. This resulted in the shape of the transect being modified to fit the area.

Calibration transects were not used for this study. According to Woodman (2006), most biologists have a range of calibration coefficients from 8.9 to 12.1. Woodman has been using a calibration coefficient of 10 since 1983 and the same coefficient of 10 was used for these studies. Estimated DT abundance was

calculated by multiplying the TCS by the calibration coefficient, providing an estimate of DT per square mile. Transects were walked during the active season of DT (April to May; September to October) with the dates being modified each year to compensate for seasonal differences in temperature. Transects were initiated in 2010 and were nearly completed by 2015. Table 2 and Figure 20 show the surveys conducted each year of the project.

To approximate the density of DT for the South Range of the NTTR, the length of transects (592.5 miles) was multiplied by the average width of the transect (30 ft.) to provide a total area surveyed (2,155 acres or 3.37 sq.mi.). Density was then estimated by dividing the total live DT observed by the area surveyed and adjusted by assuming 90% detection (U.S. Fish and Wildlife Service, 2016). This is a raw estimate that was used for a rough comparison to densities determined for the Eastern Mojave Recovery Unit. Methodology used for this project did not provide the information required to calculate density using standard procedures described by the USFWS (U.S. Fish and Wildlife Service, 2016) because the study was not designed for that purpose.

Table 2. General information on the DT surveys conducted on the South Range of the NTTR

Year	Dates of Surveys	Miles of Transects Surveyed
2010	April 24-25 May 9 May 16 October 9-11	138
2011	October 9-10	67.5
2012	April 14-15 April 21-22 September 22-23 October 6-8	138
2013	April 28 September 21-22	57
2014	April 5 April 12 April 27 September 27-28	63
2015	April 4-5 April 12 April 18-19 May 23-25 September 26 October 10-12 October 24-25	129
2016	April 2-3 May 15 May 21-22 September 3 September 11	57
Total	47 Days	649.5

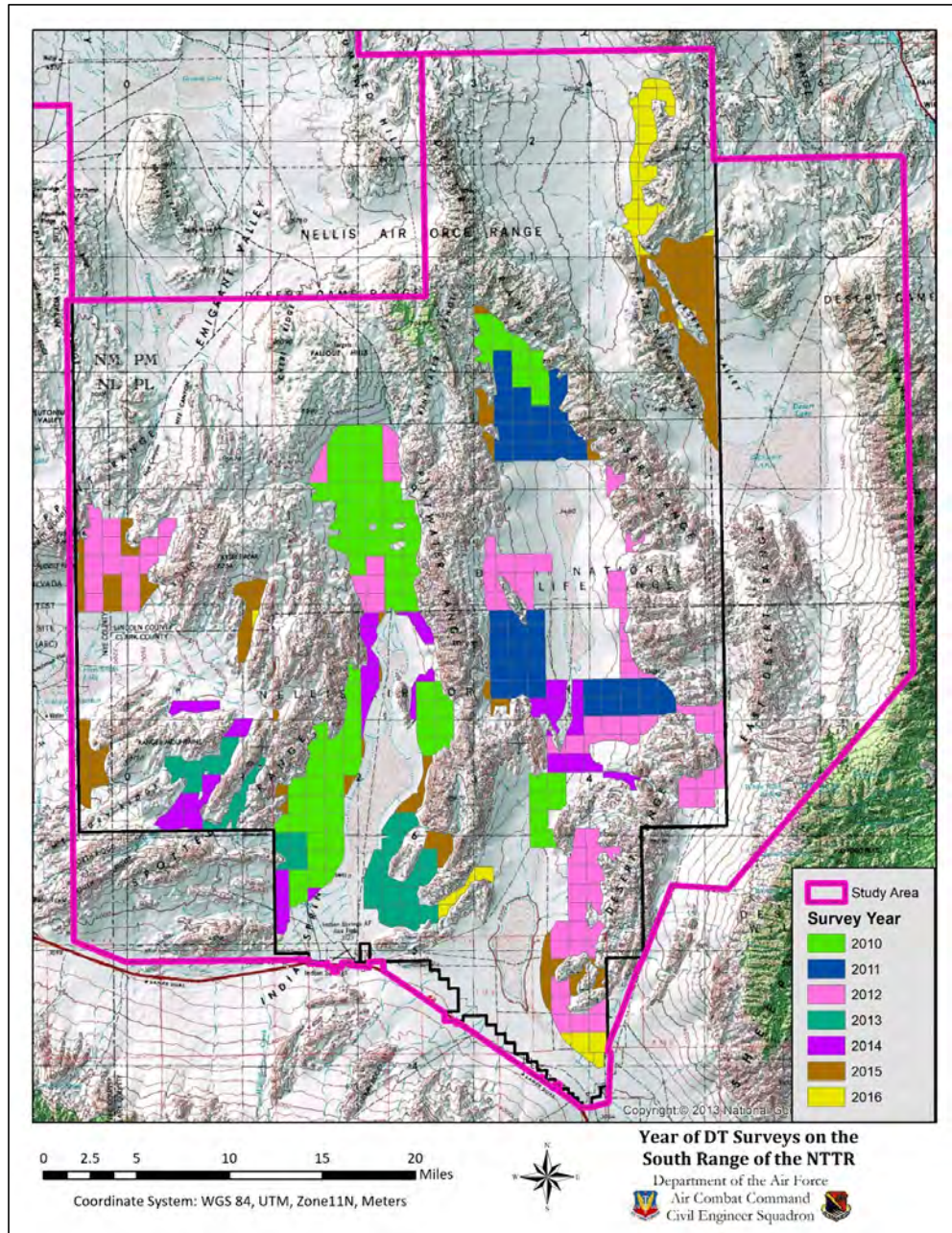


Figure 20. Years that DT surveys were conducted on the South Range of the NTTR.

Burrows and pallets were evaluated according to condition as follows:

1. Active w/live DT or recent DT sign
2. Good Condition; Definitely DT and recently used
3. Deteriorated; Definitely DT
4. Deteriorated; Possibly DT
5. Good condition; Possibly DT

Scat was evaluated as follows:

1. Wet or freshly dried; Obvious odor
2. Dried w/ glaze; some odor; dark brown
3. Dried, no glaze or odor; Signs of bleaching, tightly packed
4. Dried; Light, light brown to pale yellow loose material; scaly appearance
5. Bleached; or consisting only of plant fiber

Carcasses and time of death were evaluated using the following criteria as modified from Woodman and Berry (1984) and Averill-Murray (2000):

1. Fresh or putrid (Time of Death <1 year)
2. Normal color; scutes adhere to bone (Time of Death <1 year)
3. Scutes peeling off bone (Time of Death = 1-2 years)
4. Shell bone is falling apart; Growth rings on scutes are peeling (2-4 years)
5. Disarticulated and scattered (>4 years)

If a live DT was encountered, the following parameters were measured:

1. Median carapace length
2. Sex
3. Approximate age
4. Condition

An example of the field form used for DT surveys is provided in Figure 21.

Health Report: Relative Abundance Survey Data Sheet

Date: _____ Location: _____ Observers: _____

Township: _____ Start Time: _____ Start Time: _____ GPS Start Point #: _____ GPS ID: _____

Range: _____ End Time: _____ End Time: _____ GPS Mid Point #: _____

Section: _____ Dried Carcass: _____ Precipitation: YES / NO GPS End Point #: _____

Burrow Condition Codes:
 1. Active w/live DT or recent DT sign
 2. Good condition; Definitely DT and recently used
 3. Deteriorated; Definitely DT
 4. Deteriorated; Possibly DT
 5. Good condition; Possibly DT

Scat Condition Codes:
 1. Wet or freshly dried; Obvious odor
 2. Dried w/ glaze; some odor; dark brown
 3. Dried, no glaze or odor; Signs of bleaching, tightly packed
 4. Dried; Light, light brown to pale yellow loose material; scaly appearance
 5. Bleached; or consisting only of plant fiber

Shell Bone Condition Codes:
 1. Fresh or putrid
 2. Normal color; scutes adhere to bone
 3. Scutes peeling off bone
 4. Shell bone is falling apart; growth rings on scutes are peeling
 5. Disarticulated and scattered

LIVE TORTOISE							
#	GPS PT #	Easting	Northing	Time	Tortoise location (in burrow, in tortoise stomach upon site of burrow opening, not in burrow)	Approx MCL (Minimum 7.0)	Existing tag # and color, if present
1							
2							
3							

TORTOISE SIGN (Burrows, scat, carcasses, etc)						
#	GPS PT #	Easting	Northing	Type of Sign (Burrows, scat, carcasses, etc)	Condition Code	Description / Comments / Habitat
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Figure 21. Form used for entering data collected during the relative abundance surveys on the South Range of NTR.

RESULTS

As of the end of 2015, approximately 73% of the DT habitat of the South Range of the NTTR had been surveyed. Of the remaining 27%, 24% is inaccessible to surveyors due to safety and security issues. Thus, only 3% of the habitat remains to be surveyed. A total of 270,860 acres were to be sampled on the South Range of the NTTR. As of the end of 2015, 196,441 acres have been sampled. Figure 20 shows the areas that were surveyed each year of the project.

Table 3 shows the condition class of burrows that were observed during the South Range surveys. Seventy-nine active burrows (451 inactive or abandoned) were observed during surveys on the South Range of the NTTR. During the surveys, 39 carcasses of various age classes were observed and recorded (Table 4).

Table 3. DT burrows observed during relative abundance surveys on the South Range of the NTTR

Condition Class	Description	Number of Burrows
1	Active w/live DT or recent DT sign	79
2	Good Condition; Definitely DT and recently used	209
3	Deteriorated; Definitely DT	141
4	Deteriorated; Possibly DT	61
5	Good condition; Possibly DT	40

Table 4. DT carcasses observed during relative abundance surveys on the South Range of the NTTR

Class	Time of Death	Number of Carcasses
1	<1 year	1
2	<1 year	6
3	1-2 years	6
4	2-4 years	9
5	>4 years	17

This indicates a relatively even distribution of mortality over time. However, no real conclusions can be made since the surveys were not designed to determine mortality rates.

Seventeen live tortoises were observed during the 2010-2016 surveys (Figure 22). The locations of observed DT sign other than live DT and carcasses as recorded for the South Range of the NTTR are shown in Figure 23. Figure 24 shows the areas that have been completed and the areas remaining to be surveyed as of the end of 2015 (2016 data is not available). The areas shaded in red represent areas that are inaccessible to surveyors due to safety and security issues. The relative abundance surveys indicate that the majority of the South Range of the NTTR supports a low abundance of DT based on the density classes developed for the survey (Figure 24 and Table 5). Of the areas that have been surveyed thus far, approximately 88% were classed as habitat with a low abundance (6-20 DT/Sq.mi.) or areas where DT may not be present (0-5 DT/sq.mi.). The remaining 12% supports moderate to high abundance of DT. If the total number of live DT is divided by the total area surveyed (30 ft. x 592.5 mi. or 3.37 sq.mi.), the estimated density of DT on the South Range of the NTTR is approximately 5.2 live DT/sq.mi. or 5.8 DT/sq.mi. correcting for 90% detection. This is lower than the average density for the Eastern Mojave Recovery unit where the average DT density in 2007 was estimated to be 15 live DT/sq.mi. (U.S. Fish and Wildlife Service, 2010). However, the density is comparable to the estimates for 2015 and 2016 for the Eastern Mojave Recovery Unit, which were 4.9 and 7.0 DT/sq.mi., respectively (U.S. Fish and Wildlife Service, 2016). These field surveys support past surveys conducted in 1991-1992 that indicated that most of the South Range of the NTTR supported low density populations of DT (Revegetation Innovations, 1992). The 1992 survey found evidence of DT in 110 of 431 (26%) transects. The 2010-

2016 surveys found 201 of 443 transects (45%) showing evidence of DT. This indicates that, based on observed DT sign, the DT population on the South Range of the NTTR is showing a trend towards an increase in size and is comparable in density to populations in the Eastern Mojave Recovery Unit.

Table 5. Relative abundance of DT on the South Range of the NTTR

Density (DT/sq. mi.)	Abundance Class ¹	Area (acres)	Percent of Surveyed Area (%)
0-5	DT May Not Be Present	105,649	53
6-20	Low Abundance	69,295	35
21-50	Moderate Abundance	18,903	10
51-100	Moderately High Abundance	4,653	2

¹Abundance classes as described by Berry and Nicholson (1984) and modified by Woodman (2006).

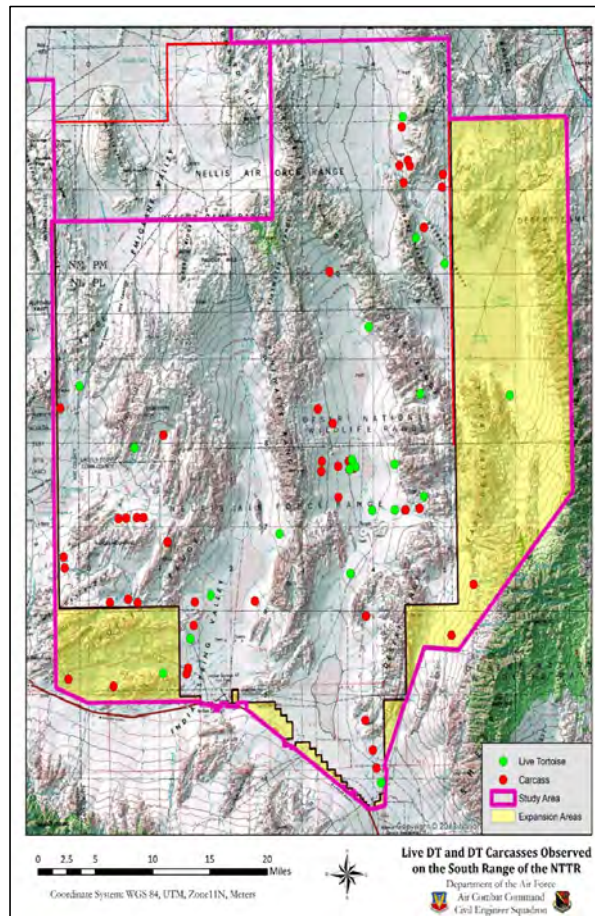


Figure 22. Live DT and DT carcasses observed on the South Range of the NTTR. Note that observations of DT in Alternative 3C were incidental during vegetation and migratory bird surveys.

It is important to note that these surveys were not designed to provide accurate estimates of DT density, but are only used to calculate relative abundance. The USFWS has developed standard methodologies to determine densities more accurately and those methods will be used on areas where the USAF activities result any disturbances (especially soil disturbance or habitat removal) that could impact DT. The method used for the South Range of the NTTR survey was the best that could be accomplished during the active DT season, in a large survey area, and with issues involved in scheduling surveys within the constraints of safety, security, and military activities.

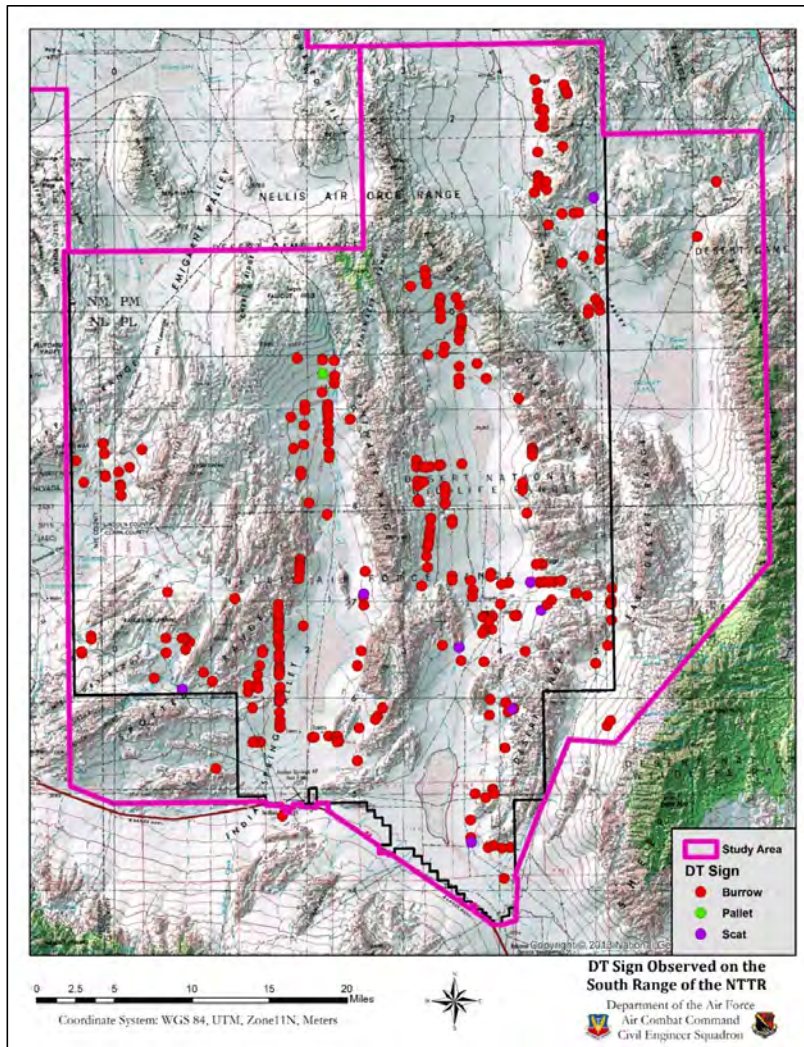


Figure 23. DT sign observed on the South Range of the NTTR. Note that observations of DT in Alternative 3C were incidental during vegetation and migratory bird surveys.

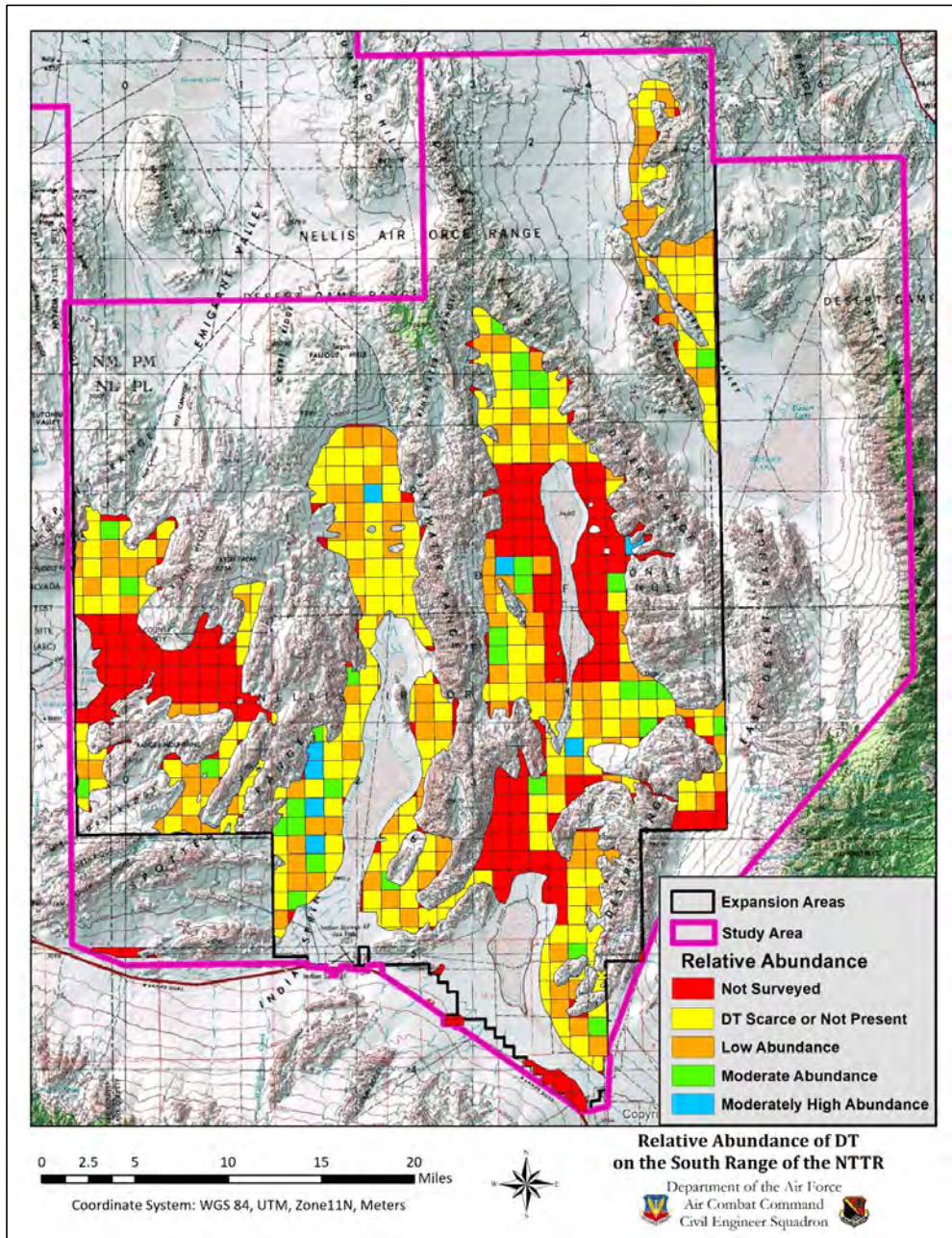


Figure 24. Relative abundance of the DT on the South Range of the NTTR.

DT Surveys on the Expansion Alternatives

Formal DT surveys have not been conducted in the expansion alternatives. Because of the size of the area encompassed by the expansion alternatives, the USAF has coordinated with the USFWS to develop habitat models based on vegetation and other parameters to determine the potential location of DT populations and to measure potential impacts to those populations. This information is provided in the Model Section of this BA. If the expansion alternatives are incorporated into the withdrawn land, field surveys (100% coverage) will likely be required by the USFWS for actions by the USAF that may affect DT or its habitat. While other wildlife and vegetation surveys were being completed on the expansion areas in 2016, incidental sightings of DT and sign were recorded. When such sightings occurred, a GPS point was taken along with condition and any other information that could be gathered. During vegetation surveys and migratory bird surveys in Expansion Alternatives 3B and 3C, two live DT were encountered, while 5 carcasses and 6 burrows were observed (Figures 18 and 19). No DT or DT sign were incidentally observed in Expansion Alternative 3A during vegetation and migratory bird surveys conducted in 2016.

USFWS Approved DT Habitat Map for the South Range of NTTR

Beginning in 2005, the NNRP conducted several helicopter surveys to map and characterize DT habitat on the South Range of the NTTR. Habitat was determined as a factor of various features including geology, soils, and vegetation as well as slope and topography. The map was finalized in 2009 and reviewed by the USFWS at that time. Later, the USFWS accompanied the Natural Resources Manager on a helicopter tour of the South Range of the NTTR to finalize the map, which was officially approved by the USFWS on August 27, 2009. Figure 3 is the map approved by the USFWS. It was agreed that any military mission activities impacting areas shown as potential DT habitat would require the following:

- Provide desert tortoise awareness training to anyone working in, or traveling through potential desert tortoise habitat.
- Impose a speed limit of 25 miles per hour in desert tortoise habitat and that speed limit signs be posted on roads that enter tortoise habitat. Ensure that these speed limits are enforced.
- Rehabilitate disturbances of desert tortoise habitat and/or pay a per-acre remuneration fee.
- Conduct clearance surveys for desert tortoises or construct tortoise exclusionary fencing for actions in potential tortoise habitat.

All other actions not in DT habitat would not require monitoring or coordination with the USFWS.

Range 77

No DT surveys have been conducted in Range 77. This area will be included in the DT modeling effort using recent vegetation maps created for the area.

Desert Tortoise Habitat Range Model

Two different habitat mapping models were completed for this BA to delineate areas where military operations could potentially impact DT populations. The intent of the modeling effort was to develop a map to determine areas where DT surveys would be required if DT habitat was potentially affected by military actions. One of the habitat models was a habitat suitability model, where information for the model is derived from documented data on the habitat preferences of each species. The second model was a probabilistic model, Maxent, which uses actual observation points of a species to determine suitability of habitat. Available GIS layers were used to measure the suitability of the cumulative environment to accommodate the habitat preferences of DT. Details on the development of each of these models and the final model used to predict potential DT habitat are provided in a separate report (Nellis Air Force Base, 2017).

A meeting was held on July 18, 2018 at the Las Vegas Office of the USFWS to discuss the model parameters. Changes were made in the parameters and the Habitat Suitability Model was selected for use in the BA.

HABITAT SUITABILITY MODEL RESULTS

The initial habitat suitability model for the Action Area scored habitat from 1 to 84 with 84 being very good habitat. To tighten the results, scores of 0-48 were considered not suitable habitat and the resulting model for the Eastern and Western Action Areas is shown in Figures 25 and 26. This model was comparable to the original DT habitat map approved for the South Range of the NTR and the Nussear model, but indicated more DT habitat around the edges of playas where *Atriplex confertifolia* and *Atriplex canescens* were dominants and extended the habitat to higher elevations (5,000 ft. MSL compared to 3,600 ft. MSL for the previous map). Additionally, some habitat was designated in areas further north than the range of the DT, since the current model did not use current known range of the DT as a criterion. This allowed the map to accommodate observations of DT and DT sign at the northern boundary of the action area. The northern extent of DT habitat on the Action Area closely matches the northern boundary of habitat previously designated on the NNSS in 1994 (Rautenstrauch, Brown, & Goodwin, 1994). Surveys should be conducted around the boundary of the Action Area and the NNSS to further validate the northern boundaries of DT habitat in both areas.

ACCURACY ASSESSMENT

The models prepared for the BA have not been subjected to a formal accuracy assessment, but observations of DT that have been made in past surveys were overlaid on the model results of the Eastern Action area to assess accuracy. The model was adjusted by scoring to accommodate all observations to date. Field surveys are still required to further assess and even modify the map as required.

CONCLUSION

The habitat suitability model appears to be an excellent prediction of potential DT habitat on the Action Area. It is recommended that this map be used to determine where actions imposed by military operations may potentially impact DT populations. The Maxent model was also a good model, but qualitative accuracy was slightly less (based on past observation points lying within the modeled habitat) and the model provided less protection for the DT compared to the Habitat Suitability Model. If a military action has direct or indirect impacts on DT or DT habitat within the mapped DT habitat of this model, formal or informal consultation with the USFWS as required by the programmatic BiOp would be initiated to determine if DT populations are present and the mitigation measures required.

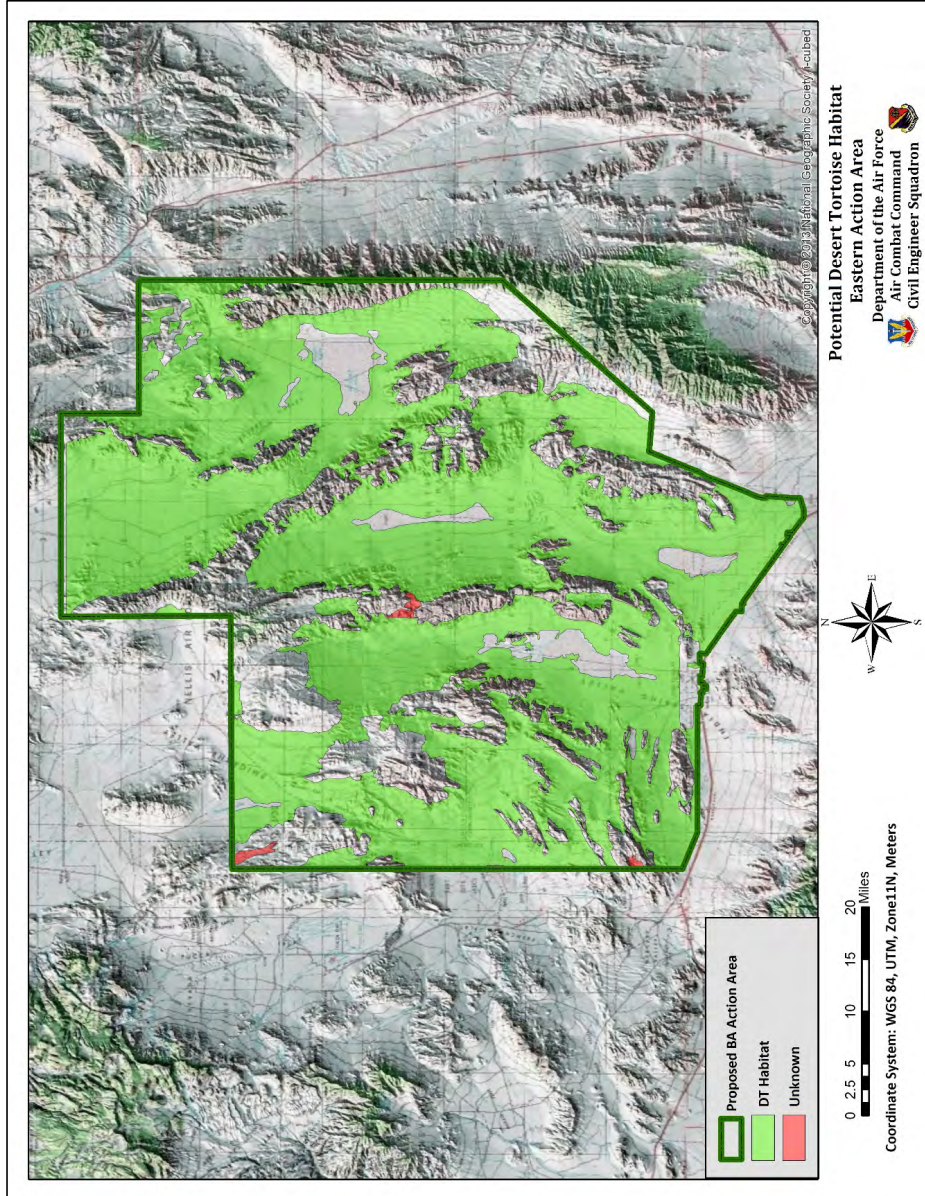


Figure 25. DT habitat on the Eastern Action Area as determined by a Habitat Suitability Model.

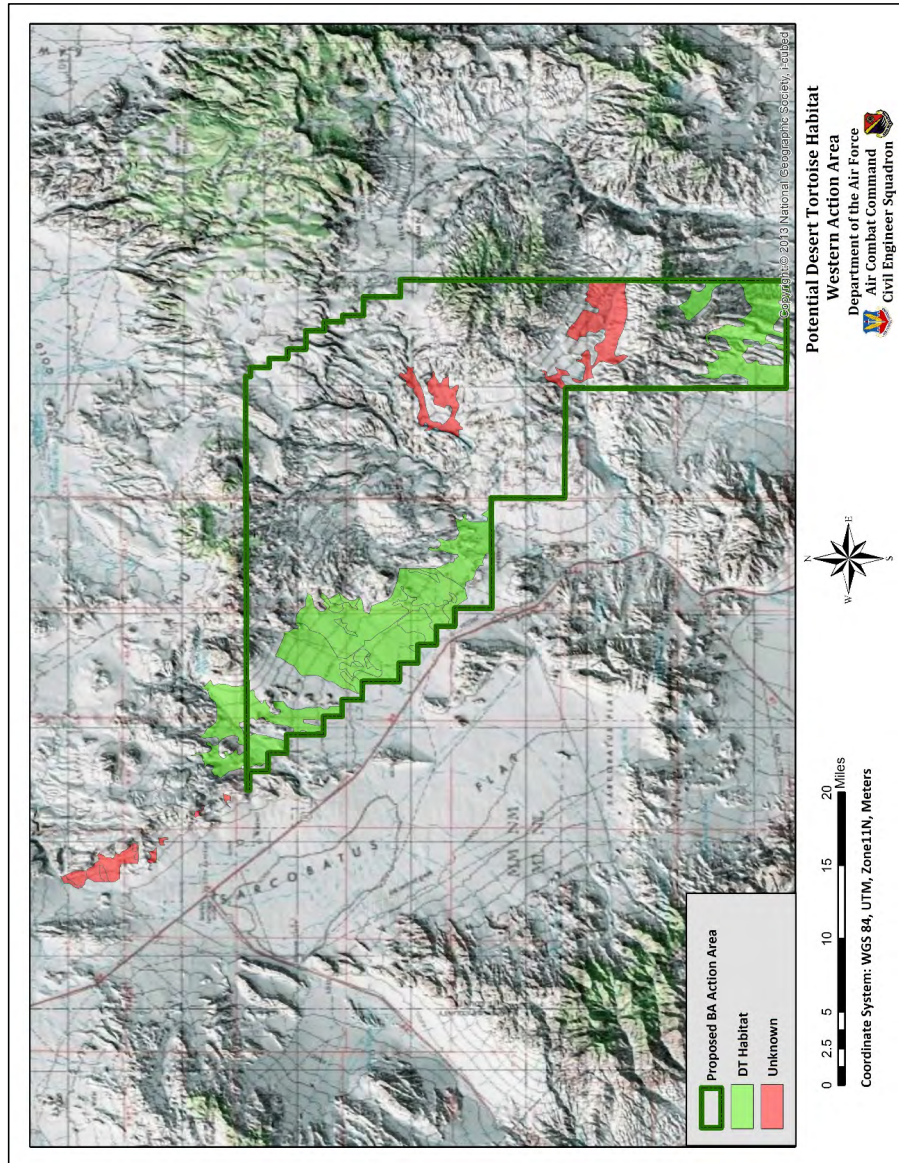


Figure 26. DT habitat on the Western Action Area as determined by a Habitat Suitability Model.

Physical, Biological, and Chemical Effects of the Action

DIRECT IMPACTS

Directs impacts include the immediate effects of the proposed action on the DT or its habitat. New weapons delivery areas in the South Range or expansion areas are not part of the actions covered by this BA, and use of existing weapons delivery areas have been covered under previous consultation. Impacts to those areas were compensated in most cases by remuneration fees. Three sites were closed in the past and are no longer used for military activities. These sites were discussed in the 2002 BO for the NTTR (File No. 1-5-02-F-522) and included Targets 64-5, 63-1, and an abandoned army camp on Range 65. The sites were initially planted with native vegetation in 1997. These areas are still in the restoration process, but the latest surveys of those areas indicate that the vegetation has almost completely recovered by natural encroachment of vegetation. Planting of native species at these sites was not successful, but natural restoration has progressed quite well (Nellis Natural Resources Program, 2014).

For this BA, direct impacts will be discussed according to the actual operations planned for the Action Area and the actions listed in the "Description of the Actions Potentially Taken by the USAF on the Action Area". In general, the actions associated with this BA are similar to those discussed by the original programmatic BiOp. The USAF estimates that overall activities on the Action Area will increase by about 30%. The USAF will encourage activities to be located in areas outside of DT habitat, but some impacts to habitat are anticipated. The new DT habitat map includes areas not previously designated as DT habitat. Actions occurring within DT habitat will be located in previously disturbed or developed areas to minimize impacts to higher quality habitat, where practical. This will not preclude required monitoring and pre-project surveys, but will assist in minimizing impacts to DT.

Ready Access

Ready access would be provided for the entire Action Area, but minimization measures will be implemented to decrease impacts to the DT. Ready access especially impacts the Eastern Action Area, most of which is currently protected by the proposed wilderness area designation and managed in de facto as such within the boundaries of the DNWR. Depending on the method implemented for acquiring ready access, requirements for managing the South Range as potential wilderness may be removed or lessened, thus resulting in the potential for increased take of DT since DT are currently fully protected by the proposed wilderness designation. Direct impacts anticipated from ready access include the following:

- Direct Physical Impacts: DT could potentially be physically harmed or killed as a result of troop activities in interstitial areas currently protected as proposed wilderness. These activities can result in direct contact of humans with DT and may involve crushing, trampling, or collision of DT with troops resulting in DT death or injury.
- Harassment of DT: The presence of troops, troop noise, and troop movements could significantly disrupt the normal behavior of DT, such as breeding, foraging, and resting in burrows and other cover. Use of flares, smoke bombs, and paint balls in troop activities can result in harassment of DT. Live munitions are not used in these activities. Burrows could be damaged or destroyed by foot traffic and troop activities causing the DT to relocate. Additionally, foraging by DT may be interrupted by the presence of troops causing DT to move to other foraging areas that may be less desirable.
- Habitat impacts: Because troops will be in small groups and infrequent, impacts to habitat are anticipated to be minimal. Some temporary loss of vegetation from trampling and other activi-

ties may occur. Soil disturbance or long-term impacts are not anticipated as a result of ready access.

- Chemical residue from blank munitions and pyrotechnics has the potential to impact DT if accidentally ingested in soils and vegetation. This will be minimized by requiring cleanup of munition cartridges and other debris after training is completed.
- Predators: Ravens and other predators may be attracted to areas by trash and food left behind by troops. This will also be minimized by training troops to properly dispose of trash and food before leaving an area. Spent munitions and other items will also be removed from areas.
- Increased potential for take would be minimal because troops will be in groups of less than 12 soldiers that have been provided with DT awareness training.
- Vehicles are currently not allowed on trails and unimproved roads on most of the Eastern Action Area. Under ready access, vehicles, including jeeps, ATVs, would be used to transport personnel and equipment on all roads including unimproved roads and trails. Ready access will open these areas to estimated 30% increase in use by vehicles. Although most activity by vehicles will be restricted to roads and trails, DT can be crossing these areas in habitat potentially supporting DT.
- Ready access is also projected to result in a 30% increase in aircraft operations in the existing NTTR airspace, and the corresponding increase by 30% in the use of munitions as outlined in Table 6. However, live munitions will not be used outside of target impact zones and firing ranges (Figure 6). These weapons delivery areas and firing ranges were previously constructed under the current BiOp or other consultations.

Table 6. Current and projected levels of aircraft sorties and live munitions on the NTTR, NNSS, and expansion alternatives.

Impact Description	Current	Projected
Aircraft Activity (Sorties)	24,898	32,367
Large Caliber Munitions (No.)	10,915	14,190
Small Caliber Munitions (No.)	1,600,746	2,080,970

Note: Large caliber includes weapons in the following categories: AGM, CBU, GBU, LUU, M206, MK, 2.75" rockets
 Small caliber includes .50 Cal, 20mm, 30 mm, 40 mm, 5.56 mm, 7.62 mm

Weapons Delivery Areas

Weapons delivery areas are directly impacted by use of live munitions including unguided ordnance, laser-guided bombs, air to ground missiles, small arms munitions, and self-protection devices (flares and chaff). Most of the weapons delivery areas are located in playas and dry lakes outside of DT habitat. No new weapons delivery areas will be established on Range 77. Only those weapons delivery areas already established in Range 77 and the South Range of NTTR will be used. Most of the potential DT habitat in Range 77 is located on the west and southern boundary where weapons delivery areas will not be located. Weapons delivery areas can be initially cleared for DT prior to and during construction if they are found in potential DT habitat. However, clearance surveys prior to weapons delivery is not practical and DT take may occur. No new weapons delivery target impact areas are being planned for the proposed expansion alternatives, Range 77, and the South Range of NTTR. Those areas are either being used as a weapons safety footprint buffer or to address safety and security concerns.

Two different areas of impact are associated with weapons delivery areas. One area is associated with soil disturbance caused directly by the explosion of a munition or cleaning the area after explosions. The second area is the area potentially impacted by explosive fragment dispersal. Soil disturbances currently associated with target sites were evaluated by reviewing high resolution satellite imagery at each target site and delineating a boundary around the areas where soil disturbance could be observed. Note

that no current or proposed weapons delivery areas are in DT habitat in the Western Action Area, thus, it is not being considered in this discussion. Weapons delivery areas may be implemented in Range 77, but they will be located a significant distance (probably over one mile) outside of DT habitat. Acreage of DT habitat according to the new habitat model directly impacted by soil disturbance at active and inactive weapons delivery areas is the following (Figure 27):

- Active Weapons Delivery Areas: 2,207 acres
- Inactive Weapons Delivery Areas: 1,045 acres
- Total: 3,252 acres

Please note that these acreages are being used to establish the baseline of weapons delivery areas that have been impacted in the past either during other BiOps or before DT was listed.

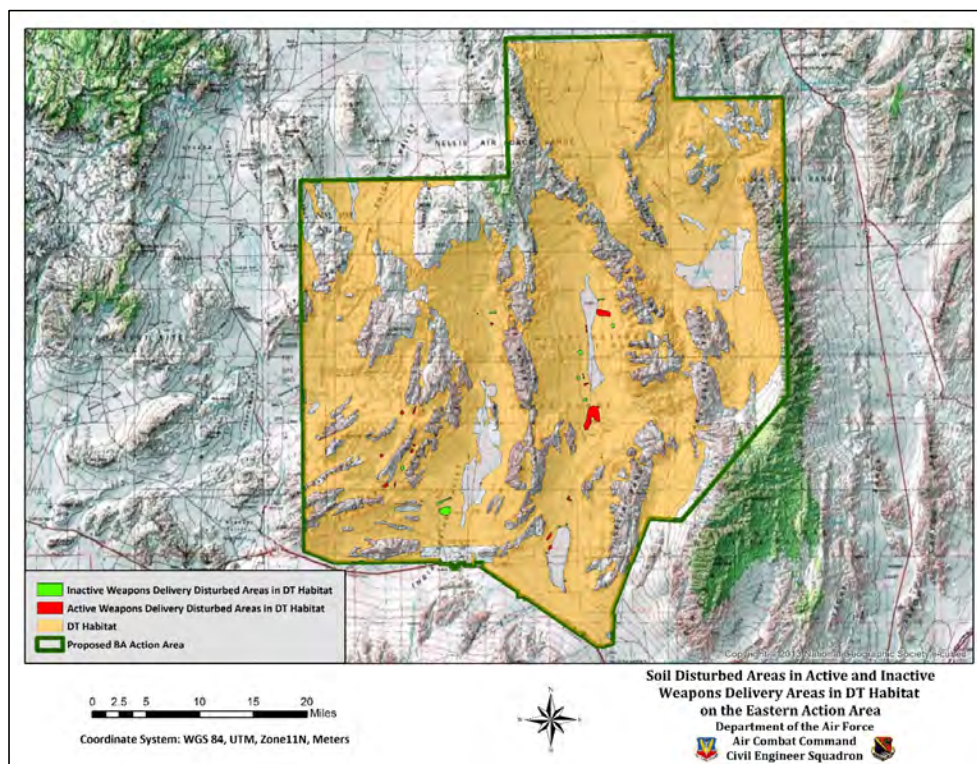


Figure 27. Area directly impacted in the past by soil disturbance associated with active and inactive weapons delivery areas on the Eastern Action Area.

For this BA, an important consideration in analyzing the hazard associated with explosion of ordnance is the effect of the fragments generated by the explosion. A hazardous fragment is defined as one having an impact energy of 58 foot-pounds or greater (Department of the Army, 1999). Bombs and similar ordnance used on the targets at NTTR would probably be classed as 1.1 materials where hazardous fragment density is defined as one or more hazardous fragments per 600 square feet. This equates to a 1% probability of hitting a 6 ft. tall man with a face-on surface area of 6 square feet. Considering these two

factors, the minimum fragment distance for ordinance used on the NTTR is estimated to be 1800 ft. from the point of impact for humans. The U.S. Army uses 1250 ft. as the fragment distance for stored 1.1 class explosives (The Army Institute for Professional Development, 1992). However, for the NTTR, the point of impact of bombs within a target is variable, therefore, the fragment distance is estimated as 2000 ft. from the center of the target. Using this fragment distance and the DT habitat map, the total acreage of DT habitat potentially impacted by explosive fragments from targets is estimated to be the following (Figure 28):

- Active Weapons Delivery Areas: 6,156 acres
- Inactive Weapons Delivery Areas: 5,293 acres
- Total: 11,449 acres

Inactive weapons delivery areas are included in this analysis because they may be potentially used in the future. These areas are the radius around the center of a target where the probability of a standing 6 ft. tall human being hit by a fragment is greater than 1%. Obviously, the probability of fragments hitting a DT that is about 8 in. tall and a face-on surface area of less than one sq. ft. would be much less and a much smaller area.



Figure 28. Area potentially impacted by explosive fragments associated with active and inactive weapons delivery areas on the Eastern Action Area. Areas were determined by a 2000 ft. radius from the centroid of each weapons delivery area.

The USAF is currently using target impact areas to delineate areas that have the potential to jeopardize the safety of humans and equipment during target use. A majority of these areas will never be impacted by target use, but have been designated to ensure protection and safety of USAF personnel. Figure 29 shows the location of these impact areas with respect to DT habitat. Approximately 111,291 acres are located in target impact areas, of which 84,309 or 76% is located in DT habitat.

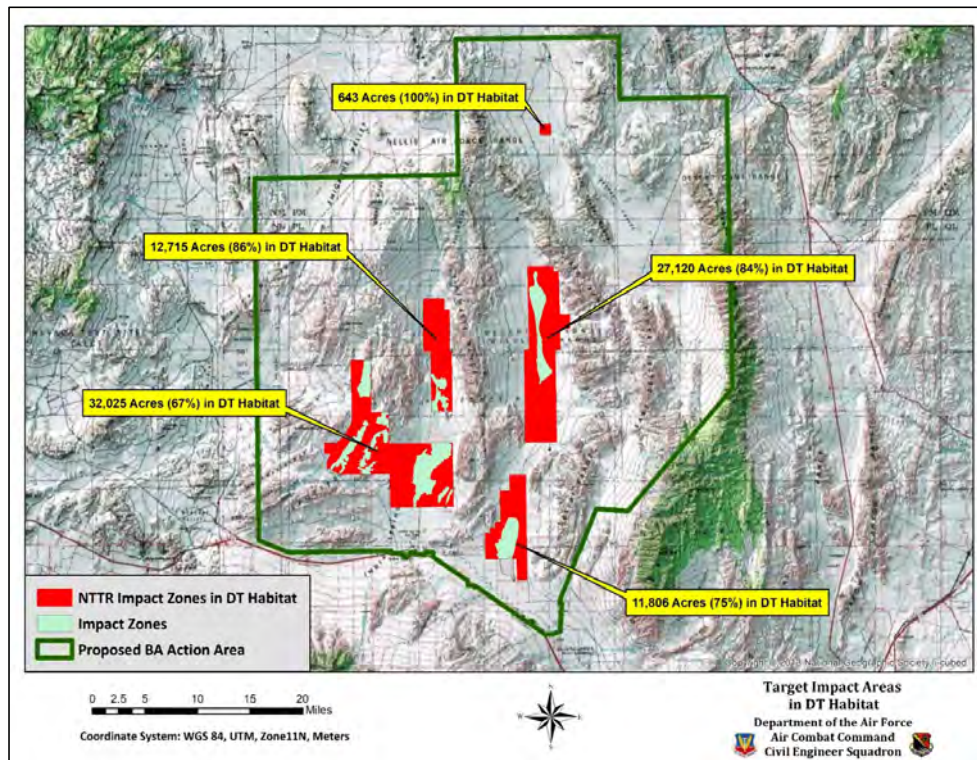


Figure 29. Target impact areas (per MOU with the USFWS) in DT habitat in the Eastern Action Area.

Most of the weapons delivery areas or targets are reused on a relatively frequent basis, which makes them less desirable for DT, although DT may traverse the areas in transit to other locations. DT can be killed or harmed if they are within the weapons delivery areas when they are in use. As discussed, weapons delivery areas are projected to experience a 30% increase in live munitions use in association with the proposed action. Direct impacts in weapons delivery areas include the following:

- **Soil disturbance:** Disturbance of soils can be caused by several different aspects of weapons delivery maintenance and use including excavation and clearing activities during construction of the area, movement of heavy equipment and targets on the area, construction and repair of targets, and exploding ordnance. Such activities can result in destruction of burrows, mortality of DT, removal of vegetation, and encroachment of invasive, undesirable plant species.
- **Noise and vibration:** Exploding ordnance, live munitions, aircraft and other weapon delivery systems, and heavy equipment used for maintenance and repair of targets can produce noise that may impact DT. Noise levels produced by vehicles, dropping of ordnance, and other sources of

noise can alter DT behavior or cause hearing loss, but actual noise effects on DT are difficult to assess and are not well documented. Noise can cause temporary displacement of DT or physiological stress, which will cause unnecessary increase in metabolic function. These noises may simulate that of natural sounds (i.e. thunder) to which many animals may be adapted to respond (United States Geological Survey (USGS) , 2007). Noise can cause temporary displacement with the tortoises fleeing and can also cause physiological stress (U.S. Department of Interior, 2012). Noise can also mask the sounds of approaching predators resulting in impediment of proper responses and potentially increasing predation (U.S. Fish and Wildlife Service, 1994B). Increased noise levels may cause a loss of auditory function in DT, which could lead to a loss of ability to detect and avoid predators (United States Geological Survey (USGS) , 2007).

- Vegetation removal: Exploding ordnance, vehicle and heavy equipment use, and target construction and maintenance can result in removal of vegetation or alteration in the plant community. These areas are often invaded by undesirable species of plants resulting in habitat degradation. Recovery of vegetation in the Mojave Desert can take long periods of time, especially without assistance by seeding or planting and irrigating impacted areas. Estimates of full, natural restoration of plant communities to the original state range from 33 to over 215 years (Vasek, Johnson, & Eslinger, 1975; Abella, 2010). Changes in the plant community can impact forage and cover for the DT and cause movement of DT out of impacted areas.
- Wildland fire: Fires can be initiated by exploding ordnance, flares, and chaff. These fires can potentially destroy or alter DT habitat and may result in mortality or take of DT.
- Dust and particulate air pollution: Exploding ordnance and soil excavation can result in the release of dust and an increase in particulate air pollution. This impact could be minimized by avoiding military operations on high wind days. Recent studies on surface dust impacts on plant gas exchange in Mojave Desert shrubs showed that dust reduced the photosynthetic rate and decreased the water-use efficiency of plants, which may result in decreased biomass production of plants during the growing season. Dust was also shown to increase leaf and stem temperatures (Sharifi, Gibson, & Rundel, 1997). Decreases in photosynthetic rates and biomass production can potentially impact DT populations by decreasing the availability of food and cover. It is doubtful that dust would directly impact the DT since it is a burrowing animal that is in contact with soil and dust during its excavation activities. Based on these premises, impacts of dust deposition on DT would likely be minor.
- Water: To minimize dust and particulate air pollution, water trucks are used to wet soil surfaces. This action can result in attraction of DT to weapons delivery areas. Direct impacts to the DT by this action can be one of the largest sources of DT mortality due to the additional attraction of DT to roads by water and the potential to be killed by vehicular traffic. This can be minimized by careful application of water to roads, which will prevent accumulation of water in depressions, potholes, etc. USAF personnel should be made aware that this action can result in encroachment of the area by DT.
- Depleted uranium: DT may be exposed by ingestion, inhalation, or dermal contact with low levels of depleted uranium that is used in some munitions. It is currently unknown if this has any effect on DT (U.S. Air Force, 2002A). Research on the effects of DU on wildlife and humans is minimal, in spite of its widespread use in the Gulf Wars. However, a significant amount of research has been conducted on the health effects of natural and enriched uranium. Because DU contains uranium at lower doses, one can assume that if uranium has effects, then DU has the potential for effects on organisms. Conversely, if uranium does not have epidemiological effects on humans and wildlife, then depleted uranium does not have those effects. Harley et al. (1999) completed an extensive review of the literature on the potential effects on DU on human

health, including soldiers with fragments embedded in their tissue or organs, and found that no evidence of epidemiological effects. In fact, no overall increase in population mortality has been observed due to exposure of humans and wildlife to natural uranium and harmful medical “effects from DU exposure” are not expected (Office of the Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses, 2000). In a later review, a small group of Gulf War veterans wounded with DU still excreted higher than normal levels of uranium in their urine, but no adverse health effects could be attributed to DU or the elevated uranium levels in the urine (McDiarmid, et al., 2004).

Other research has shown general information about negative effects of DU on health of other species. The effects appear to be dependent on the exposure pathway, duration, frequency, magnitude to a given life stage of the species. Miller et al. (2017) demonstrated that “non-DU exposed cells are influenced by their proximity to DU exposed cells.” The bystander effect was determined to be real and can cause death of other cells that were not initially in contact with radiation. Other studies indicated that when animals were exposed to water soluble uranium compounds, high doses cause kidney damage, may affect the brain and other neurological functions, and adversely affect normal functioning of the liver, lungs, and heart (Katz, 2014). Other negative effects on humans and animals include developmental issues, altered behavior, and bone structure (Briner, 2010). The major route of exposure appeared to be inhalation of dust created by the explosion of DU munitions (Almuqdad & Al-Ansari, 2013; Briner, 2010). Most of the research showing detrimental effects of DU focused on the release of radioactive dust following deployment and explosion of DU munitions. Hon et al. (2015) found that there is minimal risk associated with the handling and storage of DU, but toxicological and radio-toxicological effects result for inhalation or ingestion of dust particles “produced by the burning of the core of the anti-tank ammunition.”

An environmental assessment was conducted at one of the ranges on the South Range Study Area (Range 63) and concluded that DT would not be detrimentally affected by use of depleted uranium on the target (Nellis Air Force Base, 2006). The assessment stated that research on the impacts of depleted uranium on wildlife is minimal, but based on the low population of DT in the area, no effect on the DT population was anticipated. In summary, exposure to DU appears to not have detrimental health effects on humans and animals, but dust particles inhaled or ingested after the burning of the DU core in weaponry can have detrimental effects. DU may be deployed to a limited extent on weapons delivery areas and some areas may be used to store targets exposed to DU munitions. Based on these studies and reviews, DU may potentially adversely affect individual DT as a result of this proposed action, but due to the limited use and the fact that exposure must occur during weapon deployment, it is unlikely to adversely impact the DT population on the Action Area.

- Hazardous materials: Weapons delivery areas are periodically cleaned and hazardous or unexploded materials are removed at that time. A project was conducted on NTTR to determine contaminants found in soils of bombing targets (Nellis Air Force Base, 1996). The conclusion of the project was that bombing and strafing activities on the NTTR generally do not cause surface soil contamination levels that would pose risks to on-site workers or the public. If the area is considered safe for humans, it is probably safe for DT populations. Therefore, it is unlikely that DT traversing a target site would come in contact with unsafe levels of metals or explosive materials.
- Vehicular traffic: Vehicles and heavy equipment are periodically used on weapons delivery areas for maintenance, repair, and observation. Potential take of DT could occur by these moving vehicles. In all cases, the vehicles would be restricted to access roads and the actual weapons

delivery area. Off road vehicle use may occur if ordnance or target materials are deposited off target by explosions, etc.

In general, some take of DT would likely occur as a result of weapons delivery systems. Take of DT can be minimized by encouraging use of targets in areas not potentially supporting DT populations. Additionally, with proper precautions and education of USAF personnel, take can be minimized.

Weapons Delivery Area Cleanup

As previously discussed, weapons delivery areas are periodically cleaned, repaired, or removed. If a target is located in DT habitat, activities could be monitored by a DT biologist to avoid impacts to DT populations. Other cleanup activities that could impact DT populations would include aircraft crash sites and off target ordnance explosions. Direct impacts potentially caused by weapons delivery areas cleanup include the following:

- **Soil disturbance:** During the cleanup operation, weapons delivery areas are often graded and individual targets may be replaced. Most of these operations require shallow excavation and minor soil disturbance. Because this occurs in areas that are repeatedly impacted, potential for DT to be present is less than in surrounding, undisturbed areas.
- **Noise and vibration:** Use of heavy equipment during the cleanup operation produces noise and vibration that may have minor and temporary impacts on DT populations.
- **Dust and particulate air pollution:** Excavation and soil disturbance associated with weapons delivery areas cleanup can result in the release of dust and increased particulate air pollution. Direct impact to the DT population would be minimal.
- **Hazardous materials:** Hazardous materials are removed from the target site during weapons delivery areas cleanup and impacts by these materials to DT would not be expected.
- **Vehicular traffic:** Vehicles and heavy equipment moving on access roads and on the weapons delivery area could potentially impact DT and result in DT mortality. This can be minimized by proper training of USAF personnel.
- **Water:** To minimize dust and particulate air pollution during weapons delivery area cleanup, water trucks are used to wet soil surfaces. This action can result in attraction of DT to weapons delivery areas. Direct impacts to the DT by this action would be considered minor.

Threat Emitters

Threat emitters are generally located along existing improved or unimproved roads. Approximately 15 emitters may be constructed as part of this action. Impacts associated with threat emitters include the following:

- **Soil disturbance:** Soil disturbance would only occur during the construction of an emitter site and any roads. Soil disturbance would involve clearing an area approximately 150 ft. by 150 ft. for each emitter; it is currently unknown the exact needs for roadways because that would be dependent on emitter placement within proximity to current roads, access needs, etc. For analysis purposes, it is assumed that approximately four acres of roadway would need to be constructed or improved for emitter site support. If the emitter and/or roadway is located in DT habitat, impacts can be avoided by construction monitoring and clearance surveys conducted by a qualified DT biologist. The roads may require periodic maintenance, usually on an annual basis. DT monitoring and other preventive measures may be required where roads are located in DT habitat. The potential maximum area of soil disturbance caused by this action in DT Habitat would be a total of approximately 7.5 acres for emitters (about 0.52 acres per emitter) and four acres for roadways, equaling 11.5 acres total.

- Vegetation removal: Vegetation would be permanently removed during construction of the emitter site. Because of the small area involved, loss of DT habitat (if located in DT habitat) would be considered minor.
- Vehicular traffic: Vehicular traffic would be increased slightly by the presence of a threat emitter for maintenance and use of the facility. Impacts to DT by this increase would be considered minimal, especially if personnel are trained in DT awareness.
- Noise and vibration: Each emitter requires a 1.5 kilovolt generator to operate. These generators produce noise that likely would not impact local DT populations. A study was conducted in the late 1990s that concluded that short term exposure to subsonic and supersonic aircraft noise do not appear to cause hearing loss or physiological changes in DT (Bowles, et al., 1999). The study did not determine the effects of chronic exposure to noise and noise in natural conditions (study was conducted in a lab). Noise originating from the generators would be much less than that of aircraft.
- Electromagnetic radiation, lasers and microwave transmissions: Electromagnetic radiation (EMR) and microwaves would be produced by some emitters and communications equipment utilized on the NTTR, and targeting lasers may also be used on the NTTR. At the present time, little is known about the impact of these emissions on DT. RF energy is absorbed by an animal in the form of heat. At relatively low RF energy intensities, the heat induced can usually be accommodated by a body. Thus, any effects produced would generally be reversible. At high intensities, the thermoregulatory capabilities of any given species may be exceeded, which could lead to thermal distress or even irreversible thermal damage.

The impact of these emissions on wildlife was reviewed in a programmatic EA prepared for EMR at Eglin AFB in Florida. The EA indicated that EMR and microwave transmissions would have no effect on small mammals at ground level because of the exposure requirements and operational parameters of the emitter sources (i.e., actual emission sources are well above ground level, directed outward and upward, and are not static), which result in negligible emissions at ground level and minimal chance for extended exposure (U.S. Air Force, 2002B).

The radar units are normally placed on an elevated surface and then emit skyward, with the beam constantly moving to either find or track moving objects. They are not pointed at the ground or placed along public roadways. Most radars have "elevation locks" which prevent them from aiming the detector/emission beam below the horizon. The safe separation distances between the emitters and people or other equipment are provided in feet based on the emitter type and power requirements, with the greatest distance under 1,000 feet (Bechtel SAIC Company, 2007). Human safety indicators are established for those personnel that conduct maintenance, testing or training with the emitters who may be in close proximity to the emitters for extended periods. Negative impacts to animal species would require exposure to the emitter beam for extended periods of time, which is unlikely given that the beam is not static and moves to either find or track an object.

Balmori (2009) conducted research on the effect of continuous microwave and radiofrequency radiation from wireless telecommunication towers on wildlife. The research did not include reptiles, but amphibians were adversely effected, resulting in behavioral changes, decreased natality, and increased mortality. In studies investigating the effect of electromagnetic radiation on the African clawed frog (*Xenopus laevis*), no effects on the behavior, reproduction or mortality of the species was observed (Redlarski, et al., 2015). The article basically stated that claims of negative impacts of electromagnetic radiation on living organisms are unjustified and require

“systematic scientific verification.” Further research, especially DT, is definitely required to make any definitive determinations on impacts.

Because DT are very close to the ground (below the emitter’s “line of site” and horizon lock), it can be assumed that EMR and microwaves would have no effect on the DT. DT would need to be in direct contact with the emitter beam for an extended period of time to experience negative impacts, and this is unlikely to occur. Lasers would have potential impacts to vision and skin on small mammals and may have similar adverse effects on the DT. Impacts of lasers on wildlife has not been studied or documented and impacts are only assumed because of adverse effects observed in humans. However, the probability of a DT being exposed to a laser is extremely low because of their low profile. Thus, lasers are not likely to adversely affect the DT.

- Predation: Threat emitters may be placed on towers or other structures that provide a location for natural predators of DT such as ravens to nest and perch (Boarman, 2002). If raven nests are observed at an emitter site, they should be removed, but a Migratory Bird Treaty Act permit would be required. Perching or roosting can be discouraged with various methods commonly used at airports for bird management.

Infrastructure Construction and Maintenance

Buildings, roads, and equipment staging/storage areas require periodic maintenance and new facilities may require construction. These activities can definitely impact DT populations if they occur in potential DT habitat. Impacts can be minimized by construction monitoring and clearance surveys conducted by qualified DT biologists. Any trenches or holes excavated during operations should be covered or protected to exclude DT with temporary fencing. Most of these activities require environmental assessments (EA) or environmental impact statements (EIS) and formal or informal consultation with the USFWS. As previously discussed in the Action Description Section, up to 115 miles of security fences, depending on topography, (approximately 140 acres, based on a 10 ft. right-of-way (ROW)) may be constructed on the outer boundaries of the alternative expansion areas. Portions of this fence will likely cross DT habitat.

Impacts potentially caused by infrastructure construction and maintenance include the following:

- Soil disturbance: Soil disturbance is probably the major impact associated with infrastructure construction and maintenance. Construction activities can involve extensive shallow or deep soil excavation depending on the project. Impacts can be restricted to a building or infrastructure footprint or may involve extensive excavation along rights-of-way for installation of power lines, pipelines, or communication lines or construction of new roads. These structures may be constructed above or below ground. In all cases, soil disturbances would be significant and could result in take of DT and destruction of DT burrows if the activity occurs in DT habitat. Soil disturbance is also associated with maintenance of roads, parking areas, and utility rights-of-way. In many cases, these activities result in permanent removal of vegetation and, potentially, DT habitat. Any holes or trenches should be covered or temporarily fenced to prevent DT from falling into the hole. DT monitoring during activities will also prevent DT from falling into trenches or holes.
- Noise and vibration: Use of heavy equipment during construction and maintenance of infrastructure generally produces noise and vibration that may have temporary, minor impacts on DT populations in the immediate area.
- Vegetation removal: Most construction and maintenance activities associated with infrastructure results in permanent removal of vegetation and potential loss of DT habitat. In some cases, such as utility rights-of-way, native vegetation will be allowed to return to an impacted area.

- Dust and particulate air pollution: Construction activities and some maintenance activities can result in release of dust and particulate air pollution. This is minimized by application of water to the soil surface. However, dust and particulate air pollution probably has negligible impacts on DT.
- Hazardous materials: Hazardous materials may be used for construction of various infrastructure. Additionally, petroleum products and other fluids may be accidentally released during the operation of heavy equipment. Generally, these are quickly remediated and impacts to DT would be negligible.
- Vehicular traffic: Vehicular traffic in and around infrastructure construction would be temporarily increased. Depending on the location, this may impact DT populations. Training personnel on DT awareness would decrease the potential for take of DT by vehicular traffic. Depending on the infrastructure being constructed, an increase in traffic may be permanent.
- Water: Application of water to minimize dust production during construction can result in attraction of DT to an area. Construction personnel should be made aware of this potential, thus minimizing impact to DT populations.
- Predation: Accumulation of trash in and around construction sites can result in attraction of certain predators including ravens and coyotes that also prey on DT. Construction personnel should be instructed to properly dispose of trash and food wastes to prevent this from happening. Additionally, fences can provide perches for predators such as ravens.

Borrow Pits and Landfills

The construction of borrow pits and landfills causes significant impacts to DT. Approximately 539 acres of borrow pits are found on the Action Area of which 528 acres or 98% are in DT habitat. Loss or destruction of habitat can occur and DT can be displaced or harmed during the construction of borrow pits or landfills. Careful monitoring and clearance surveys during construction activities would minimize direct impacts to live DT. Landfill sites have the potential to increase numbers of predators, especially ravens and coyotes, due to accessible food (U.S. Fish and Wildlife Service, 1991). Landfills have been documented to impact DT by loss of habitat, introduction of hazardous materials, increased road mortality and attraction of predatory species, such as ravens (Boarman, 2002). Generally, on USAF lands, landfills and borrow pits require EAs and formal or informal consultation with the USFWS (if listed species are impacted) prior to construction. Specific impacts to the DT include the following:

- Soil disturbance: Construction and maintenance of borrow pits and landfills entails extensive excavation and grading. Additionally, monitoring wells may be required. These types of activities can result in destruction of burrows and potential mortality to DT. While they are in operation, borrow pits and landfills result in loss of DT habitat. Clearance surveys and construction monitoring by qualified DT biologists, as well as DT awareness training of personnel can minimize take of DT at these facilities.
- Noise and vibration: Heavy equipment and other vehicles on landfills and borrow pits produce noise that could have some minor impact on DT populations in the area. Vibrations caused by use of heavy equipment may impact DT populations in close proximity to the facility.
- Vegetation removal: Daily maintenance and construction result in relatively permanent removal of vegetation and DT habitat. If properly closed, some of these facilities may be restored to natural vegetation depending on permit requirements and other regulatory issues.
- Dust and particulate air pollution: Excavation activities in and around landfills and borrow pits typically produce dust and particulate air pollution. This would probably have little effect on DT populations in the area. Current air pollution regulations would also decrease the potential for impacts.

- **Hazardous materials:** Depending on the type of landfill, hazardous materials may be present. Also, fuels and lubricants can be released during excavation activities. Current regulations require that these be remediated or disposed immediately. Impacts to DT populations are not expected.
- **Vehicular traffic:** This type of facility would result in increased vehicular traffic which could result in take of DT. Proper awareness training of personnel can minimize this impact.
- **Water:** During excavation and daily cover activities, water may be applied to soil surfaces to decrease dust production. This can, in turn attract DT to the area. Personnel should be made aware of this potential event and how to respond.
- **Predation:** As previously mentioned, predators such as ravens and coyotes, may be attracted to trash and garbage on landfills. Current landfill regulations require that waste be covered on a daily basis, which should minimize attraction to predators. These predators can impact DT populations in the area.

Test and Evaluation

This action generally involves test and evaluation of various types of equipment including aircraft, ground equipment, enemy detection equipment, communication equipment, and others. Most of these activities will be staged in areas that have already been cleared for a specific use and additional impacts to DT populations would not be expected. However, the following are potential additional impacts that could be associated with this action depending on the equipment being evaluated:

- **Noise and vibration:** Testing of new aircraft and certain types of weapons delivery systems could result in noise and vibration emanating from flyovers at normal or supersonic speeds. Such actions could temporarily disorient DT populations, but overall impact would be expected to be minimal. As previously discussed, the effect of noise on DT populations is not well understood, but disorientation and loss of hearing are potential impacts.
- **Electromagnetic radiation, lasers and microwave transmissions:** Electromagnetic radiation (EMR) and microwaves would be produced by some emitters and communications equipment utilized on the NTTR, and targeting lasers may also be used on the NTTR. As previously discussed, this action is not likely to affect DT or DT habitat.

Battlefield Training

Battlefield training includes ground troops as well as the use of air and vehicle operations. This action may include para-drops, which is discussed in the "Insertion/Extraction and Overland Navigation" section that follows. Tortoise densities have been shown to decrease with the addition of military training but if training times were altered, impacts were minimized (Kristin H. Berry, 2016). As previously discussed, the actual number of activities and operations is not known at this time, but battlefield training conducted in DT habitat will be at a sufficiently low occurrence to ensure that effects to DT populations and habitat will not be adversely affected. Impacts associated with this action are discussed in detail in the Ready Access section and include the following:

- **Soil disturbance:** Soil disturbance would be considered minimal with this action. Most soil disturbances would be localized and small. This would usually be associated with trampling of soils by soldiers and soil displacement by vehicles.
- **Noise and vibration:** Battlefield training includes use of vehicles, blank small arms, hand flares, and smoke grenades which produce noise in some vibration in localized areas. Impacts to DT would be minimal, local, and temporary.
- **Vegetation removal:** Movement of troops and vehicles across interstitial areas (areas located between roads and trails) could result in damage to vegetation and DT habitat. In a desert setting, recovery from these impacts can take several years and can also result in encroachment of

invasive plants. Judicious location of troop activities in areas not potentially supporting DT populations and restoration of habitat following troop activities can minimize these impacts.

- Wildland fire: Battlefield training often involves use of flares and other munitions potentially causing wildland fires. Such fires can significantly impact DT habitat and vegetation depending on the size and temperature of the fire. This impact can be minimized by using proper precautions to prevent initiation of fires and rapid response to extinguish fires.
- Dust and particulate air pollution: Movement of troops can result in the production of dust and particulate air pollution. However, this would be considered minor and probably not impact DT populations.
- Vehicular traffic: Troop activities usually involve small groups of soldiers and not vehicles. However, movement of soldiers to an area would involve use of vehicles. Implementation of DT awareness training for troops would minimize impacts to DT by this action.
- Predation: Battlefield training can result in deposition of trash and food in local areas. Predators, such as ravens and coyotes, can be attracted by the trash in food and can prey on DT in the area. Training of troops in proper cleaning of battlefield areas will minimize attraction of predators to areas after training and, thus, minimize impacts to DT.

Insertion, Extraction, and Overland Navigation

Insertion, extraction and overland navigation will typically be conducted in areas that are not designated targets or weapons delivery areas. Ready access will allow implementation of this action on areas currently supporting DT populations. Most of the activities will be similar to troop movement discussed in the Ready Access section and have similar impacts on DT populations. However, these activities may also include the following impacts:

- Soil disturbance: Some level of soil disturbance may result from para-drops, especially those involving equipment on pallets. Touchdown and takeoff of fixed wing and rotary military aircraft will usually occur on unimproved surfaces and may result in some soil disturbances. Insertion points may be constructed as runways that are approximately 6000 feet long and 90 feet wide. One such runway will potentially be constructed in the dry lake in Alternative 3C and will impact approximately 13 acres. This location is not in DT habitat and not expected to impact DT populations. Para-drops can potentially result in accidental take of DT. Additionally, touchdown and takeoff of fixed wing or rotary aircraft can result in soil disturbance and take of DT.
- Noise and vibration: Most of the noise and vibration associated with this action would be caused by fixed wing and rotary aircraft. Noise and vibration would be localized and impacts to DT populations would be minimal.
- Vegetation removal: Para-drops, touchdown and takeoff of fixed wing and rotary military aircraft and troop movements can result in impacts to vegetation communities and DT habitat. These impacts would likely be temporary, but recovery of vegetation may take several years.
- Dust and particulate air pollution: This action can result in the release of dust and particulates, especially around fixed wing and rotary aircraft that may be landing and taking off. However, impacts to DT would be considered minimal.
- Vehicular traffic: As with most of these actions, an increase in vehicular traffic in the area may occur. Impacts to DT can be minimized by proper training of personnel.

INDIRECT IMPACTS

Indirect impacts include actions that potentially impact the DT but are separated from direct actions by time or distance. Indirect impacts to the DT caused by actions associated with the land withdrawal include the following:

- **Ready Access:** The implementation of Ready Access is expected to increase the activity on the Action Area by 30%. This may result in a corresponding increase in vehicular and aircraft traffic outside of the boundaries of the action area. Off-site DT populations could be impacted to some degree by this increase in noise and potential mortality on highways and roads. However, this would probably be minimal because many preventive measures to protect DT have been implemented on the highways in the area. Also, entry into the Action Area will be through gated entrances monitored by security forces or electronic monitoring systems. This ensures that only properly trained personnel will be entering the Action Area.
- **Weapons Delivery Areas:** Construction, maintenance, use, and repair of weapons delivery areas results in significant soil disturbance and vegetation removal. This, in combination with increased noise and activity, would likely displace DT populations from the immediate area, forcing them to move to surrounding areas. This could result in a slight increase in DT densities in habitat surrounding the weapons delivery areas. If the habitat can support the populations, this may not be an issue. Because the population density is apparently low on the Action Area, this indirect impact would be considered minimal. If a weapons delivery area is no longer in use and not projected to be used in the future, an effort should be made to restore DT habitat and vegetation on that area.
- **Weapons Delivery Area Cleanup:** Target cleanup on weapons delivery areas will have the same indirect impacts as those listed for weapons delivery areas. However, off-target cleanup associated with aircraft crashes and off-target explosions can result in long-term loss of DT habitat and displacement of DT populations from those areas. This indirect impact can be minimized by ensuring that off-target areas are restored to natural vegetation as soon as possible.
- **Infrastructure Construction and Maintenance:** Most of the indirect impacts of infrastructure construction and maintenance is associated with the increased activity and vehicular movement in and around the facility that has been constructed. This impact is easily minimized by proper DT awareness training of personnel. Additionally, new structures and facilities often produce trash that must be deposited in landfills and may require fill and other materials from borrow pits. Although these activities are covered in direct impacts, increase in their use is an indirect impact from infrastructure construction.
- **Borrow Pits and Landfills:** The USAF has no plans to use off-site landfills and borrow pits for construction of facilities on the action area. Therefore, no indirect impacts involving these actions is anticipated.
- **Battlefield Training:** As previously mentioned, some battlefield training activities could result in damage to vegetation and potential degradation of DT habitat. This can be minimized by proper DT awareness training of personnel. Like soil disturbing activities, this can result in displacement of DT populations and changes in density and dynamics of the populations in the area. This impact can be minimized by avoiding DT habitat for battlefield training wherever possible.
- **Dust and Particulate Air Pollution:** Dust and particulate air pollution can indirectly impact vegetation communities and DT habitat in the vicinity of the source of dust and particles. This is especially evident along unimproved roads and construction areas. Significant deposition of dust on vegetation can result in injury and death of plants. Also, encroachment of invasive plants can occur by dissemination of seeds from disturbed areas to surrounding areas. With proper precautionary measures, such as light wetting of surfaces or use of other dust suppression methods prior to vehicle use or construction activities, to minimize dust production, this impact would be minimal. However, dust production due to ordnance and live munitions cannot be controlled and some impacts to DT populations may be realized.

- **Abandoned Borrow Pits, Berms, and Construction Areas:** These areas often attract DT for construction of burrows if they are abandoned for extended periods of time. This would be a positive impact if the abandoned areas remain unused. However, if they are placed back into use, proper precautions should be made to ensure that they are checked for active DT burrows and use.
- **Impacts that may occur outside the Boundaries of NTTR and the Expansion Alternatives:** Impacts occurring outside of the boundaries of the action area are not anticipated, with the exception of increased vehicle or and aircraft traffic which is discussed above.

CUMULATIVE EFFECTS

Cumulative effects are the impacts of future local, state or private activities (non-federal), that may occur within the action area of the Federal action subject to consultation. Most of the Action Area is located in the Eastern Mojave DT Recovery Unit which appears to support a low density of DT. According to general surveys conducted in 2015 and 2016 in the Eastern Mojave Recovery Unit, DT population densities ranged from three to five DT/sq.mi. (U.S. Fish and Wildlife Service, 2016). This indicates that the DT population in this Eastern Mojave DT Recovery Unit is low, but relatively stable (U.S. Fish and Wildlife Service, 2011). Currently no future actions by state, local, or private agencies are anticipated to occur in the Action Area. If any unanticipated actions occur in the future, they are subject to review and approval by the USAF and would likely require an EA or EIS and formal consultation with the USFWS.

Proposed Minimization and Mitigation Measures for Each Program

Previous BiOps and formal/informal consultation with the USFWS have provided past guidance regarding DT management practices on the NTTR. Many of the management practices and mitigation requirements outlined in the BiOps have been implemented on the current NTTR and would be continued on the Expansion Alternatives. Recommendations for DT management are listed below and are intended to further conserve, manage, and monitor DT within the context of the military mission on the NTTR.

An Official Representative will be an Authorized Biologist who is responsible for implementation and oversight of compliance with recommendations, mitigation measures, reasonable and prudent requirements stated in the final USFWS BiOp prepared for this BA. The Official Representative will also ensure that the NTTR complies with all review and reporting requirements and any re-initiation requirements of regulatory procedures or documents. The Official Representative will be responsible for interagency cooperation among (but not limited to) private contractors, the USFWS, base personnel, and the USAF.

PROGRAMMATIC APPROACH TO CONSULTATION

The intention of this programmatic approach to consultation is to provide all necessary reasonable and prudent measures to ensure minimization of impacts and incidental take of DT by the USAF operations on the Action Area. This programmatic approach is used because specific information on individual projects potentially implemented by the USAF is currently not available. Thus, for each USAF action that may result in incidental take in the future, and incidental take statement should be provided to the USFWS to determine if it falls under the programmatic approach or will require additional formal/informal consultation.

ANNUAL REPORTING

USAF will provide the USFWS an annual report documenting any actions or the absence of any actions taken in compliance with the conservation measures and terms and conditions included in the final BiOp

for this action. Any actions resulting in “take” of DT will be reported to the USFWS within 24 hours. If a dead, injured, or diseased DT is found, the Las Vegas office of the USFWS Ecological Services should be notified as soon as possible.

FORMS OF TAKE

To ensure that protective measures are effective and being properly implemented and to document DT take, the USAF will notify the USFWS Ecological Services Division immediately if a DT is killed or injured by a project action. If possible, the project action should be temporarily stopped until the USFWS and the USAF have reviewed the circumstances surrounding the incident to determine if additional protective measures are required. Project activities may continue pending the outcome of the review provided that protective measures are continued. The previous BiOp estimated no more than one DT injury or mortality per year would be caused by USAF actions. Because of the increase in activity and area, this estimate may need to be increased. On NTTR, no DT have been injured or killed by military actions from 1999 to 2017 under any of the formal consultations and the current BiOp.

Take can only be estimated for a programmatic approach such as this because locations of specific actions have not been determined. These actions may or may not be located in potential DT habitat. Consultation with the USFWS can be initiated when the specifics are defined and the action is known to be impacting DT habitat. Estimated impacts to DT habitat (assumes that all actions are in DT habitat) are as follows:

- Fencing: A total of up to 115 miles of fence totaling 140 acres based on a 10 ft. ROW. It is estimated that about 90% of this fencing (126 acres) will likely be located in DT habitat.
- Threat emitters: 15 emitters at 0.517 acres per emitter, plus approximately four acres of roadway construction/improvement, totaling 11.5 acres. It is estimated that about 50% of this acreage will be located in DT habitat.
- Weapons Delivery Areas: No new areas will be constructed and impacts are not expected to exceed those that have already occurred under past BiOps and prior to DT listing. However, take of DT will likely occur due to military activities in these areas. DT take has not been documented for these areas by past actions and anticipated take is expected to be minimal. However, survey of weapons delivery areas by a qualified DT biologist should be conducted at least once annually during weapons delivery areas cleaning activities. Estimated areas of impact for this action is listed below and is based on the area already impacted by past actions.
 - Fragment Impacted Areas:
 - Active Targets: 6,157 acres
 - Inactive Targets: 5,293 Acres
 - Total: 11,450 Acres
 - Soil Disturbed Area:
 - Active Targets: 2,207 acres
 - Inactive Targets: 1,045 Acres
 - Total: 3,252 Acres
 - Target Impact Areas: 84,309 acres

All DTs found in harm’s way in project areas may be captured and moved to a safe location by a qualified DT biologist. The previous BiOp estimated that no more than five DT would be taken per year through capture and movement. Again, because of the increase in activity in area, this estimate may need to be increased during formal consultation for the new programmatic BiOp. Also, ready access exposes more DT to activities and may require more capture and movement. Based on the 30% increase in activity and ready access, take is estimated to be no more than seven DT per year through capture or movement and two DT incidental mortalities per year.

DT eggs and nests may also be disturbed or destroyed during surface disturbing activities, especially at weapon delivery areas and during infrastructure construction and maintenance. The previous BiOp estimated that the number of eggs and nests affected by the USAF activities would be one per year. This BA is not anticipating a significant increase in soil disturbing activities and, therefore, the previous estimate is probably accurate.

Weapons Delivery Areas will be surveyed at least annually by a qualified DT biologist to identify any mortalities that may have occurred at the target during the year. This information will be used to provide a more accurate determination of take in those areas. If mortalities are identified, frequency of surveys may be increased and a more extensive plan of DT monitoring of the target to move DT from harm's way may be required.

As discussed in the action section of this report, DT may be taken through predation by ravens drawn to trash in the project area. With proper trash management and DT awareness training, this level of take can be minimized, but will occur to some degree. An increase in this type of predation is not anticipated.

PROPOSED CONSERVATION MEASURES

The following sections are devoted to a discussion of reasonable and prudent measures that can be taken to minimize and avoid impacts to DT populations on the Action Area. Mission actions will be planned and sited in a manner to avoid DT and DT habitat whenever possible. Actions most likely to adversely affect DT will be scheduled during the less active seasons of the year for the DT, when possible. Almost all of these measures are being administered by the USAF under the requirements of the current programmatic BiOp for NTTR (U.S. Fish and Wildlife Service, 2003). The measures are listed according to the type of impact. The actual USAF actions associated with these impacts are described in detail in the action description section of the BA. Conservation measures as well as informal/formal consultation with the USFWS for future site-specific actions would be required when the USAF actions occur within the boundaries of potential habitat as delineated by the current habitat suitability model. Actions occurring outside of DT habitat according to the model will not require conservation measures of consultation.

An annual report should be prepared for the USFWS summarizing all DT surveys and monitoring on the Action Area. Mortalities, injuries, and translocation of DT should be documented in the report. Data providing information on the location and disposition of DT and DT sign observed on the action area should be provided.

Movement of DT from Harm's Way

If DT or their sign are observed within the boundaries of the NTTR, facility personnel or operations contractors should immediately call NAFB Natural Resources Manager to request a biologist for further evaluation. The USAF activities that may endanger a DT will cease if a DT is found in harm's way as a result of the activity. Project activities will resume after NAFB Natural Resources Manager has been contacted and an authorized biologist removes the DT from danger. Relocation and handling of live DT will be conducted according to the recommendations found in most current version of the Desert Tortoise Field Manual (U.S. Fish and Wildlife Service, 2009) which may be found at https://www.fws.gov/nevada/desert_tortoise/dt/dt_auth_form.htm.

On a case by case basis, as determined by the NAFB Natural Resources Manager and the USFWS, and based on the size (acreage) and the type of activities that will be conducted on proposed action sites, DT found and removed from the sites and perimeter areas may be fitted with a radio transmitter. DT may be moved up to one mile away from the project site as required to be out of harm's way. DT fitted with a radio transmitter will be monitored and data collected until the project is completed to determine

movement and possibility of DT returning to the area of capture. Returning DT will continue to be moved from harm's way until completion of the project. Telemetry data will be collected during the project monitoring phase and for the life of the transmitter or until the transmitter is removed from the DT. Telemetry data collected on DT moved out of harm's way will be provided to the USFWS in the annual report.

DTs that are moved offsite and released into undisturbed habitat will be placed in the shade of a shrub, in a natural unoccupied burrow similar to the burrow in which it was found, or in an artificially constructed burrow (Desert Tortoise Council, 1999) depending upon the time of year and ambient temperatures.

DT moved in the winter (November 1 through March 1) or those in hibernation regardless of date must be placed into an adequate burrow. If one is not available, one will be constructed using the protocol for burrow construction (Desert Tortoise Council, 1999). During mild temperature periods in the spring and fall, DT removed will not necessarily be placed in a burrow.

If a DT is encountered and appears to be experiencing heat stress, it will be placed in a tub, by an authorized DT biologist, with 1 in. of water in an environment with an ambient temperature between 76°F and 95°F for several hours, until heat stress symptoms are no longer evident.

Upon locating dead, injured, or sick DT, proper notification shall be filed with the USFWS Las Vegas office. Only qualified biologists should handle live, sick, or injured DT. Dead DT should be handled with care to maintain the carcass in good condition for subsequent analyses of cause of death. Sick or injured DT will be delivered to any qualified veterinarians for treatment or disposal. A form for all DT that are handled (live and dead) will be completed by the Official Representative and the qualified representative shall be responsible for the handling, storage, and updating of completed forms.

Soil Disturbance

In areas where potential impacts and soils disturbance are likely to persist over a long period of time, the project site should be cleared of DT prior to construction. The current BiOp allowed for 971 acres of DT habitat to be removed by use of targets and other military activities. Therefore, the assumption is that the 971 acres was completely used during the duration of the current BiOp. Preconstruction DT clearance surveys should be conducted no more than 48 hours prior to earth-moving or vegetation-disturbing activities, unless the impacted area is secured from entry by DT. Clearance surveys should be coordinated with the Nellis Natural Resources Manager well in advance of any project. In addition, a perimeter around the project area should be cleared, as determined by the Nellis Natural Resources Manager and the USFWS. The determination to conduct perimeter clearance and the width of the perimeter will be made by Nellis Natural Resources Manager and will be based on the location of the project in DT habitat according to the current DT habitat map. A DT monitor will be present on the project sites during all project construction/earth-moving activities until the project is completed. Any DT or eggs found within the project area will be properly removed by a qualified DT biologist (Desert Tortoise Council, 1999).

For areas that would be temporarily disturbed or where restoration is proposed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations should be backfilled with deep soils first, with the topsoil being backfilled as the final layer. This allows the site to have a final layer of soil that approximates original soil conditions and that contains a relatively healthy seed bank for regrowth of vegetation, thus rectifying potential soil displacement. Soils may be lightly rolled or compacted to reduce the potential for wind erosion. Excavated holes and trenches should be covered or surrounded with DT proof fencing until they are backfilled. A qualified DT monitor should be present during excavation activities to ensure that DT do not fall in holes or trenches.

Additionally, the USAF will implement other impact minimization procedures associated with permit-related requirements for construction. Most of these practices specifically target minimization of soil erosion and loss. Where practicable, the impacted surface will be brought back to original contours and erosion control measures will be used to maintain the soil in place. Sediment fences will be placed around the construction site to prevent movement of soils, sediments, and construction materials off-site during storm events. The excavated areas will be lightly wetted to minimize dust production. Application of water will be carefully controlled to prevent puddling and subsequent attraction of DT to the area.

Construction of roads, blading of existing roads, or other surface disturbance associated activities will be confined to the locations authorized by the Nellis Natural Resources Manager and will not exceed the minimum size required for safe usage. Roads will be lightly wetted to minimize dust production during maintenance activities and heavy use. Application of water will be carefully controlled to prevent puddling and subsequent attraction of DT to the area. Vehicular speeds will be maintained at 25 MPH in DT habitat.

Disturbance of DT burrows will be avoided from May 15 to September 30 to prevent impacts to buried egg clutches and emerging hatchlings. If this is not possible, active burrows impacted by the action must be carefully excavated or inspected with a fiber optic scope to determine if eggs are present. Eggs found in burrows must be removed and placed in a new burrow in suitable habitat according to the current recommendations found in *Guidelines for Handling Desert Tortoise during Construction Projects* (Desert Tortoise Council, 1999). Following the inspection of burrows for DT, all burrows must be collapsed to prevent future use.

All disturbance of DT habitat associated with existing targets and projects will be limited to the current acreage of target impact areas, not including roads. Remuneration fees or habitat restoration will only be required for new areas of soil disturbance based on the maps provided in Figures 5-8 and 27-29.

Any areas temporarily impacted by excavation and other activities will be returned to original contours and allowed to naturally return to the original habitat. Encroachment of weeds and invasive species will be managed and removed by mechanical, hand, and/or chemical methods in accordance with the Nellis AFB Pest Management Plan (Nellis Air Force Base, 2013). If logistics do not allow these procedures, the USAF will pay the remuneration fee for destruction of habitat based on the current rates determined by the Clark County DT Habitat Conservation Fund.

As an alternative to remuneration fees, the USAF may fund and implement DT habitat enhancement projects on the withdrawn land. The project cost should approximate the calculated cost of remuneration fees. DT habitat projects will be developed and approved by the USFWS prior to implementation of activities covered under this BA, but those habitat projects do not necessarily need to be completed before the covered activity begins. DT habitat projects and remuneration fees can be combined to mitigate impacts.

Vegetation Removal

Any vegetation temporarily impacted by excavation, maintenance, training, and other activities will be returned to original contours and allowed to recover naturally. Native plants may be seeded for germination following the first storm event after project completion. Initial irrigation may be used to stimulate germination of seedling plants but should not be continued to prevent adaptation of the plants to an artificially wet environment with shallow surface moisture. If nursery stock is used for replanting, all plants should be native and endemic to the specific area. Natural recovery of areas is preferred to seeding and planting.

As previously discussed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations should be backfilled with deep soils first, with the top-soil being backfilled as the final layer. Excavated areas will be brought back to original contours where practicable. Soils may be lightly rolled or compacted to reduce the potential for wind erosion.

Encroachment of invasive plants in disturbed or restored areas should be prevented, and any invasive plants that become established should be removed. Excavation and construction equipment should be cleaned thoroughly before traveling from one area to another on the NTTR. Off-road vehicle use should be minimized whenever possible to decrease the spread of invasive species such as red brome, Russian thistle, halogeton, and cheatgrass. Wherever possible, maintenance of road shoulders will be minimized to prevent the spread of invasive plants. Those areas should be managed to develop native plant populations.

Noise and Vibration

The USAF will minimize and avoid excessive noise and vibration associated with various construction and military operations where possible. However, impacts to the DT by this type of action are not well understood, but appear to be minimal at best.

Wildland Fire

The USAF currently has a wildland fire management plan in place for NTTR. This plan will be expanded to include the alternative expansion areas if they are included as part of the withdrawn land. As part of the wildland fire management plan, USAF personnel will be trained to properly respond to the incidences of wildland fire. Implementation of this plan will ensure that wildland fires will be minimized and impacts to DT due to wildland fires will also be minimized.

The USAF will adhere to the following DT management recommendations by the BLM with respect to fire suppression activities (USDI-BLM, 1998). While safety is paramount, the following guidelines for DT conservation should be considered for all fire suppression activities:

- Utilize the current Mojave Desert Initiative (MDI) guidelines.
- Minimize acres burned through rapid fire suppression.
- Avoid spreading non-native plants by ensuring that all firefighting equipment has been cleaned before entering the area.
- Use the current map for potential desert tortoise habitat as designated by the USFWS and mapped by the NNRP to determine where special consideration suppression tactics will be conducted.
- Fight wildland fires aggressively in order to minimize burned acreage. Actions will be compatible with appropriate suppression options.
- Minimize soil surface disturbances during fire suppression
- Limit the use of mechanized equipment when possible
- Restrict use of firefighting equipment/vehicles to existing roads and trails when possible.
- The use of aerial retardant is authorized in the BLM fire management plan and is the preferred method of fire suppression. Foam or fugitive retardant is preferable to iron oxide retardant in DT habitat.
- Establish fire camps, staging areas, and helispots in previously disturbed areas outside mapped DT habitat. If possible, this should be accomplished in consultation with a qualified resource advisor from BLM or NNRP.
- Provide all firefighters and support personnel with a briefing on DT and their habitat to minimize tortoise injuries and destruction, particularly those associated with vehicle use.

It is important to note that if the Eastern Action Area continues to be under the jurisdiction of the USFWS as a potential wilderness area, the general rule will be to not aggressively fight wildland fires un-

less they are jeopardizing land outside of the boundaries of the NTTR or important military assets located within the boundaries of the NTTR.

Dust and Particulate Pollution

Dust and particulate pollution is not expected to have significant impacts on DT populations. As discussed earlier, dust can impact vegetation, which in turn can affect the DT by decreasing the available forage. In an effort to minimize this potential, the USAF will comply with all regulations required for construction and military activities to minimize production of dust and other particulates into the air. It is recognized that use of water to decrease dust production can inadvertently attract DT to roads and construction sites. However, current particulate pollution standards require that dust be contained on construction sites and along roads. Therefore, the USAF will minimize use of water where practicable and when water is used for dust control, it will be used sparingly to avoid puddling and accumulation of water in a manner that attracts DT. Alternatives for dust control will also be explored and include implementation of dust abatement measures using a soil stabilizer (e.g., application of dust palliatives [e.g., polymer emulsion or synthetic fluid]) to reduce impacts from dust.

Vehicular Traffic

The USAF, contractors, and other personnel should check under their vehicles prior to moving if the vehicle has been parked for more than a few minutes in DT habitat. Additionally, signs in parking areas of projects or facilities located within DT habitat should be posted to remind personnel to check under their vehicles prior to moving them. Relocation of a live DT found by personnel will be conducted by a qualified DT biologist according to the recommendations found in most current version of the Desert Tortoise Field Manual (U.S. Fish and Wildlife Service, 2009).

Speed limit of 35 mph will be maintained on paved roads in DT Habitat. Speed limits of 25 mph will be maintained for all regular vehicle travel on gravel roads in DT habitat. Speed limit of 15 mph will be maintained on two-track roads and trails.

Signage will be posted to clearly delineate areas within potential or known DT habitat where off-road vehicle use is prohibited. If necessary, fences with appropriate signage should be implemented in problem areas. Signs should be posted no further than 300 feet apart and facing outward from restricted areas. Off-road vehicle use in DT habitat will be minimized or avoided where allowed by military operations and constraints.

Although DT activity at night is rare, convoys and other night vehicular traffic planned for the Action Area should be made aware to watch for DT on roads. The day after convoys are conducted, the routes should be inspected for mortalities and those reported immediately to the Nellis Natural Resources Program Manager.

Water

Minimization of dust production in and around construction sites and some military activities often involve application of water via water trucks and other methods. Accumulation of water can result in attraction of DT to those areas. The USAF, contractors, and visiting personnel will be made aware of this potential and to be more cognizant of the occurrence of DT in these areas to avoid impacts.

Water can also accumulate in depressions and potholes on roads and construction areas following the storm events. These also serve as attractants to DT and personnel should be aware of the potential occurrence of DT in those areas. The USAF will periodically maintain roads and parking areas to remove these depressions and potholes.

Electromagnetic Radiation

The impact of electromagnetic radiation on DT is not fully understood at this time. As more information is procured on this type of impact, the USAF will implement methods to minimize impacts to DT, if possible. However, current literature indicates that adverse impacts to the DT from threat emitters would be unlikely and discountable due to the fact that the DT remain close to the ground, out of the range and emission zone of emitters. Also, impacts from emitters are associated with chronic, long term exposures, which are not likely for the DT.

Predation

Signage, fencing, power poles, and antennas will only be installed where required to minimize elevated perches for predators. If raven nests are discovered in DT habitat they will be removed by a qualified biologist and in compliance with the Migratory Bird Treaty Act.

All trash and debris will be regularly collected and contained in covered containers to minimize attracting potential predators of the DT (ravens). This program will include the use of covered, predator-proof trash receptacles and proper disposal of trash in a designated solid waste disposal facility. Vehicles hauling trash to the landfill and leaving the landfill must be secured to prevent litter from being released along the road.

Landfills should be properly managed and maintained to reduce the potential for scavengers such as ravens, dogs, and coyotes to congregate in areas used by DT. Appropriate fencing maintained around these facilities would reduce the potential for terrestrial animals to access these facilities, and best management practices such as sorting trash with high organic matter (i.e. foodstuffs) and burying it immediately with sufficient cover will reduce the occurrence of potential predators of DT. At the present time, no municipal or hazardous waste landfills (as opposed to construction and demolition landfills) are located in DT habitat and none are planned to be constructed.

Hazardous Materials/Depleted Uranium (DU)

The USAF will comply with all state and federal regulations to accommodate or remove hazardous materials and DU from target sites, construction sites, etc. Based on this information, the effect of DU on DT is anticipated to be minimal as a result of the proposed action.

Fencing

Some construction projects (i.e. vehicle demolition areas, explosive demolitions ranges, equipment staging or storage areas, etc.) may involve installation of fences that can impede movement of DT into the areas. Following the installation of new fencing, enclosures should be searched for presence of DT or their sign using 100 percent coverage techniques. Any identified DT burrow will be inspected to determine occupancy. Surveys will be conducted for enclosed areas unless a prohibitive risk of surveyors to explosive ordnance or demolitions activities impedes surveying activities. Enclosed areas will be surveyed a total of three times unless the results of the second survey determine conclusively that DT are not present within enclosures.

The previous BiOp originally required DT proof fencing to be constructed around some of the targets located in the South Range of the NTTR. Because of excessive damage and difficulty of maintaining these fences around live munitions targets, this requirement was amended and the amendment is recommended for this BA. DT should be removed from harm's way following standard procedures delineated in this BA.

With respect to boundary fencing, direct removal of vegetation and ground disturbance should be minimized. Bulldozer clearing or other major soil disturbing methods should be avoided. In areas with heavy vegetation, irregularly shaped fence line clearings should be used rather than fence lines with uniform

clearing widths. Mechanical clearing can be used if accompanied by actions that minimize soil loss and allow restoration of native vegetation.

Periodic monitoring of the fence and maintaining the fence in a usable condition, consistent with the original as-built standards, could be conducted. In addition, the fence line and access roads should be monitored for invasive plant species and appropriate invasive plant control measures should be implemented when required. Measures to decrease use of fences for perching of predators should be implemented where required.

Awareness Training

Contractors, military personnel, and any visitors on site will be provided with DT awareness training to recognize DT and DT sign. The program will be presented by an authorized DT biologist for projects causing the greatest potential for destruction of DT habitat. A video or fact sheet, as approved by the USFWS, may be presented or provided in lieu of a presentation for projects with low impact potential as determined by the Nellis Natural Resources Manager. Records of training provided to each individual will be signed upon completion of training by each individual and those records will be maintained by the Nellis Natural Resources Manager. Contact information for the Nellis Natural Resources Manager shall be included on any fact sheets or handout materials.

Environmental staff will conduct awareness briefings for all personnel working in DT habitat. These briefings will be conducted either in person or via a video presentation of the briefing. At a minimum, the briefings will include discussions of:

- General provisions of the Endangered Species Act
- Necessity for adhering to the provisions of the Act
- Potential for civil and criminal penalties associated with violating the provisions of the Act
- Terms and conditions of the USFWS BiOp that are applicable to the activity
- The definition of “take”
- The exact boundaries of the site within which the project activities may be accomplished
- General behavior and ecology of the DT and its sensitivity to human activities
- Measures to protect DT
- Proper disposal of food and trash to avoid attracting predators of DT
- Personal measures employees can take to promote the conservation of DT
- Specific and detailed instructions will be provided on the proper techniques (preferably by a qualified biologist, if practicable) to capture and move a DT that may be in imminent danger (on a heavily traveled road, on an active project site, or under a vehicle) in accordance with the USFWS approved protocol.
- Instructions for personnel to inspect beneath their vehicles while in DT habitat prior to moving the vehicle. If a desert tortoise is found beneath the vehicle, it will be moved by environmental staff or by project personnel in accordance with guidelines provided to them during the awareness briefings.
- Reporting requirements when DT are observed, moved, injured, or killed

Conclusion

It is the conclusion of this BA that if the conservation measures delineated by the BA are properly administered, military activities described in this BA may adversely affect DT populations on the action area. Based on the low-density population of DT on the Action Area and the implementation of proposed conservation measures, DT take is anticipated to be minimal. Estimates of take are the following:

- Seven DT per year through capture or movement from harm’s way

- Two DT per year mortality
- Total of 11.5 acres of DT habitat for emitter/roadway construction
- Up to a total of 126 acres of DT habitat for fence construction
- No additional habitat will be destroyed for target construction or use over the current acreage in DT habitat. Acreage of DT habitat impacted by soil disturbance on weapons delivery areas is 3,252 acres.
- Area of DT habitat potentially impacted by bomb fragments is 11,450 acres.
- Area of DT habitat in target impact zones is 84,309 acres
- Total additional DT habitat taken by construction, excavation, and other activities (in excess of current baseline impacts) that is subject to remuneration: 150.5 acres

Total take of DT habitat anticipated by the proposed action above those areas that have been currently impacted or impacted in the past are shown in Table 7.

Table 7. Take of DT habitat anticipated as a result of the proposed action

Action	Current DT Habitat Impacted by Action (Acres)	Estimated DT Habitat Impacted by Action (Acres)	Increase or Change in Impacts (Acres)	Notes
Weapons Delivery Areas—Soil Disturbance	3,252	3,252	0	Activity at weapons delivery areas is expected to increase by 30%
Weapons Delivery Areas—Explosive fragments from munitions	11,450	11,450	0	Activity at weapons delivery areas is expected to increase by 30%
New Threat Emitters--Facility	---	7.5	7.5	
New Threat Emitters—New Roads	---	4.0	4.0	Established roads will be used, if possible
Borrow Pits/Landfills	528	528	0	No new borrow pits or landfills are planned.
Landing Zone (Alternative 3C)	0	13	13	
Fencing	---	126	126	Approximately 115 miles of new fence

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USFWS Biological Opinion



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Southern Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

IN REPLY REFER TO:
08ENVS00-2018-F-0028

August 16, 2018

Lieutenant Colonel Patrick J. Kolesiak
Department of the Air Force
99 CES Commander
6020 Beale Avenue
Nellis Air Force Base, Nevada 89191

Subject: Programmatic Biological Opinion for Activities and Expansion of the Nevada
Test and Training Range

Dear Mr. Kolesiak:

This transmits the U.S. Fish and Wildlife Service's (Service) programmatic biological opinion (PBO) based on our review of programmatic activities proposed in your November 2017, programmatic biological assessment (BA). On May 9, 2018 we received complete information for consultation. This consultation evaluates potential effects on the federally threatened Mojave desert tortoise (*Gopherus agassizii*), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 et seq.). Because no critical habitat will be affected by the proposed action, critical habitat will not be discussed further. The United States Air Force (USAF) did not identify effects to or request consultation for any other species listed under the Act.

BIOLOGICAL OPINION

In accordance with the Act and 50 CFR § 402 of our interagency regulations governing section 7 of the Act, this programmatic biological opinion was prepared in response to your November 29, 2017, request for formal consultation and biological assessment (USAF 2017a); December 2017 draft legislative environmental impact statement (USAF 2017b); Service guidance for programmatic biological opinions (Service 2003); Integrated Natural Resource Management Plan (INRMP) (Nellis Air Force Base [NAFB]) 2010; July 11, 2018, comments on the draft biological opinion; discussions and emails between Service and USAF staff; and our files. This PBO completely replaces the June 17, 2003, Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada (2003 PBO). A complete administrative record of this consultation is on file in the Southern Nevada Field Office, Las Vegas, Nevada.

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CONSULTATION HISTORY

On June 12, 2003, we completed the Programmatic Biological Opinion for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada (2003 PBO). The consultation history for the Nevada Test and Training Range (NTTR) activities prior to June 17, 2003 is provided in the 2003 PBO for consultation File No. 1-5-02-F-0522. Based on the USAF's biological assessments, this consultation and a previous one in 1994 (1-5-94-F-162), analyzed disturbance for only 971 acres of the current target impact areas within the NTTR South Range; the 971 acres were only the discrete targets and did not include the additional disturbance created beyond the discrete target (i.e., the entire target impact area). The USAF estimates 3,252 acres of desert tortoise habitat was disturbed as a result of target impact areas over the past 23 years (USAF 2018).

On May 10, 2004, we received your request to amend the PBO to modify Term and Condition 1 of the PBO and Condition 1 with desert tortoise monitoring and clearing in lieu of exclusionary fencing. On June 30, 2004, we issued amendment 1-5-02-F-522.AMD1.

On July 28, 2009, we received your July 20, 2009, letter requesting our concurrence with your delineation of desert tortoise habitat on the NTTR provided on the May 12, 2009, map that accompanied your request. On August 27, 2009, we concurred that the habitat map, at that time, provided the best information to represent desert tortoise habitat at NTTR, however because habitat delineations can only provide an estimate of such areas, it is likely that areas mapped as potential habitat are not occupied at this time by desert tortoises and tortoises may occur outside areas identified as potential desert tortoise habitat on the map.

On August 3, 2010, we received the August 2, 2010, USAF request to append the 2003 PBO (File No. 1-5-02-F-0522) with the Expedition Readiness Training Course Expansion. On August 18, 2010, we issued an append (84320-2010-F-0422).

On December 5, 2011, the Service contacted the USAF for a reporting request of take under the PBO. The USAF reported take as H1, M=0, and acreage=640 (H is harm or harass, M is mortality and acreage is the area of disturbed habitat). On March 1, 2012 we spoke with USAF representatives.

On January 26, 2012, we requested (File No. 1-5-96-F-278) a take report for Weapons Testing/Training on the Weapons and Tactics Center Range Complex (Reinitiation of Biological Opinion 1-5-94-F-162). On March 1, 2012, it was reported by the USAF that there was no information available on desert tortoise take. Consultation File No. 1-5-96-F-278 is a reinitiation for 1-5-94-F-162. Due to the lack of information on the action the Service assigned take as the maximum allowable over the 9-year activity period of this biological opinion: H90, M-l=18, and 971 acres.

On February 9, 2017, the Service met with USAF representatives to discuss the biological assessment, proposed actions, and section 7 consultation.

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On July 18, 2017, the Service met with USAF representatives to review and discuss a desert tortoise model for the NTTR and section 7 consultation. A draft BA was submitted to the Service to review.

On September 8, 2017, the Service provided comments on the first draft BA to USAF representatives.

On September 18, 2017, the Service and USAF representatives discussed comments on the BA in a conference call.

On September 29, 2017, the USAF provided a second version of the BA to the Service for review. On November 15, 2017, the Service provided comments on the second version of the BA.

On November 30, 2017, the USAF requested formal consultation.

On March 1, 2018, the Service met with USAF representatives to discuss and clarify the proposed action.

On March 15 and May 9, 2018, the USAF submitted errata clarifying the proposed action and conservation measures in the BA.

On June 18 and August 9, 2018, the Service submitted the draft PBO to the USAF for review. We received comments from the USAF on July 11, and August 14, 2018 respectfully.

PROGRAMMATIC CONSULTATIONS

This PBO was prepared to address potential adverse effects to the Mojave desert tortoise as a result of programs described in the USAF's BA and 2017 draft NTTR legislative environmental impact statement. This PBO analyzes the potential effects of implementing USAF actions, or actions funded or authorized by the USAF. This biological opinion addresses mixed programmatic actions which means, for purposes of an incidental take statement, a Federal action that approves action(s) that will not be subject to further section 7 consultation (hereafter, referred to as mixed programmatic), and also approves a framework for the development of future action(s) that are authorized, funded, or carried out at a later time and any take of a listed species would not occur unless and until those future action(s) are authorized, funded, or carried out and subject to further section 7 consultation.

To streamline section 7 consultation for actions affecting the desert tortoise, we established a framework for actions requiring additional project-specific consultation that will be appended to this programmatic biological opinion (hereafter, framework and project-level are used interchangeably to refer to these types of actions). Proposed actions anticipated to result in adverse effects to desert tortoise habitat exceeding 20 acres are considered project-level actions and subject to further section 7 consultation before the USAF can authorize and implement the action. Further consultation will result in separate project-level analysis and documentation that

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are appended to this PBO and include exempted incidental take for that specific action. Proposed actions anticipated to result in adverse effects to desert tortoise habitat equal to or less than 20 acres and those actions described under the USAF's Weapons Delivery Areas are mixed programmatic actions and the resulting incidental take is evaluated and included as exempted, as described in the incidental take statement included within this document.

The PBO and the appended project-level documentation, fulfill the consultation requirements for implementation of both mixed programmatic and framework programmatic actions.

The term of this biological opinion is valid until one of the four reinitiation triggers is reached or until the expiration of the USAF's proposed land withdrawal, which is expected to be 20 years. In this PBO, the Service determined the overall anticipated incidental take of desert tortoise for all proposed USAF activities in the action area by program in the NTTR (including both mixed and framework programmatic actions). As each action is submitted by the USAF to the Service to be appended to this PBO, the Service will determine the anticipated incidental take for each action, at the project level, as a subset of the incidental take anticipated in the PBO. All estimates of proposed disturbance and incidental take are new to this PBO and not carried over from the previous PBO. The PBO supersedes and replaces earlier PBOs.

Reports prepared by the USAF and submitted to the Service for review assure that the effects analyses in the PBO are accurate including a comprehensive review of how the PBO is working, and whether its implementing procedures are in compliance. The USAF will submit information on all projects and their effects to desert tortoise and other listed species in annual reports (due January 31st following each calendar year). During this review, the environmental baseline should be reviewed and updated as needed to account for unanticipated effects or the lack of anticipated effects. The USAF would be responsible for accurately reporting any incidental take of listed species to the Service that occurs in association with actions covered under this PBO.

MIXED PROGRAMMATIC PROCEDURES

Future USAF actions are expected to fall within the scope of one of the eight programs described herein; however, some projects may not match the proposed action for any of these programs but the effects to listed species are similar. In such cases, the USAF will cover the action under the most appropriate program in the PBO.

The USAF and the Service may, through a Federal nexus to a USAF action, extend USAF discretion to non-Federal lands and cover future actions under this PBO if all involved parties agree in writing that the USAF will exercise total discretion and oversight over the action throughout the action area during activities that may result in adverse effects to listed species. The USAF must have sufficient involvement or oversight over the project to ensure compliance with this PBO and all required measures in the appended consultation document. The USAF may delegate specific responsibilities to other agencies but would remain the ultimate responsible entity for compliance with section 7 of the Act. The USAF and the Service will agree on the extent of the USAF's responsibility for compliance during the project-level consultation.

This consultation covers the activities of the USAF, and other Federal agencies and non-Federal entities if the following are met: (1) a nexus exists to a NTTR action, (2) all discretionary Federal

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agencies that are involved in the project or action agree that the NTTR is the lead office for the consultation, and (3) the NTTR has discretion over the action to enforce terms and conditions of any incidental take exemption for the action. The scope of the proposed action is established by acreage thresholds for each program and sub-program as identified in Table 1.

If a project is proposed on non-Federal lands that falls under purview of a section 10 incidental take permit (e.g., the Clark County Multiple Species Habitat Conservation Plan) and involves a nexus to a USAF action with adverse effects to the desert tortoise, such projects may be covered or appended to this PBO. The project-level consultation would evaluate only the effects of the Federal component as effects to the non-Federal portion were analyzed prior to issuance of the section 10 permit. For example, if a project involves effects to USAF land below 20 ac of desert tortoise habitat, the project may proceed as stated above; if the USAF acreage threshold is exceeded, the project would be appended.

MIXED PROGRAMMATIC ACTIONS

Federal actions that may adversely affect less than 20 ac of desert tortoise habitat and those actions described under the USAF's Weapons Delivery Areas (program-level) may proceed without further review by the Service beyond the programmatic level, provided the USAF requires appropriate protective measures in accordance with the measures outlined in this PBO and terms and conditions of the incidental take statement; the USAF will track this activity and include it in the annual report provided to the Service within the required timeframe (see Reporting in Proposed Measures to Minimize the Potential Effects of the Action); and the USAF has discretion over the action and will provide sufficient oversight to ensure compliance with this PBO. Federal actions not described under the USAF's Weapons Delivery Areas that exceed the acreage threshold (project-specific) will follow the appended procedures for framework programmatic actions described below. The Service and USAF may revisit and modify the thresholds during the term of this PBO if information becomes available that project effects to the desert tortoise differ from our analysis. No take exemption is provided at the programmatic consultation level for listed species other than the desert tortoise.

FRAMEWORK PROGRAMMATIC ACTIONS

The following general steps should be followed for future actions to be appended to this PBO:

Step 1. The USAF will submit a request by hard copy to the Field Supervisor of the Service's Southern Nevada Fish and Wildlife Office, to append the action to the PBO. Part A of the Request to Append Action Form provided in Appendix A should be completed for each action to be appended to the PBO.

Step 2. The Service will review the request and determine if the information is sufficient. If the information is insufficient, the Service will promptly notify the USAF. Incomplete information will likely delay the Service's response. If the information is sufficient, the Service will prepare a response for Part B of the form in Appendix A appending the action to the PBO. Prompt processing of appended actions will be dependent upon complete information on the project including all minimization measures and status of the desert tortoise in the action area including recent desert tortoise survey results unless agreed to otherwise during action development.

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Step 3. The Service will respond to the USAF by email and a hard copy of the Request to Append Action Form will be filed in the Southern Nevada Fish and Wildlife Office. The regulatory timeframe to complete formal consultation and deliver the biological opinion to the Federal agency is 135 days. However, the estimated time required for the project-level consultation under programmatic consultation procedures is based on the scope of the action and the potential effects to listed species. For example, a project that would disturb 40 ac and relatively few tortoises may require 30 days to complete while a 100-ac project with a complex effects analysis may require 90 days.

Step 4. Once the Service response has been received, the USAF may proceed with the proposed action.

DESCRIPTION OF THE PROPOSED ACTION BY PROGRAM

The USAF proposed action is to continue current weapons systems testing and training on the existing NTTR and acquire additional expansion areas for its proposed activities as described in alternatives 2, 3A, 3B, and 3C of their draft environmental impact statement (Figure 1). The NTTR is used for testing and evaluation of weapons systems, tactics development, and advanced combat training. Most recently the NTTR was withdrawn from public use for 20 years under the Military Land Withdrawal Act of 1999, Public Law (P.L.) No. 106-65 (MLWA) approved October 5, 1999. The current withdrawal is scheduled to expire November 6, 2021. The USAF is proposing to Congress to approve a new withdrawal that would allow it to continue its operations and expand them into additional areas.

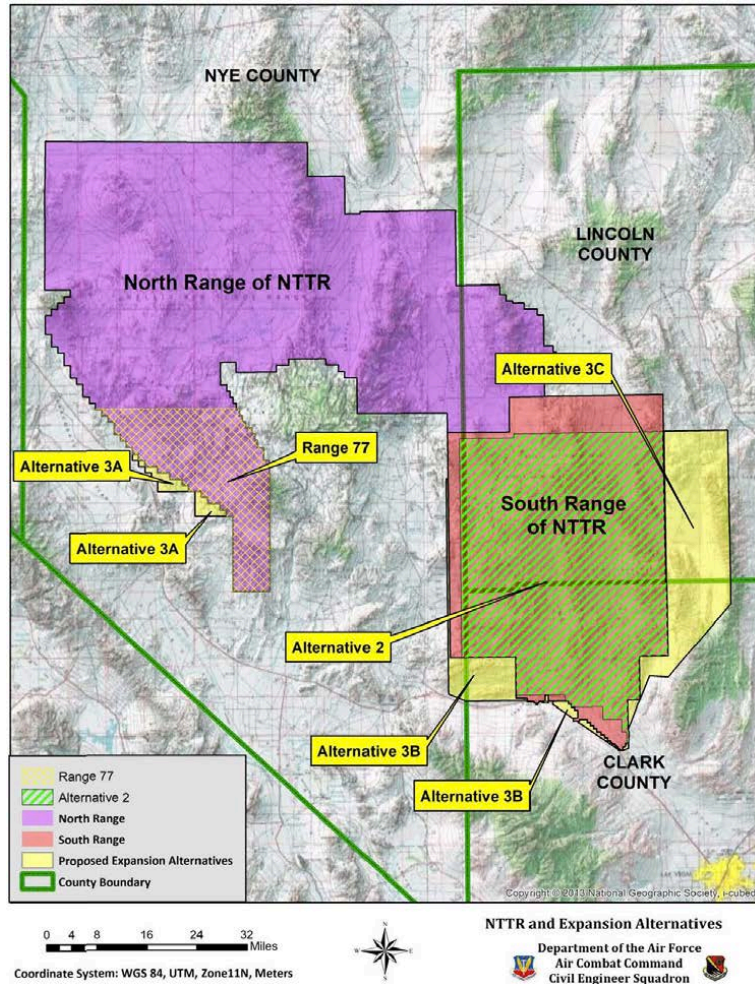


Figure 1 NTTR and expansion areas.

The NTTR is a complex of lands managed or regulated by numerous Federal, State, and local agencies. Administratively, the NTTR is divided into North Range and South Range components (Figure 1 and Figure 2), which are generally separated by the Nevada National Security Site (formerly Nevada Test Site). The current NTTR totals approximately 2.9 million acres (ac) in Nye, Lincoln, and Clark counties. Currently, the USAF has primary jurisdiction of the North Range, and the South Range is jointly managed by the Air Force and Service’s Desert National Wildlife Refuge (DNWR) with DNWR having primary jurisdiction in the South Range, except for areas below 4,000 ft (approximately 112,000 ac). Under the proposed action, the USAF

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would continue primary jurisdiction in the North Range, gain primary jurisdiction of the South Range, and gain primary jurisdiction over additional withdrawn lands (3A, 3B, 3C) totaling 301,434 ac (Figure 1).

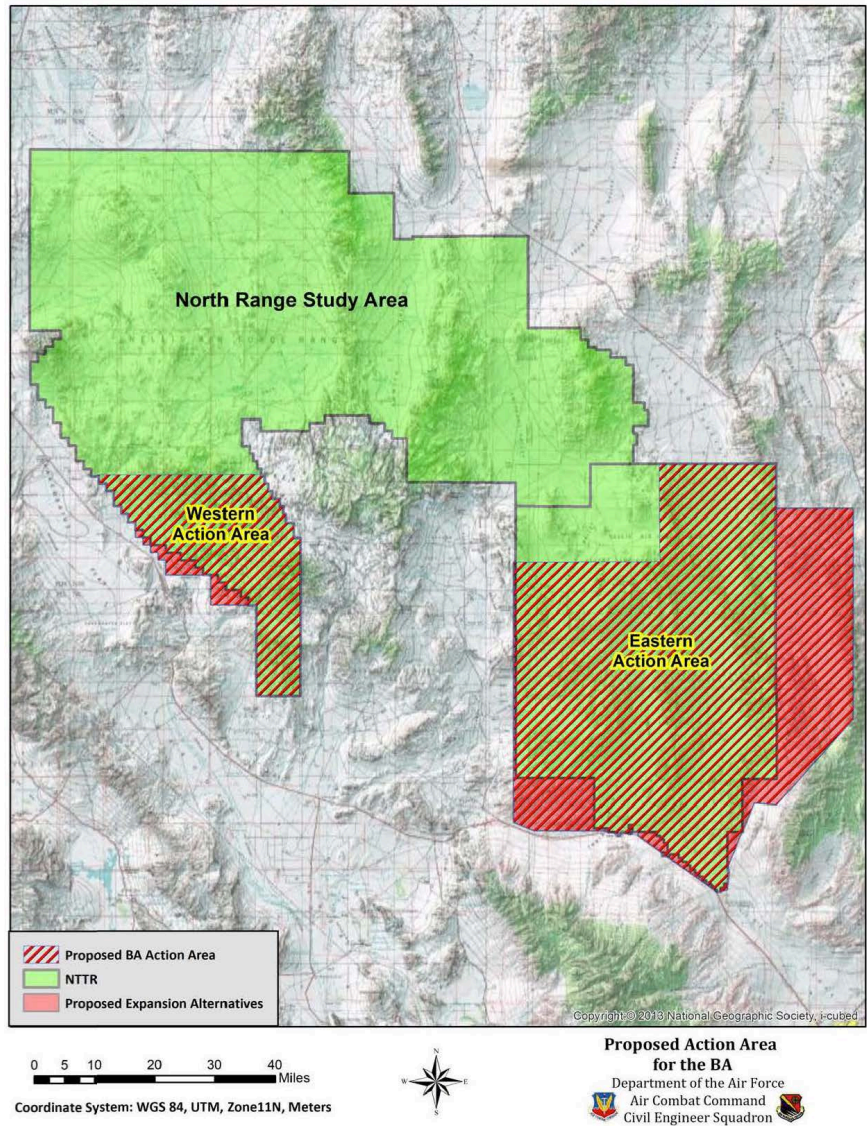


Figure 2 NTTR Proposed action area.

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DEFINITION OF THE ACTION AREA

The action area is defined as all areas to be affected directly or indirectly by the Federal action, including interrelated and interdependent actions, and not merely the immediate area involved in the action (50 CFR § 402.02). Subsequent analyses of the environmental baseline, effects of the action, cumulative effects, and levels of incidental take are based upon the action area as determined by the Service. The action area includes habitat for desert tortoise and areas outside of habitat where activities occur which may affect tortoises or their habitat. The action area for this programmatic consultation is broadly defined as, all USAF land administered or proposed for acquisition to administer through the legislative environmental impact statement and other lands which have a nexus to a USAF action as described above.

The action area for this consultation includes two general areas (Figure 1). The Eastern Action Area includes the South Range, and the 3B and 3C expansion areas. The Western Action Area includes Range 77 and the 3A expansion area. The USAF also operates the Nellis Air Force Base (NAFB) which occupies a 16.6 square-mile area adjacent to metropolitan Las Vegas, northeast of the City of North Las Vegas, in Clark County, Nevada. NAFB is excluded from this consultation and actions there that may affect desert tortoise are addressed in a separate biological opinion (File No. 1-5-07-F-497, a new consultation will be completed after this PBO).

PROGRAMS

The USAF proposes to authorize, fund, or carry out various actions and projects that may adversely affect the threatened desert tortoise. The scope of the proposed action is established by acreage thresholds for each program and sub-program as identified in Table 1.

The proposed action consists of eleven categories or programs of activities with sub-categories, listed in Table 1:

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Table 1 Summary of adverse effect thresholds or limits for disturbance of Mojave desert tortoise habitat which are covered in this PBO.

PROGRAM	Maximum Number of Acres Affected by Program
	NON-CRITICAL ¹
1) Continued Use of Existing Roads	0
2) Ready Access	0
3) Weapons Delivery Areas	7,742
4) Weapons Delivery Areas Cleanup	0
5) Threat Emitters and Roads	11.5 (7.5 for Emitters, and 4.0 for Roads)
6) Infrastructure Construction and Maintenance	
a) Fencing	a. 126
b) Road and Trail Use (Inside Wilderness)	b. 836
7) Borrow Pits	0
8) Test and Evaluation	0
9) Battlefield Training	0
10) Insertion and Extraction (Drop and Landing Zone) and Overland Navigation	13
11) Fire Suppression	unknown ²
Total	8,728.5

Continued Use of Existing Roads

The USAF currently uses existing roads in the action area that occur below 4,000 feet in elevation. Vehicle traffic is restricted to existing paved, graded, two-track, or utility access roads following USAF requirements. The action area has approximately 3,645 acres currently impacted by 1,094 miles of road and trail use (outside proposed wilderness). Nearly 90 percent of existing roads and all roads resulting in the proposed expansion roads are within the eastern action area (Figure 3). Through ready access (described below) there would be an additional 836 acres impacted by 316 miles of road established through USAF ready access and the elimination of proposed wilderness area status. The additional 316 miles of road and trail use would occur on historic two tracks with various degrees of vegetative recovery. After construction, four acres of roads to access threat emitter sites would be included under this program.

¹ No actions are planned in critical habitat.

² The number of acres of fire suppression activities are unknown. The actual acreage is dependent upon too many environmental factors to predict with accuracy.

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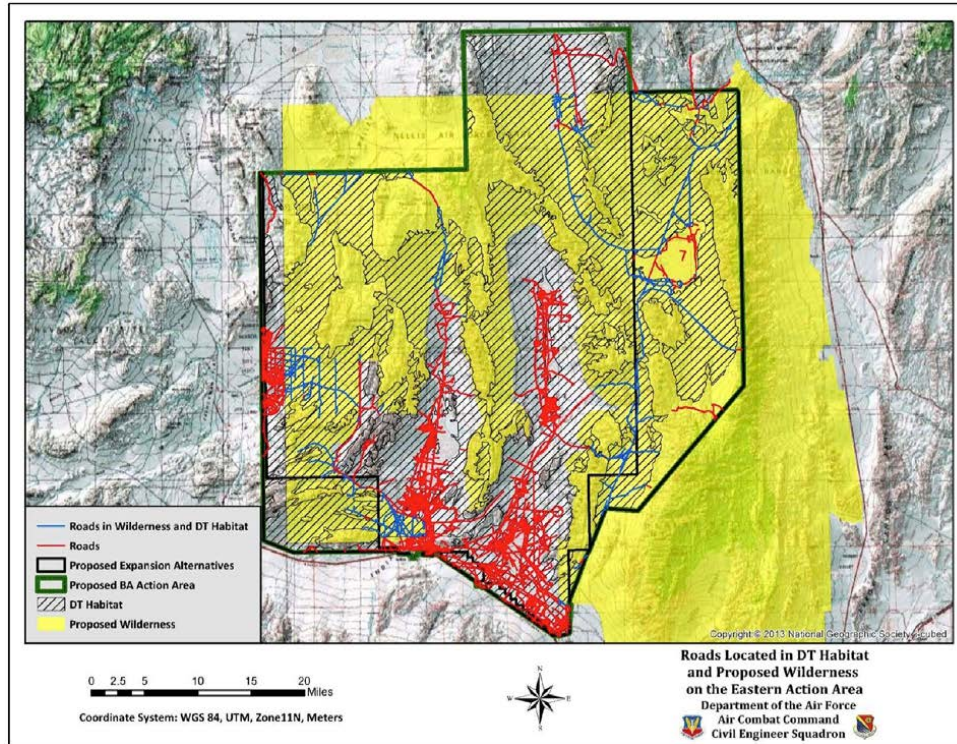


Figure 3. South Range and Eastern action area roads and trails within proposed wilderness and desert tortoise habitat (from USAF 2018).

Ready Access

The USAF proposes conducting ready access activities on lands currently under and proposed to be under its primary jurisdiction boundary. USAF activities on the South Range are currently restricted by a 1997 Memorandum of Understanding (MOU, the South Range is referred to as Nellis Southern Ranges and NTTR is referred to as the Nellis Air Force Range) with the DNWR, which manages most of the South Range as proposed wilderness since it was proposed as wilderness in 1971. Placing the South Range Study Area under Ready Access would remove the proposed wilderness status of the area and allow the same activities to occur as in the North Range. Thus, troops could conduct ground activities anywhere on the area; however, vehicles would be restricted to roads and trails. Bombing and live munitions would be restricted to existing weapons delivery areas, and no new weapons delivery areas are being proposed. Any soil-disturbing activities in desert tortoise habitat would be avoided or minimized as described in the USAF's proposed minimization measures (below). Ready access activities would mostly be occurring in the areas located outside of target impact areas (Figure 4). These activities generally

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involve squads of Special Operations Forces or regular service personnel, conducting ground training in support of the military mission. These activities would typically involve groups of no more than twelve personnel. Ready access may include airdrops (ADs) using fixed- and rotary-wing aircraft to insert or extract troops and equipment or conduct personnel drops (paradrops) onto established drop zones or landing zones. Training would not involve large forces. Items dropped may include approximately 15 cubic foot containers of water (about 300 lbs.) and containerized delivery systems (about 500 lbs.).

Ready access is projected to increase overall range utilization by 30 percent for test and training activities. On the South Range Study Area, the 30% increase relates to aircraft activity only as compared to the current level. The only new roads being proposed are those required for accessing new emitters. It is presumed that munitions usage and other operational equipment would increase at a level consistent with aircraft operations.

Ground activity from ready access would be a new impact in the alternative areas because it is currently not allowed on the South Range outside of existing target impact areas. Existing road use would increase by 30%. Vehicular traffic would be restricted to roads and trails and is anticipated to significantly increase in the wilderness area of the DNWR and in the expansion alternatives, since it is currently at minimal levels. Other activity will be foot traffic associated with small troops (less than 12 soldiers) and impacts are anticipated to be minimal with proper desert tortoise awareness training.

Weapons Delivery Areas

The USAF proposes to continue to use their established weapons delivery areas for live ordnance and munitions training. The USAF is not proposing any new or additional weapons delivery areas or targets. The South Range of the NTTR contains five weapons delivery areas, which are subdivided into 74 target complexes containing approximately 1,363 targets. While the location of weapons delivery systems would remain the same, the number of bombs dropped is proposed to increase by 30% over current baseline levels. Targets may be approached and bombs dropped from new directions. New or different types of ordnance may be used.

The majority of weapons delivery areas in the South Range are located in playas (dry lakebeds) within the Indian Springs Valley and Three Lakes Valley outside of desert tortoise habitat and accommodate ground-disturbing military testing or training activities including live and inert ordnance. Clearing, excavation, and construction of targets would entail soil-disturbing actions. Water is applied in some areas with water trucks to reduce dust and particulate air pollution.

When existing targets are hit by ordnance and munitions, a larger area around the target is often disturbed by the impact (e.g., skidding ordnance, explosion area around impact). Previous disturbance of desert tortoise habitat from these types of disturbance totals 3,252 acres, representing a percent increase of 335 percent of habitat disturbance over the last 23 years. Based on this percent increase and the expected 20-year timeframe of this proposed withdrawal, the USAF estimates up to 7,742 additional acres (31 km² (12 mi²)) of desert tortoise habitat may be disturbed by weapons delivery to existing targets within identified target impact areas (Figure 4). Because many unknowns exist making it difficult to predict where this disturbance may occur,

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the USAF is not proposing to conduct desert tortoise clearance surveys for the purposes of weapons delivery. The target impact areas incorporate a larger area (455 km² (176 mi²)) than the proposed amount of disturbance.

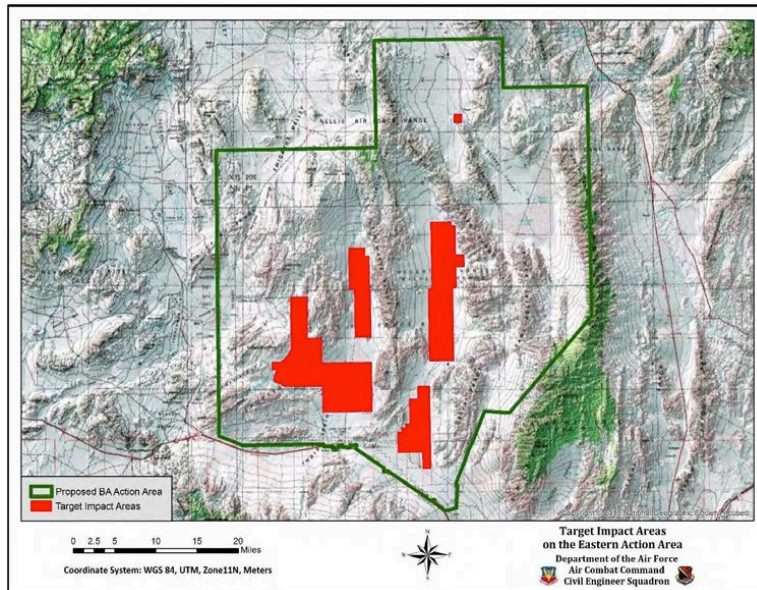


Figure 4. Proposed target impact areas within the Eastern Action Area (Figure 6, page 25 of the BA).

Weapons Delivery Areas Cleanup

Weapons delivery areas would be periodically cleaned and targets repaired or removed. The same areas affected by weapons delivery areas would be affected by associated cleanup. Cleanup requires personnel to remove unexploded ordnance and debris from the weapons delivery areas on foot and in vehicles. Heavy equipment would be used to remove larger material and to grade the target site. Live and spent munitions would be removed and unexploded ordnance detonated. Destroyed targets would be removed from the area. If depleted uranium rounds were employed in an area, spent rounds will be located and properly disposed. Weapons delivery areas would be cleaned, graded and targets would usually be replaced or rebuilt. Water trucks are used to minimize dust and particulate air pollution. All of these actions involve soil disturbance and concentrated vehicular and heavy equipment activity within the weapons delivery areas. No new weapons delivery areas are currently being planned for live ordnance use on the action area.

Threat Emitters

Threat emitters (e.g., radars) would be located within topography that would permit detection in two directions. To reduce overall impacts, the USAF would, to the extent possible, locate threat

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emitters along existing roads or unpaved two-tracks to minimize the need to construct new access roads. However, up to 4.0 acres of new road will be constructed and used to access new emitter locations. New emitters would only be placed in the South Range and potentially in alternative 3C. Soil disturbance would involve clearing an area approximately 150 ft. by 150 ft. Up to 15 emitters are anticipated to be constructed on the action area on the South Range or Alternative 3C. This, coupled with up to four acres of road improvements, would cause up to 11.5 acres of desert tortoise habitat being destroyed if all emitter pads and roads were placed in desert tortoise habitat. However, emitters and roadway construction and disturbance would be located outside of desert tortoise habitat where possible. Each emitter requires a 1.5 kilovolt generator to operate. Electromagnetic radiation (radio waves), microwaves, or lasers may be emitted by some of the emitters.

Infrastructure Construction and Maintenance

Buildings, roads, and equipment staging and storage areas require periodic maintenance or re-configuration (change in the design or layout within existing developed areas and weapons delivery areas in the South Range). New facilities may be constructed. At the present time, the type or location of such facilities is not known. The USAF goal would be to locate new facilities in previously developed areas or outside of desert tortoise habitat. Improved roads may require repair and the shoulders must be periodically graded to remove invasive weeds and to provide a level surface. Unimproved roads also require periodic grading and repair, especially after significant storm events. Buildings and other infrastructure may require maintenance and even replacement (including threat emitters after they are built). Other infrastructure requiring maintenance and installation includes scoring towers; siting and measurement devices; security equipment, fencing, and buildings; communication towers emitters and antennas; electrical lines (above and below ground); communication lines (above and below ground); wells (ground water); generators; and convoy turn points. Water is applied in some areas to minimize dust production.

NTTR manages invasive plants in developed areas and along improved roads by periodic mowing, grading and herbicide application. Manual cutting and stump treatment with herbicides is the common method used for controlling salt cedar (*Tamarix ramosissima*).

A total of up to 115 miles of new fence will be installed, totaling 140 acres based on a 10 ft. ROW. It is estimated that about 90% of this fencing (126 acres) is proposed to be located in desert tortoise habitat.

Additionally within desert tortoise habitat a total of up to 316 miles and 836 acres will be used for areas associated with new and existing roads and trails in proposed wilderness in the South Range and proposed expansion alternatives.

Borrow Pits

Borrow pits are areas that are excavated to obtain fill material and gravel to maintain roads and support infrastructure. Borrow pits may be installed in various locations on the South Range of the NTTR, but none are currently proposed. These areas tend to be relatively small in area, but

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involve extensive excavation and heavy equipment movement. Water may be applied to minimize dust production. The action area has 25 borrow pits totaling 536 acres and ranging in size from 1.5 to 130 acres in size (average of 21 acres). Seven of the 25 borrow pits (approximately 298 acres) in the action area are currently authorized for use in desert tortoise habitat. Soil disturbance and vehicular movements are the major activities involved with this action.

Test and Evaluation

The Test and Evaluation program tests and evaluates equipment to determine whether the equipment meets the specifications outlined by government contracts. Test and Evaluation also determines how the equipment can be used and the environment and tactics best suited for the equipment. These Test and Evaluation capabilities include an electromagnetic environment that is free of interference, test infrastructure available to measure critical Time-Space-Position Information of weapons and various platforms, and the ability to measure and reproduce Test and Evaluation environments. Depending on the equipment being reviewed, impacts can vary from soil disturbances to electromagnetic emissions. Most of these activities would be staged in areas that have already been cleared for specific use (emitters, radar, targets, etc.).

Battlefield Training

Typical battlefield training includes ground training with the use of air and vehicle operations support. Ground training includes a number of activities, but is generally the movement of small groups of soldiers through interstitial areas (areas between roads, infrastructure, and targets). Troop movements are typically stealthy as units transition from one objective to another. These troops are usually Special Forces teams operating in groups of one to twelve soldiers. To increase the realism of the training events, some training ammunition (blank small-arms), hand flares, smoke grenades, or other training munitions (such as paint balls) are expended during certain operations. In almost all cases, ground training on foot involves movement under covert, clandestine conditions without leaving any evidence of troop presence. Troop movement is usually in small groups and large troop movements impacting large areas would not occur. Land navigation training may occur during daytime or nighttime and usually involves the use of a compass, maps, and GPS. Troop movement on foot may also be used for training in search and rescue, personnel recovery, and reconnaissance. Personnel movement usually occurs on established roads, along mountainous terrain, and washes. Movements would occur in such limited frequency over the same area that the physical impact on the ground is expected to be negligible. All troops potentially encountering desert tortoise during movements and operations in desert tortoise habitat receive desert tortoise awareness training prior to those activities.

Typical troop movement activity includes the following:

- Road march (conducted on existing roads for extended lengths of travel)
- Six-to-twelve-man team insertions and extractions from varying methods (parachute, airplane insertion, and helicopter). Insertions are clandestine activities and regardless of how an insertion is accomplished, personnel would most often walk out of the insertion area

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- Clandestine movement by foot to training objective sites (most often culminating at an Urban Operations Complex (UOC))
- Foot movement to an UOC through the interstitial areas and on existing roads

Ground support vehicles are occasionally integrated into the training to deliver and retrieve the participating troops or provide support and logistics. Ground vehicle movement is normally restricted to the existing road and trail network, but some training integrates the use of all-terrain vehicles (ATVs).

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

As part of battlefield training, troop insertion and extraction points and overland navigation in level, rolling and mountainous terrain is required. Insertion points are established for user groups that conduct training and testing that integrate ground and air operations. Overland navigation between insertion and extraction points may be conducted with or without unmanned aerial systems. Insertion and extraction points are usually unimproved surfaces or clearings located for inserting and extracting paratroops or para dropping equipment or palletized supplies. These equipment or supplies are palletized and rigged with multiple automatically deploying parachutes.

Airborne operations associated with these activities include the use of rotary or fixed-wing aircraft for the insertion, extraction, movement, or supplying of ground troops. This could include the delivery or extraction of special forces via an aircraft to an insertion and extraction point or para-drops (delivery of equipment or supplies using parachutes). Some insertion points are used for touchdown and takeoff of fixed-wing and rotary military aircraft. Under the proposed action in Alternative Area 3C this would involve one runway that would be a mockup location to provide special operations personnel a location to practice tactics, while a second runway would be an unpaved active runway, providing more realistic insertion training. Each runway would be 6,000 feet long and 90 feet wide. It is anticipated that ground disturbance activities associated with construction of the runways would be less than 13 acres. The mockup runway would not be used for aircraft operations. It is anticipated that the active runway would be a dirt runway. The training activities would be associated with various aircraft conducting Forward Area Arming and Refueling Points (FAARP) during the training activities. As the name indicates, FAARP consists of two training activities (refueling and munitions loading of aircraft) that occur in unpaved areas. The USAF proposes runways would be located on playas outside of desert tortoise habitat, thus impacts to desert tortoise and desert tortoise habitat are highly unlikely. Impact areas on the South Range of the NTTR are not used for insertion and extraction activities.

Fire Suppression

All of the action area is subject to wildland fires ignited by natural or artificial sources. A wildland fire management plan was prepared by the NTTR which includes a discussion of constraints for fire suppression with respect to the desert tortoise (99 Civil Engineering Squadron, 2011). Currently fire management and suppression decisions within DNWR and the South Range are guided by the 2004 *Wildland Fire Management Plan Desert National Wildlife*

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Refuge. Fire suppression decisions in the South Range, DNWR, and proposed wilderness therein “are to be suppressed at minimum costs considering benefits and values at risk and consistent with resource objectives.” Fire suppression will be coordinated with DNWR personnel.

BIOLOGICAL SURVEYS

The USAF will continue to assess baseline conditions for vegetation, unique habitats, rare plants, and wildlife including for the presence of ESA-listed and sensitive species as part of the ongoing integrated natural resources management program. This is an action that has been actively ongoing since 2010 for a variety of species including desert tortoise, golden eagles, and bighorn sheep. Surveys were conducted annually to build a comprehensive baseline of desert tortoise and other target species. These species surveys help to validate population estimates and monitor population trends. Vegetation surveys document the characteristics and plant community composition of the many habitats found within the NTTR. Developing detailed vegetation maps characterize the vegetation cover and help identify species-specific habitat and in turn, inform locations for species surveys.

Wildlife and vegetation surveys are used to inform natural resource managers and military planners of species-sensitive locations to avoid if possible. Proposed project sites undergo full NEPA review and project siting may be adjusted to avoid the following: sensitive habitat, nest sites and wintering habitat, lambing areas, key wildlife corridors, and riparian areas and washes.

PROPOSED MEASURES TO MINIMIZE THE POTENTIAL EFFECTS OF THE ACTION

To minimize adverse effects to the desert tortoise that may result from proposed programs, operations, and activities described above, the USAF will implement the following protective measures during the duration of the proposed action. We developed these measures with the USAF based on the measures in the BA and in coordination with the USAF. We have done this to improve clarity and to incorporate more current Service guidance, but we have not substantially changed the intent of the measures identified in the USAF’s BA. These measures will apply to mixed programmatic and framework programmatic actions. If necessary, the USAF will develop and propose additional measures for future activities [framework programmatic actions] proposed to be appended under this programmatic biological opinion.

Movement of Desert Tortoise from Harm’s Way

If desert tortoise or their sign are observed within the boundaries of the NTTR, facility personnel or operations contractors will immediately call the NAFB Natural Resources Manager to request a biologist for further evaluation. USAF activities that may endanger a desert tortoise will cease if a desert tortoise is found in harm’s way as a result of the activity. Project activities will resume after the NAFB Natural Resources Manager has been contacted and an authorized [desert tortoise] biologist removes the desert tortoise from danger or after the desert tortoise has moved to a safe area on its own. Relocation and handling of live desert tortoise will be conducted according to the recommendations found in most current version of the Desert Tortoise Field Manual (Service 2009) which may be found at https://www.fws.gov/nevada/desert_tortoise/dt/dt_auth_form.htm.

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Desert tortoises that are moved offsite will be released into undisturbed habitat within 500 m (1,640 ft) from the point of encounter and will be placed in the shade of a shrub, in a natural unoccupied burrow similar to the burrow in which it was found, or in an artificially constructed burrow (Desert Tortoise Council, 1999) depending upon the time of year and ambient temperatures.

Desert tortoises moved in the winter (November 1 through March 1) or those in hibernation regardless of date must be placed into an adequate burrow. If one is not available, one will be constructed using the protocol for burrow construction (Desert Tortoise Council, 1999). During mild temperature periods in the spring and fall, desert tortoise can be placed in a burrow or under a shrub.

If a desert tortoise is encountered and appears to be experiencing heat stress, it will be placed in a tub, by an authorized desert tortoise biologist, with 1 in. of water in an environment with an ambient temperature between 76°F and 95°F for several hours, until heat stress symptoms are no longer evident.

Upon locating a dead, injured, or sick desert tortoise, proper notification shall be filed with the Southern Nevada Fish and Wildlife Office in Las Vegas. Only authorized desert tortoise biologists will handle live, sick, or injured desert tortoise. Dead desert tortoise will be handled with care to maintain the carcass in good condition for subsequent analyses of cause of death. Sick or injured desert tortoise will be delivered to any qualified veterinarians for treatment or disposal. A form for all desert tortoise that are handled (live and dead) will be completed by the NAFB Natural Resources Manager or authorized desert tortoise biologist. The NAFB Natural Resources Manager or authorized desert tortoise biologist shall be responsible for the handling, storage, and updating of completed forms.

Soil Disturbance

Except for the weapons delivery program, in areas where (1) new disturbance to desert tortoise habitat, or (2) disturbance to recovered desert tortoise habitat are likely to occur, the project site will be cleared of desert tortoises prior to construction by authorized desert tortoise biologists. During the more-active season, clearance surveys will be conducted either the day prior to, or the day of, any surface-disturbing activity. During the less-active season, clearance surveys will be conducted within 7 days prior to any surface-disturbing activity. No surface-disturbing activities shall begin until two consecutive surveys yield no individuals. Clearance surveys will be coordinated with the NAFB Natural Resources Manager well in advance of any project. In addition, a perimeter around the project area will be cleared, as determined by the NAFB Natural Resources Manager and the Service. The determination to conduct perimeter clearance and the width of the perimeter will be made by the NAFB Natural Resources Manager and will be based on the location of the project in desert tortoise habitat according to the current desert tortoise habitat map. A desert tortoise monitor will be present on the project sites during all project construction and earth-moving activities until the project is completed. Any desert tortoise or eggs found within the project area will be properly removed by a qualified desert tortoise biologist (Desert Tortoise Council, 1999).

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To the maximum extent possible, the USAF will schedule projects requiring ground construction or maintenance (e.g. infrastructure, threat emitters, borrow pits) within desert tortoise habitat during the less-active season (generally October 31 to March 1) and during periods of reduced desert tortoise activity (typically when ambient temperatures are less than 60 or greater than 95 F).

The USAF will ensure all vehicles and equipment that are not in areas enclosed by desert tortoise exclusion fencing will stop construction activities occurring outside desert tortoise exclusion fencing during rainfall events in the more-active season (generally March 1 to October 31), and if temperatures are above 60 but below 95 °F for more than 7 consecutive days. The Field Contact Representative (FCR), which may be the NAFB Natural Resources Manager, or designee will determine, in coordination with the USAF and Service, when it is appropriate for project activities to continue.

For areas that would be temporarily disturbed or where restoration is proposed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations will be backfilled with deep soils first, with the topsoil being backfilled as the final layer. This allows the site to have a final layer of soil that approximates original soil conditions and that contains a relatively healthy seed bank for regrowth of vegetation, thus rectifying potential soil displacement. Soils may be lightly rolled or compacted to reduce the potential for wind erosion. Excavated holes and trenches will be covered or surrounded with desert tortoise-proof fencing until they are backfilled. A qualified desert tortoise monitor will be present during excavation activities to ensure that desert tortoise do not fall in holes or trenches.

Earthen plugs, with wildlife escape ramps on either side of the plug, will be provided in open trench segments at no greater than every 0.25 mi. These distances will be reduced if the FCR and authorized desert tortoise biologist determine that the plug and escape ramp spacing is insufficient to facilitate animal escape from the trench. Any tortoise that is found in a trench or excavation will be promptly removed by an authorized desert tortoise biologist in accordance with the most current Service-approved guidance. If the authorized desert tortoise biologist is not allowed to enter the trench for safety reasons, the USAF will coordinate with the Service to determine an alternative method of removal.

Additionally, the USAF will implement procedures to minimize soil erosion and loss associated with construction. Where practicable, the impacted surface will be brought back to original contours, and erosion control measures will be used to maintain the soil in place. Sediment fences will be placed around the construction site to prevent movement of soils, sediments, and construction materials offsite during storm events. The excavated areas will be lightly wetted to minimize dust production. Application of water will be carefully controlled to prevent puddling and subsequent attraction of desert tortoise to the area.

Construction of roads, blading of existing roads, or other surface-disturbing activities will be confined to the locations authorized by the NAFB Natural Resources Manager. All work area boundaries shall be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. Construction of roads, blading of existing roads, or other surface-disturbing activities will not exceed the minimum size required for safe usage. Roads will be

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lightly wetted to minimize dust production during maintenance activities and heavy use. Application of water will be carefully controlled to prevent puddling and subsequent attraction of desert tortoise to the area. Vehicular speeds will be maintained at 25 MPH in desert tortoise habitat.

To the extent possible, the USAF will ensure that unauthorized personnel, including off-duty project personnel, do not travel on project-related temporary access roads. Signs will be used and say that access on the ROW is strictly prohibited except by authorized personnel.

Cross-country travel outside designated areas shall be prohibited. All equipment, vehicles, and construction materials shall be restricted to the designated areas and new disturbance will be restricted to the minimum necessary to complete the construction or training (e.g., such as construction of one-lane access roads with passing turnouts every mile rather than a wider two-lane road).

Disturbance of desert tortoise burrows will be avoided from May 15 to September 30 to prevent impacts to buried egg clutches and emerging hatchlings. If this is not possible, active burrows impacted by the action must be carefully excavated or inspected with a fiber optic scope to determine if eggs are present. Eggs found in burrows must be removed and placed in a new burrow in suitable habitat according to the current recommendations found in Guidelines for Handling Desert Tortoise during Construction Projects (Desert Tortoise Council, 1999). Following the inspection of burrows for desert tortoise, all burrows must be collapsed to prevent future use.

Encroachment of weeds and invasive species will be managed and removed by mechanical, hand, or chemical methods in accordance with the NAFB Pest Management Plan (Nellis Air Force Base 2013).

The USAF proposes to compensate for effects to the desert tortoise through habitat restoration or payment of fees to be used to contribute to the recovery of the species. Any areas temporarily impacted by excavation and other activities will be returned to original contours and allowed to naturally return to the original habitat. All disturbance of desert tortoise habitat associated with existing targets and projects will be limited to the current acreage of target impact areas, not including roads. Fees or habitat restoration will only be for new areas of soil disturbance based on the maps provided in Figures 5-8 and 27-29 of the BA and will be identified through monitoring (using GIS, or other means available as agreed upon by USAF and the Service), annual reporting, and project-specific consultations.

The USAF will work with the Southern Nevada Fish and Wildlife Office in Las Vegas to determine areas on the NTTR suitable for restoration activities and set these acreages aside for land-use controls (e.g., development restrictions); these compensation areas can serve as a "mitigation bank" for desert tortoise habitat. Desert tortoise habitat projects will be developed and agreed to by the Service prior to implementation of activities covered under the BA, but those habitat projects do not necessarily need to be completed before the covered activity begins.

If restoration is not feasible, the USAF will provide fees to contribute to the recovery of the desert tortoise to offset destruction of habitat. Fees will be based on current rates at that time.

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The current rate is \$885 per ac of disturbance, as indexed for inflation, effective March 1, 2018. The next adjustment will become effective March 1, 2019. The fee rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31st of each year, becoming effective March 1st. Fees assessed or collected for projects covered under this biological opinion will be adjusted based on the current CPI-U for the year they are collected. Information on the CPI-U can be found on the internet at: <https://www.bls.gov/cpi/>.

Vegetation Management

Vegetation treatments will be conducted during the tortoise less active season. Those treatments that need to be conducted during the active season (e.g., response to new non-native plant infestation) will be coordinated with the Service. Any vegetation temporarily impacted by excavation, maintenance, training, and other activities will be returned to original contours and allowed to recover naturally. Native plants may be seeded for germination following the first storm event after project completion. Natural recovery of areas is preferred to seeding and planting.

As previously discussed, the top 6 inches of soil will be excavated separately from deeper soils and stockpiled in a separate location. Any excavations will be backfilled with deep soils first, with the topsoil being backfilled as the final layer. Excavated areas will be brought back to original contours where practicable. Soils may be lightly rolled or compacted to reduce the potential for wind erosion.

Excavation and construction equipment will be cleaned thoroughly before traveling from one area to another on the NTTR. Off-road vehicle use will be minimized whenever possible to decrease the spread of invasive species such as red brome, Russian thistle, halogeton, and cheatgrass. Wherever possible, maintenance of road shoulders will be minimized to prevent the spread of invasive plants. Those areas will be managed to develop native plant populations.

Encroachment of invasive plants in disturbed or restored areas will be prevented, and any invasive plants that become established will be removed either mechanically or through herbicide application. Herbicides will be used in accordance with all product label requirements and restrictions. If conducting manual spot applications of herbicides to vegetation in upland habitats occupied by Mojave desert tortoises, the USAF will utilize the typical, rather than the maximum, application rate. All individuals applying herbicides will be given education and instruction on what to do if a tortoise is located in treatment area. If a tortoise is found to have been sprayed with herbicide, the tortoise will be immediately rinsed with fresh water while still on the ground. If the tortoise voids its bladder, the USAF will immediately be contacted for further guidance. If a tortoise is found in a proposed treatment area, the area will be avoided and treatment will move 500 feet ahead. Treatment will be completed the following day as long as the tortoise is no longer in the immediate area.

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Noise and Vibration

The USAF will minimize and avoid excessive noise and vibration associated with various construction and military operations where possible.

Wildland Fire

The USAF currently has a wildland fire management plan in place for NTTR. This plan will be expanded to include the alternative expansion areas if they are included as part of the withdrawn land. As part of the wildland fire management plan, USAF personnel will be trained to properly respond to the incidences of wildland fire. Implementation of this plan will ensure that wildland fires will be minimized and impacts to desert tortoise due to wildland fires will also be minimized.

The USAF will adhere to the following desert tortoise management recommendations by the Bureau of Land Management (BLM) with respect to fire suppression activities (USDI-BLM, 1998) and the DNWR in regards to proposed wilderness areas. While safety is paramount, the following guidelines for desert tortoise conservation will be considered for all fire suppression activities:

- Utilize the current Mojave Desert Initiative (MDI) guidelines.
- Avoid spreading non-native plants by ensuring that all firefighting equipment has been cleaned before entering the area.
- Use the current map for potential desert tortoise habitat as designated by the Service and mapped by the Nellis Natural Resources Program to determine where special consideration suppression tactics will be conducted.
- Minimize soil surface disturbances during fire suppression
- Limit the use of mechanized equipment when possible
- Restrict use of firefighting equipment and vehicles to existing roads and trails when possible.
- The use of aerial retardant is the preferred method of fire suppression. Foam or fugitive retardant is preferable to iron oxide retardant in desert tortoise habitat.
- Establish fire camps, staging areas, and helispots in previously disturbed areas outside mapped desert tortoise habitat. If possible, this will be accomplished in consultation with a qualified resource advisor from BLM or Nellis Natural Resources Program.
- Provide all firefighters and support personnel with a briefing on desert tortoise and their habitat to minimize tortoise injuries and destruction, particularly those associated with vehicle use.

Dust and Particulate Pollution

The USAF will comply with all regulations required for construction and military activities to minimize production of dust and other particulates into the air. It is recognized that use of water to decrease dust production can inadvertently attract desert tortoise to roads and construction sites. However, current particulate pollution standards require that dust be contained on

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construction sites and along roads. Therefore, the USAF will minimize use of water where practicable and when water is used for dust control, it will be used sparingly to avoid puddling and accumulation of water in a manner that attracts desert tortoise. Alternatives for dust control will also be explored and include implementation of dust abatement measures using a soil stabilizer (e.g., application of dust palliatives [e.g., polymer emulsion or synthetic fluid]) to reduce impacts from dust.

Vehicular Traffic

The USAF, contractors, and other personnel will check under their vehicles prior to moving if the vehicle has been parked for more than a few minutes in desert tortoise habitat. Additionally, signs in parking areas of projects or facilities located within desert tortoise habitat will be posted to remind personnel to check under their vehicles prior to moving them. Relocation of a live desert tortoise found by personnel will be conducted by a qualified desert tortoise biologist according to the recommendations found in most current version of the Desert Tortoise Field Manual (Service 2009).

Speed limit of 35 mph will be maintained on paved roads in desert tortoise habitat. Speed limits of 25 mph will be maintained for all regular vehicle travel on gravel roads in desert tortoise habitat. Speed limit of 15 mph will be maintained on two-track roads and trails.

Signage will be posted to clearly delineate areas within potential or known desert tortoise habitat where off-road vehicle use is prohibited. If necessary, fences with appropriate signage will be implemented in problem areas. Signs will be posted no further than 300 feet apart and facing outward from restricted areas. Off-road vehicle use in desert tortoise habitat will be minimized or avoided where allowed by military operations and constraints.

Although desert tortoise activity at night is rare, convoys and other night vehicular traffic planned for the action area will be made aware to watch for desert tortoise on roads. The day after convoys are conducted, the routes will be inspected for mortalities and those reported immediately to the NAFB Natural Resources Program Manager.

Water

Minimization of dust production in and around construction sites and some military activities often involve application of water via water trucks and other methods. Water can accumulate in depressions and potholes on roads and construction areas from those activities as well as following storm events. Accumulation of water can result in attraction of desert tortoise to those areas. The USAF, contractors, and visiting personnel will be made aware of this potential and to be more cognizant of the occurrence of desert tortoise in these areas to avoid impacts. The USAF will periodically maintain roads and parking areas to remove these depressions and potholes.

Water applied for dust control on construction projects will not be allowed to pool outside desert tortoise-fenced areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water. If pooling water does occur outside desert

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tortoise-fenced areas on construction projects where construction vehicles or equipment are in use, an authorized desert tortoise biologist will be assigned to patrol each area being watered immediately after the water is applied and at approximate 60-minute intervals until the ground is no longer wet enough to attract tortoises if conditions favor tortoise activity.

Predation

To minimize elevated perches for predators, signage, fencing, power poles, and antennas will only be installed where required. Projects that provide elevated perches for aerial predators such as towers, threat emitters, facility structures, or other aerial line support structures will be designed to discourage their use by ravens for perching or nesting (e.g., by use of anti-perching devices) in accordance with the most current Avian Power Line Interaction Committee. If sign of desert tortoise predation is observed below raven nests in desert tortoise habitat, the appropriate permits will be acquired to remove the nest. A summary of all raven nests that are removed and sign of desert tortoise predation will be included in the USAF's annual report to the Service. All trash and debris will be regularly collected and contained in covered containers to minimize attracting potential predators of the desert tortoise (ravens). This program will include the use of covered, predator-proof trash receptacles and proper disposal of trash in a designated solid waste disposal facility. Vehicles hauling trash to the landfill and leaving the landfill must be secured to prevent litter from being released along the road.

Landfills will be properly managed and maintained to reduce the potential for scavengers such as ravens, dogs, and coyotes to congregate in areas used by desert tortoise. Appropriate fencing maintained around these facilities would reduce the potential for terrestrial animals to access these facilities, and best management practices such as sorting trash with high organic matter (i.e. foodstuffs) and burying it immediately with sufficient cover will reduce the occurrence of potential predators of desert tortoise. At the present time, no municipal or hazardous waste landfills (as opposed to construction and demolition landfills) are located in desert tortoise habitat and none are planned to be constructed.

Hazardous Materials and Depleted Uranium

The USAF will comply with all state and federal regulations to accommodate or remove hazardous materials and depleted uranium from target sites, construction sites, or other areas where it may affect desert tortoise.

Fencing

Direct removal of vegetation and ground disturbance will be minimized when installing boundary fencing. Bulldozer clearing or other major soil-disturbing methods will be avoided. In areas with heavy vegetation, irregularly shaped fence line clearings will be used rather than fence lines with uniform clearing widths. Mechanical clearing can be used if accompanied by actions that minimize soil loss and allow restoration of native vegetation.

All construction areas in desert tortoise habitat, including open trenches, hydrostatic testing

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locations, tie-in, and similar areas of work will be fenced with temporary tortoise-proof fencing (e.g., silt fencing) or inspected by an authorized desert tortoise biologist periodically throughout and at the end of the day and immediately the next morning.

Temporary fencing will be designed in a manner that reduces the potential for desert tortoises and hatchlings to access the construction areas. Thus, the lower 6 to 12 in of fencing will be folded outward (i.e., away from the construction area and towards the direction a tortoise would approach the work area), and covered with sufficient amount of soil, rocks, and staking to maintain zero ground clearance and secure the bottom section of material. After the fencing is erected and secure, the inside will be cleared by an authorized desert tortoise biologist following procedures described above under *Movement of Desert Tortoise from Harm's Way*. The fencing must remain closed during any construction activities.

An authorized desert tortoise biologist will check the integrity of the fencing every 2 hours and ensure that there are no breaches in the fencing and no desert tortoises pacing the fence.

In addition, the fence line and access roads will be monitored for invasive plant species and appropriate invasive plant control measures will be implemented when required. Measures to decrease use of fences for perching of predators will be implemented where required.

Tortoise-proof fencing will be installed around the boundary of permanent aboveground facilities that are regularly accessed by vehicles or equipment. Fence specifications will be consistent with those approved by the Service (Service 2009). Tortoise guards will be placed at all road access points where desert tortoise-proof fencing is interrupted, to exclude desert tortoises from the facility. Gates will provide minimal ground clearance and deter entry by desert tortoises. Permanent tortoise-proof fencing along the project area will be appropriately constructed, monitored, and maintained. Fencing will be inspected in accordance with Table 2 and inspection reports will be included in annual reporting. Monitoring and maintenance will include regular removal of trash and sediment accumulation and restoration of zero ground clearance between the ground and the bottom of the fence, including re-covering the bent portion of the fence if not buried.

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Table 2. Desert tortoise exclusion fence inspection schedule.

Condition	Minimum Requirements
Quarterly	Inspect fence perimeter, tortoise guards, and gates once per quarter.
Breach in fence observed, tortoise guard or gate requires maintenance, during tortoise less active season	Repair within 1 week of breach occurrence.
Following major storm event, tortoise more active season	Inspect fence perimeter, tortoise guards, and gates within 72 hours.
Breach in fence observed, tortoise guard or gate requires maintenance, tortoises more active season	Repair within 48 hours of breach occurrence.

Awareness Training

Contractors, military personnel, and any visitors on site will be provided a USAF-approved desert tortoise awareness training to recognize desert tortoise and desert tortoise sign. The program will be presented by an authorized desert tortoise biologist for projects causing the greatest potential for destruction of desert tortoise habitat. A video or fact sheet, as approved by the Service, may be presented or provided in lieu of a presentation for projects with low-impact potential as determined by the NAFB Natural Resources Manager. Records of training provided to each individual will be signed upon completion of training by each individual, and those records will be maintained by the NAFB Natural Resources Manager. Contact information for the NAFB Natural Resources Manager shall be included on any fact sheets or handout materials.

Environmental staff will conduct awareness briefings for all personnel working in desert tortoise habitat. These briefings will be conducted either in person or via a video presentation of the briefing. At a minimum, the briefings will include discussions of the following:

- General provisions of the Endangered Species Act
- Necessity for adhering to the provisions of the Act
- Potential for civil and criminal penalties associated with violating the provisions of the Act
- Measures of this PBO and terms and conditions of the incidental take statement that are applicable to the activity
- The definition of “take”
- The exact boundaries of the site within which the project activities may be accomplished
- Distribution of desert tortoises within the NTTR
- General behavior and ecology of the desert tortoise and its sensitivity to human activities
- Threats to the desert tortoise including risk from vehicles and equipment, non-native plants, and human-subsidized predators.
- Measures to protect desert tortoise including desert-specific Leave-No-Trace guidelines
- Proper disposal of food and trash to avoid attracting predators of desert tortoise
- Personal measures employees can take to promote the conservation of desert tortoise
- Specific and detailed instructions will be provided on the proper techniques (preferably by a qualified biologist, if practicable) to capture and move a desert tortoise that may be in imminent danger (on a heavily traveled road, on an active project site, or under a

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- vehicle) in accordance with the Service-approved protocol.
- Instructions for personnel to inspect beneath their vehicles while in desert tortoise habitat prior to moving the vehicle. If a desert tortoise is found beneath the vehicle, it will be moved by environmental staff or by project personnel in accordance with guidelines provided to them during the awareness briefings.
- Reporting requirements when desert tortoise are observed, moved, injured, or killed.

Reporting

The USAF, and other jurisdictional Federal agencies as appropriate, shall ensure their agency personnel, the project proponent, and their contractors implement the following measures to comply with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.

The deaths and injuries of desert tortoises shall be investigated as thoroughly as possible to determine the cause. The USAF will notify the Service and appropriate state wildlife agency by email or phone informed immediately and within 5 business days in writing (electronic mail is sufficient). The authorized desert tortoise biologist shall complete the Desert Tortoise Handling and Take Report (Appendix B).

The USAF will submit information on all mixed programmatic actions and their effects to desert tortoise in an annual report. The annual report will include all deaths, injuries, illnesses, moving, or observation of desert tortoises occurring during implementation of mixed programmatic and operation and maintenance activities. The USAF also will submit an additional annual report for all appended actions (except those completed and provided in a prior annual report). Through monitoring and GIS analyses, the USAF will include an estimate of the amount of desert tortoise habitat that has been disturbed during the previous year from the proposed action. The USAF will also provide information on any habitat restoration or compensation fees paid as described under the proposed minimization measure for *Soil Disturbance*. This information will be included in USAF's annual report. Annual reports will cover the calendar year and are due January 31st following each calendar year. The annual reports will include Appendix B Desert Tortoise Handling and Take Report, Appendix C Report to the Fish and Wildlife Service, and a summary of fence inspections. GIS shape files of new habitat disturbance will be included.

ANALYTICAL FRAMEWORK FOR THE SERVICE'S DETERMINATIONS

JEOPARDY DETERMINATION

Section 7(a)(2) of the Endangered Species Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

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The jeopardy analysis in this biological opinion considers the effects of the proposed Federal action, and any cumulative effects, on the rangewide survival and recovery of the listed species. It relies on four components: (1) the *Status of the Species*, which describes the rangewide condition of the species, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the species; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the species.

STATUS OF THE SPECIES

The Service listed the desert tortoise as threatened in 1990 [55 Federal Register (FR) 12178]. The Service (1994, 2011) has issued an initial recovery plan and a revised recovery plan for the desert tortoise. A five-year review was completed in 2010 (Service 2010).

Prior to 1994, desert tortoises were extirpated from large areas within their distributional limits by urban and agricultural development (e.g., the cities of Barstow and Lancaster, California; Las Vegas, Nevada; and St. George, Utah; etc.; agricultural areas south of Edwards Air Force Base and east of Barstow), military training (e.g., Fort Irwin, Leach Lake Gunnery Range), and off-road vehicle use (e.g., portions of off-road management areas managed by the BLM and unauthorized use in areas such as east of California City, California).

Since 1994, urban development around Las Vegas has likely been the largest contributor to habitat loss throughout the range. Desert tortoises have been essentially removed from the 18,197-acre southern expansion area at Fort Irwin (Service 2012). The development of large solar facilities has also reduced the amount of habitat available to desert tortoises. No solar facilities have been developed within desert tortoise conservation areas, such as desert wildlife management areas, although such projects have occurred in areas that the Service considers important linkages between conservation areas (e.g., Silver State South Project in Nevada).

Figure 5 depicts the 12 critical habitat units of the desert tortoise, linkages between conservation areas for the desert tortoise and the aggregate stress that multiple, synergistic threats place on desert tortoise populations, as modeled by the spatial decision support system. Conservation areas include designated critical habitat and other lands managed for the long-term conservation of the desert tortoise (e.g., the Desert Tortoise Natural Area, Joshua Tree National Park, and the Desert National Wildlife Refuge).

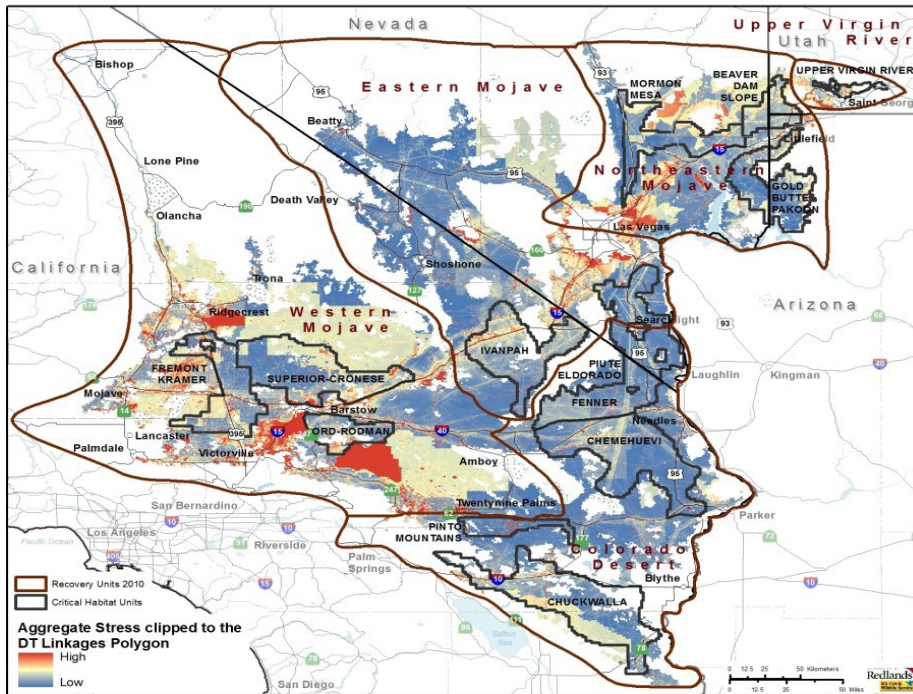


Figure 5. Desert tortoise Recovery Units and Critical Habitat Units.

Table 3 and Figure 6 depicts acreages of habitat (as modeled by Nussear et al. 2009, using only areas with a probability of occupancy by desert tortoises greater than 0.5 as potential habitat) within the recovery units of the desert tortoise and of impervious surfaces as of 2006. Impervious surfaces include paved and developed areas and other disturbed areas that have zero probability of supporting desert tortoises. All units are in acres.

Table 3. Acres of desert tortoise habitat within recovery units.

Recovery Units	Modeled Habitat	Impervious Surfaces (percentage)	Remaining Modeled Habitat
Western Mojave	7,585,312	1,989,843 (26)	5,595,469
Colorado Desert	4,950,225	510,862 (10)	4,439,363
Northeastern Mojave	3,012,293	386,182 (13)	2,626,111
Eastern Mojave	4,763,123	825,274 (17)	3,937,849

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Upper Virgin River	231,460	84,404 (36)	147,056
Total	20,542,413	3,796,565 (18)	16,745,848

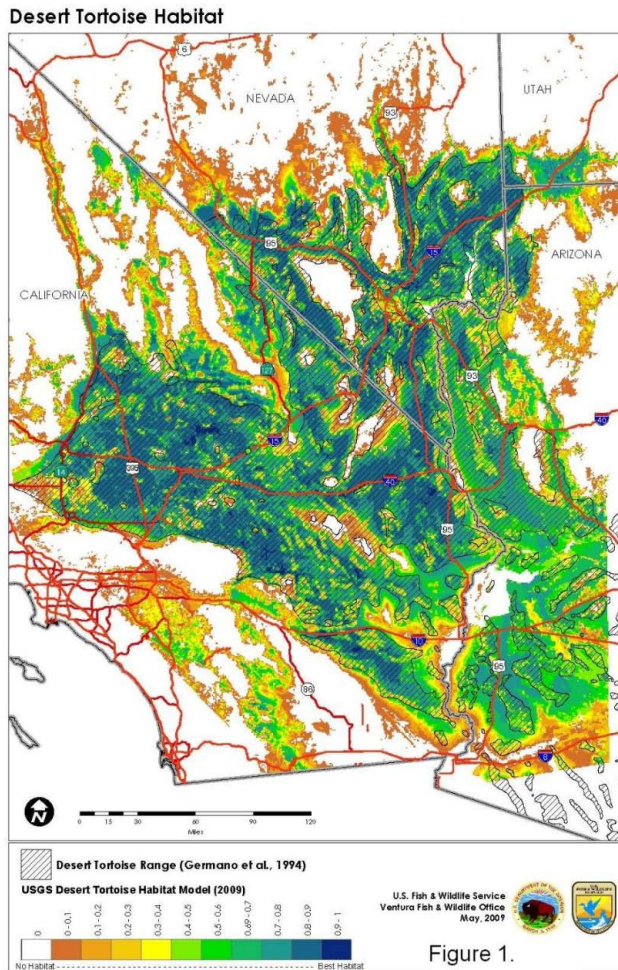


Figure 6. USGS modeled desert tortoise habitat (Nussear et al. 2009).

The Service (2010) concluded, in its 5-year review, that the distribution of the desert tortoise has not changed substantially since the publication of the original recovery plan in 1994 in terms of the overall extent of its range. Since 2010, we again conclude that the species' distribution has not changed substantially in terms of the overall extent of its range, although desert tortoises

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have been removed from several thousand acres because of solar development and military activities (Table 4).

Table 4. Solar projects that have undergone formal consultation with regard to the desert tortoise.

Project and Recovery Unit	Acres of Desert Tortoise Habitat	Desert Tortoises Estimated ³	Desert Tortoises Observed ⁴
Eastern Mojave			
Ivanpah Solar Electric Generating System	3,582	1,136	175 ⁵
Stateline	1,685	947	55
Silver State North – NV	685	14 ⁶	7
Silver State South – NV	2,427 ⁸	1,020 ⁸	152
Amargosa Farm Road – NV	4,350	4 ⁶	-
Nevada Solar One - NV	400	7	7
Copper Mountain North - NV	1,400	30 ⁷	30 ⁷
Copper Mountain - NV	380	7	7
Townsite - NV	936	2 ⁹	-
Techren Boulder City - NV	2,304 ¹⁰	10	-
Western Mojave			
	Primarily in abandoned agricultural fields		
Abengoa Harper Lake		4 ⁶	-
Chevron Lucerne Valley	516	10	-
Cinco	500	53	2
Soda Mountain	1,726	78	-

³ The numbers in this column are not necessarily comparable because the methodologies for estimating the numbers of desert tortoises occasionally vary between projects. When available, we included an estimate of the numbers of small desert tortoises.

⁴ This column reflects the numbers of desert tortoises observed within project areas. It includes translocated animals and those that were killed by project activities. Project activities may result in the deaths of more desert tortoises than are found. Dashes represent projects for which we have no information at this point; some projects had not broken ground at the time of this biological opinion.

⁵ In the table attached to the electronic mail, the number of desert tortoises translocated from the project site is represented by the total number of translocated animals minus the number of animals born in the holding pens.

⁶ These estimates do not include smaller desert tortoises.

⁷ These projects occurred under the Clark County Multi-species Habitat Conservation Plan; the provisions of the habitat conservation plan do not require the removal of desert tortoises. We estimate that all three projects combined will affect fewer than 30 desert tortoises.

⁸ These numbers include Southern California Edison's Primm Substation and its ancillary facilities.

⁹ The estimate of the number of desert tortoises is from the portion of the project on BLM land (52 acres). The remaining lands are covered by the Clark County Multi-species Habitat Conservation Plan; see footnote 7.

¹⁰ The estimate of the number of desert tortoises is from both BLM (104 acres) and private (2,200 acres) land. The remaining lands are covered by the Clark County Multi-species Habitat Conservation Plan; see footnote 7.

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Project and Recovery Unit	Acres of Desert Tortoise Habitat	Desert Tortoises Estimated ³	Desert Tortoises Observed ⁴
Northeastern Mojave			
Res Americas Moapa Solar Energy Center - NV	951	95	-
Moapa K Road Solar - NV	2,141	186	157
Playa Solar	1760	258	77
Invenergy Harry Allen Solar	594	242	-
NV Energy Dry Lake Solar Energy Center	751	45	-
NV Energy Dry Lake Solar Energy Center at Harry Allen	55	15	-
Aiya Solar	672	91	-
Colorado			
Genesis	1,774	8	0
Blythe	6,958	30	0
Desert Sunlight	4,004	56	7
McCoy	4,533	15	0
Desert Harvest	1,300	5	-
Rice	1,368	18	1
Total	47,752	4,372	660

In the 5-year review, the Service discusses various means by which researchers have attempted to determine the abundance of desert tortoises and the strengths and weaknesses of those methods. Due to differences in area covered and especially to the non-representative nature of earlier sample sites, data gathered by the Service's current range-wide monitoring program cannot be reliably compared to information gathered through other means at this time.

Data from small-scale study plots (e.g., 1 square mile) established as early as 1976 and surveyed primarily through the mid-1990s indicate that localized population declines occurred at many sites across the desert tortoise's range, especially in the western Mojave Desert; spatial analyses of more widespread surveys also found evidence of relatively high mortality in some parts of the range (Tracy et al. 2004). Although population densities from the local study plots cannot be extrapolated to provide an estimate of the number of desert tortoises on a range-wide basis, historical densities in some parts of the desert exceeded 100 adults in a square mile (Tracy et al. 2004). The Service (2010) concluded that "appreciable declines at the local level in many areas, which coupled with other survey results, suggest that declines may have occurred more broadly (Luke et al. 1991, Berry 2003, Tracy et al. 2004)."

The rangewide monitoring that the Service initiated in 2001 is the first comprehensive attempt to determine the densities of desert tortoises in conservation areas across their range. The Desert Tortoise Recovery Office (Service 2016) used annual density estimates obtained from this sampling effort to evaluate rangewide trends in the density of desert tortoises over time. (All

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references to the density of desert tortoises are averages. Some areas support higher densities and some lower; desert tortoises are not distributed in uniform densities across large areas.) This analysis indicates that densities in the Northeastern Mojave Recovery Unit have increased since 2004, with the increase apparently resulting from increased survival of adults¹¹ and sub-adults moving into the adult size class. The analysis also indicates that the populations in the other four recovery units are declining; Table 5 depicts the estimated numbers of desert tortoises within conservation areas in each recovery unit and the rates of population change. Surveys did not include the steepest slopes in these desert tortoise conservation areas; however, the model developed by Nussear et al. (2009) generally rates steep slopes as less likely to support desert tortoises. Densities in the Joshua Tree and Piute Valley conservation areas within the Colorado Desert Recovery Unit seem to be increasing, although densities in the recovery unit as a whole continue to decline.

Table 5. Desert tortoise population change within recovery units.

Recovery Units	2004	2014	Change	Percentage of Change
Western Mojave	35,777	17,644	-18,133	-51
Colorado Desert	67,087	42,770	-24,317	-36
Northeastern Mojave	4,920	18,220	+13,300	+270
Eastern Mojave	16,165	5,292	-10,873	-67
Upper Virgin River	2,397	1,760	-637	-27
Total	126,346	85,686	-40,660	-32

In the previous summary of the results of range-wide sampling (Service 2015), we extrapolated the densities obtained within conservation areas (e.g., desert wildlife management area, Desert Tortoise Research Natural Area, Joshua Tree National Park) to all modeled habitat of the desert tortoise. This extrapolation may have exaggerated the number of desert tortoises because we applied the values for areas where densities are generally highest (i.e., the conservation areas) to areas where desert tortoises exist in very low densities (e.g., the Antelope Valley). We are also aware of a few areas where the density of desert tortoises outside of conservation areas is higher than inside.

To further examine the status of desert tortoise populations over time, we compared the densities of desert tortoises in the Western Mojave Recovery Unit between 2004 and 2014 (see Service 2015). In 2004, desert tortoise conservation areas surveyed in the Western Mojave Recovery Unit supported an average density of approximately 5.7 adults per square kilometer (14.8 per square mile). In contrast, surveys in the same areas in 2014 indicated that densities had decreased to 2.8 adults per square kilometer (7.3 per square mile). This decline in densities is consistent with decreases in density of populations in all recovery units over the same time period, with the exception of the Northeastern Mojave Recovery Unit. In fact, historical survey data from

¹¹ For the purposes of this biological opinion, we will generally reference size class as “adult” or “large” (i.e., equal to or larger than 180 millimeters) and “juvenile” or “small” (i.e., smaller than 180 millimeters) desert tortoises.

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numerous plots in the Western Mojave Recovery Unit during the late 1970s and early 1980s suggest that adult desert tortoise densities ranged from 50 to 150 per square mile (Tracy et al. 2004).

To further assess the status of the desert tortoise, the Desert Tortoise Recovery Office (Service 2015) used multi-year trends from the best-fitting model describing loge-transformed density of adult animals per square kilometer. In 2014, 3 of the 5 recovery units supported densities below 3.9 adult animals per square kilometer [Western Mojave (2.8), Eastern Mojave (1.5), and Colorado Desert (3.7); see table 10 in Service 2015], which is the minimum density recommended to avoid extinction in the 1994 recovery plan. The Northeastern Mojave Recovery Unit supported 4.4 adult desert tortoises per square kilometer and the Upper Virgin River Recovery Unit, which is by far the smallest recovery unit, supported 15.3 adults per square kilometer.

In the Western Mojave and Colorado Desert recovery units, the relative number of juveniles to adults indicates that juvenile numbers are declining faster than adults. In the Eastern Mojave, the number of juvenile desert tortoises is also declining, but not as rapidly as the number of adults. In the Upper Virgin River Recovery Unit, trends in juvenile numbers are similar to those of adults; in the Northeastern Mojave Recovery Unit, the number of juveniles is increasing, but not as rapidly as are adult numbers in that recovery unit. Juvenile numbers, like adult densities, are responding in a directional way, with increasing, stable, or decreasing trends, depending on the recovery unit where they are found.

In this context, we consider “juvenile” desert tortoises to be animals smaller than 180 millimeters in length. The Service does not include juveniles detected during range-wide sampling in density estimations because they are more difficult to detect and surveyors frequently do not observe them during sampling. However, this systematic range-wide sampling provides us with an opportunity to compare the proportion of juveniles to adults observed between years.

The threats described in the listing rule and both recovery plans (Service 1994, 2011) continue to affect the species. The most apparent threats to the desert tortoise are those that result in mortality and permanent habitat loss across large areas, such as urbanization and large-scale renewable energy projects, and those that fragment and degrade habitats, such as proliferation of roads and highways, off-highway vehicle activity, and habitat invasion by non-native invasive plant species.

We remain unable to quantify how threats affect desert tortoise populations. The assessment of the original recovery plan emphasized the need for a better understanding of the implications of multiple, simultaneous threats facing desert tortoise populations and of the relative contribution of multiple threats on demographic factors (i.e., birth rate, survivorship, fecundity, and death rate; Tracy et al. 2004).

In recognition of the absence of specific and recent information on the location of habitable areas of the Mojave Desert, especially at the outer edges of this area, Nussear et al. (2009) developed a quantitative, spatial habitat model for the desert tortoise north and west of the Colorado River. The model incorporates environmental variables such as precipitation, geology, vegetation, and

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slope and is based on occurrence data of desert tortoises from sources spanning more than 80 years, including data from the 2001 to 2008 range-wide monitoring surveys. The model predicts the relative potential for desert tortoises to be present in any given location, given the combination of habitat variables at that location in relation to areas of known occupancy throughout the range; calculations of the amount of desert tortoise habitat in the 5-year review (Service 2010) and in this biological opinion use a threshold of 0.5 or greater predicted value for potential desert tortoise habitat. The model does not account for anthropogenic effects to habitat and represents the potential for occupancy by desert tortoises absent these effects.

To understand better the relationship of threats to populations of desert tortoises and the most effective manner to implement recovery actions, the Desert Tortoise Recovery Office developed a spatial decision support system that models the interrelationships of threats to desert tortoises and how those threats affect population change. The spatial decision support system describes the numerous threats that desert tortoises face, explains how these threats interact to affect individual animals and habitat, and how these effects in turn bring about changes in populations. For example, we have long known that the construction of a transmission line can result in the death of desert tortoises and loss of habitat. We have also known that common ravens, known predators of desert tortoises, use transmission line pylons for nesting, roosting, and perching and that the access routes associated with transmission lines provide a vector for the introduction and spread of invasive weeds and facilitate increased human access into an area. Increased human access can accelerate illegal collection and release of desert tortoises and their deliberate maiming and killing, as well as facilitate the spread of other threats associated with human presence, such as vehicle use, garbage and dumping, and invasive plants (Service 2011). Changes in the abundance of native plants because of invasive weeds can compromise the physiological health of desert tortoises, making them more vulnerable to drought, disease, and predation. The spatial decision support system allows us to map threats across the range of the desert tortoise and model the intensity of stresses that these multiple and combined threats place on desert tortoise populations.

In the 5-year review, the Service notes that desert tortoises increase their reproduction in high rainfall years; more rain provides desert tortoises with more high quality food (i.e., plants that are higher in water and protein), which, in turn, allows them to lay more eggs. Conversely, the physiological stress associated with foraging on food plants with insufficient water and nitrogen may leave desert tortoises vulnerable to disease (Ofstedal 2002), and the reproductive rate of diseased desert tortoises is likely lower than that of healthy animals. Young desert tortoises also rely upon high- quality, low-fiber plants (e.g., native annual plants) with nutrient levels not found in the invasive weeds that have increased in abundance across its range (Ofstedal et al. 2002; Tracy et al. 2004). Compromised nutrition of young desert tortoises likely represents an effective reduction in reproduction by reducing the number of animals that reaches adulthood. Consequently, although we do not have quantitative data that show a direct relationship, the abundance of weedy species within the range of the desert tortoise has the potential to affect the reproduction of desert tortoises and recruitment into the adult population in a negative manner.

Various human activities have introduced numerous species of non-native invasive plants into the California desert. Routes that humans use to travel through the desert (paved and unpaved

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roads, railroads, motorcycle trails, etc.) serve as pathways for new species to enter habitat of the desert tortoise and for species that currently occur there to spread. Other disturbances of the desert substrate also provide invasive species with entry points into the desert. Figure 7 depicts the potential for these species to invade habitat of the desert tortoise. The reproductive capacity of the desert tortoise may be compromised to some degree by the abundance and distribution of invasive weeds across its range; the continued increase in human access across the desert likely continues to facilitate the spread of weeds and further affect the reproductive capacity of the species.



Figure 7. Exotic plant invasion risk to desert tortoise habitat.

As the Service notes in the 5-year review (Service 2010), “(t)he threats identified in the original listing rule continue to affect the [desert tortoise] today, with invasive species, wildfire, and renewable energy development coming to the forefront as important factors in habitat loss and conversion. The vast majority of threats to the desert tortoise or its habitat are associated with human land uses.” Oftedal’s work (2002) suggests that invasive weeds may adversely affect the physiological health of desert tortoises. Using captive neonate and yearling desert tortoises, Drake et al. (2015) found that individuals “eating native forbs had better body condition and immune functions, grew more, and had higher survival rates (>95%) than (desert) tortoises consuming any other diet”; health and body condition declined in individuals fed only grasses (native or non-native). Current information indicates that invasive species likely affect a large

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portion of the desert tortoise's range. Furthermore, high densities of weedy species increase the likelihood of wildfires; wildfires, in turn, destroy native species and further the spread of invasive weeds.

Drake et al. (2015) "compared movement patterns, home-range size, behavior, microhabitat use, reproduction, and survival for adult desert tortoises located in, and adjacent to, burned habitat" in Nevada. They noted that the fires killed many desert tortoises but found that, in the first 5 years post-fire, individuals moved deeper into burned habitat on a seasonal basis and foraged more frequently in burned areas (corresponding with greater production of annual plants and herbaceous perennials in these areas). Production of annual plants upon which desert tortoises feed was 10 times greater in burned versus unburned areas but was dominated by non-native species [e.g., red brome (*Bromus rubens*)] that frequently have lower digestibility than native vegetation. During years six and seven, the movements of desert tortoises into burned areas contracted with a decline in the live cover of a perennial forage plant that rapidly colonizes burned areas. Drake et al. (2015) did not find any differences in health or survivorship for desert tortoises occupying either habitat (burned or unburned) during this study or in reproduction during the seventh year after the fire.

Climate change is likely to affect the prospects for the long-term conservation of the desert tortoise. For example, predictions for climate change within the range of the desert tortoise suggest more frequent and prolonged droughts with an increase of the annual mean temperature by 3.5 to 4.0 degrees Celsius (° C) (38.3 to 39.2 degrees Fahrenheit [° F]). The greatest increases will likely occur in summer [June-July-August mean increase of as much as 5° C (41° F) (Christensen et al. 2007 in Service 2010)]. Precipitation will likely decrease by 5 to 15 percent annually in the region; with winter precipitation decreasing by up to 20 percent and summer precipitation increasing by up to 5 percent. Because germination of the desert tortoise's food plants is highly dependent on cool-season rains, the forage base could be reduced due to increasing temperatures and decreasing precipitation in winter. Although drought occurs routinely in the Mojave Desert, extended periods of drought have the potential to affect desert tortoises and their habitats through physiological effects to individuals (i.e., stress) and limited forage availability. To place the consequences of long-term drought in perspective, Longshore et al. (2003) demonstrated that even short-term drought could result in elevated levels of mortality of desert tortoises. Therefore, long-term drought is likely to have even greater effects, particularly given that the current fragmented nature of desert tortoise habitat (e.g., urban and agricultural development, highways, freeways, military training areas, etc.) will make recolonization of extirpated areas difficult, if not impossible.

FIVE-YEAR REVIEW

Section 4(c)(2) of the Endangered Species Act requires the Service to conduct a status review of each listed species at least once every 5 years. The purpose of a 5-year review is to evaluate whether the species' status has changed since it was listed (or since the most recent 5-year review); these reviews, at the time of their completion, provide the most up-to-date information on the range-wide status of the species. For this reason, we are incorporating the most recent 5-year review for the desert tortoise (Service 2010) by reference to provide most of the information

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needed for this section of the biological opinion. The following paragraphs provide a summary of the relevant information in the 5-year review.

In the 5-year review, the Service discusses the status of the desert tortoise as a single distinct population segment and provides information on the Federal Register notices that resulted in its listing and the designation of critical habitat. The Service also describes the desert tortoise's ecology, life history, spatial distribution, abundance, habitats, and the threats that led to its listing (i.e., the five-factor analysis required by section 4(a)(1) of the Endangered Species Act). In the 5-year review, the Service concluded by recommending that the status of the desert tortoise as a threatened species be maintained.

With regard to the status of the desert tortoise as a distinct population segment, the Service concluded in the 5-year review that the recovery units recognized in the original and revised recovery plans (Service 1994 and 2011, respectively) do not qualify as distinct population segments under the Service's distinct population segment policy (61 FR 4722). We reached this conclusion because individuals of the listed taxon occupy habitat that is relatively continuously distributed, exhibit genetic differentiation that is consistent with isolation-by-distance in a continuous-distribution model of gene flow, and likely vary in behavioral and physiological characteristics across the area they occupy as a result of the transitional nature of, or environmental gradations between, the described subdivisions of the Mojave and Colorado deserts.

In the 5-year review, the Service summarizes information with regard to the desert tortoise's ecology and life history. Of key importance to assessing threats to the species and to developing and implementing a strategy for recovery is that desert tortoises are long lived, require up to 20 years to reach sexual maturity, and have low reproductive rates during a long period of reproductive potential. The number of eggs that a female desert tortoise can produce in a season is dependent on a variety of factors including environment, habitat, availability of forage and drinking water, and physiological condition. Predation seems to play an important role in clutch failure. Predation and environmental factors also affect the survival of hatchlings. The Service notes in the 5-year review that the combination of the desert tortoise's late breeding age and a low reproductive rate challenges our ability to recover the species.

Since the completion of the 5-year review, the Service has issued several biological opinions that affect large areas of desert tortoise habitat because of numerous proposals to develop renewable energy within its range (Table 4). These biological opinions concluded that proposed solar plants were not likely to jeopardize the continued existence of the desert tortoise primarily because they were located outside of critical habitat and desert wildlife management areas that contain most of the land base required for the recovery of the species. The proposed actions also included numerous measures intended to protect desert tortoise during the construction of the projects, such as translocation of affected individuals. In aggregate, these projects would result in an overall loss of approximately 43,920 acres of habitat of the desert tortoise. We also predicted that the project areas supported up to 3,721 desert tortoises; we concluded that most of these individuals were small desert tortoises, that most large individuals would likely be translocated from project sites, and that most mortalities would be small desert tortoises that were not

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detected during clearance surveys. To date, 660 desert tortoises have been observed during construction of projects; most of these individuals were translocated from work areas, although some desert tortoises have been killed (see Service 2010). The mitigation required by the BLM and California Energy Commission, the agencies permitting these facilities, resulted in the acquisition of private land and funding for the implementation of various actions that are intended to promote the recovery of the desert tortoise. These mitigation measures are consistent with recommendations in the recovery plans for the desert tortoise; many of the measures have been derived directly from the recovery plans and the Service supports their implementation. We expect that, based on the best available scientific information, they will result in conservation benefits to the desert tortoise; however, it is difficult to assess how desert tortoise populations will respond because of the long generation time of the species.

In August 2016, the Service issued a biological opinion to the BLM for the land use plan amendment under the Desert Renewable Energy Conservation Plan. The land use plan amendment addressed all aspects of the BLM's management of the California Desert Conservation Area; however, the Service and BLM agreed that only those aspects related to the construction, operation, maintenance, and decommissioning of renewable energy facilities were likely to adversely affect the desert tortoise. The land use plan amendment resulted in the designation of approximately 388,000 acres of development focus areas where the BLM would apply a streamlined review process to applications for projects that generate renewable energy; the BLM estimated that approximately 11,290 acres of modeled desert tortoise habitat within the development focus areas would eventually be developed for renewable energy. The BLM also adopted numerous conservation and management actions as part of the land use plan amendment to further reduce the adverse effects of renewable energy development on the desert tortoise.

The land use plan amendment also increased the amount of land that the BLM manages for conservation (e.g., Areas of Critical Environmental Concern, National Conservation Lands, etc.) from 6,118,135 to 8,689,669 acres, although not all of the areas subject to increased protection are within desert tortoise habitat. The BLM will also manage lands outside of development focus areas according to numerous conservation and management actions; these conservation and management actions are more protective of desert tortoises than direction contained in the previous land use plan. The Service (2016) concluded that the land use plan amendment was not likely to jeopardize the continued existence of the desert tortoise and would benefit its recovery.

In addition to the biological opinions issued for solar development within the range of the desert tortoise, the Service (2012) also issued a biological opinion to the Department of the Army for the use of additional training lands at Fort Irwin. As part of this proposed action, the Department of the Army removed approximately 650 desert tortoises from 18,197 acres of the southern area of Fort Irwin, which had been off-limits to training. The Department of the Army would also use an additional 48,629 acres that lie east of the former boundaries of Fort Irwin; much of this parcel is either too mountainous or too rocky and low in elevation to support numerous desert tortoises.

The Service (2017) also issued a biological opinion to the Marine Corps that considered the effects of the expansion of the Marine Corps Air Ground Combat Center at Twentynine Palms.

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We concluded that the Marine Corps' proposed action, the use of approximately 167,982 acres of public and private land for training, was not likely to jeopardize the continued existence of the desert tortoise. Most of the expansion area lies within the Johnson Valley Off-highway Vehicle Management Area. As part of this proposed action, the Marine Corps removed 929 desert tortoises from the expansion area (Hoffmann 2017).

The incremental effect of the larger actions (i.e., solar development, the expansions of Fort Irwin and the Marine Corps Air Ground Combat Center) on the desert tortoise is unlikely to be positive, despite the numerous conservation measures that have been (or will be) implemented as part of the actions. The acquisition of private lands as mitigation for most of these actions increases the level of protection afforded these lands; however, these acquisitions do not create new habitat and Federal, State, and privately managed lands remain subject to most of the threats and stresses we discussed previously in this section. Although land managers have been implementing measures to manage these threats and we expect, based on the best available scientific information, that such measures provide conservation benefits to the desert tortoise, we have been unable, to date, to determine whether the expected benefits of the measures have yet been realized, at least in part because of the low reproductive capacity of the desert tortoise. Therefore, the conversion of habitat into areas that are unsuitable for this species continues the trend of constricting the desert tortoise into a smaller portion of its range.

RECOVERY NEEDS

The Service (1994, 2011) has issued an initial recovery plan and a revised recovery plan for the desert tortoise. The 1994 recovery plan recommended that a scientifically credible monitoring plan be developed to determine that the population exhibit a statistically significant upward trend or remain stationary for at least 25 years and that enough habitat would be protected within a recovery unit or the habitat and populations be managed intensively enough to ensure long-term viability. Because both minimum population densities and minimum population numbers need to be considered to ensure recovery, the Service further recommended that reserves be at least 1,000 square miles. Smaller reserves that provide high-quality, secure habitat for 10,000 to 20,000 adult desert tortoises should provide comfortable persistence probabilities for the species well into the future when populations are well above minimum viable density (e.g., 30 or more adults per square mile) and lambdas can be maintained (see page C54 of Service 1994). Conversely, populations with densities below approximately 10 adults per square mile (3.9 per square kilometer) are in danger of extinction (see page 32 of Service 1994). The revised recovery plan for the desert tortoise (Service 2011) lists three objectives and associated criteria to achieve delisting. The first objective is to maintain self-sustaining populations of desert tortoises within each recovery unit into the future; the criterion is that the rates of population change (λ) for desert tortoises are increasing (i.e., $\lambda > 1$) over at least 25 years (i.e., a single generation), as measured by extensive, range-wide monitoring across conservation areas within each recovery unit, and by direct monitoring and estimation of vital rates (recruitment, survival) from demographic study areas within each recovery unit.

The second objective addresses the distribution of desert tortoises. The goal is to maintain well-distributed populations of desert tortoises throughout each recovery unit; the criterion is that the

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distribution of desert tortoises throughout each conservation area increase over at least 25 years.

The final objective is to ensure that habitat within each recovery unit is protected and managed to support long-term viability of desert tortoise populations. The criterion is that the quantity of desert tortoise habitat within each conservation area be maintained with no net loss until population viability is ensured.

The revised recovery plan (Service 2011) also recommends connecting blocks of desert tortoise habitat, such as critical habitat units and other important areas to maintain gene flow between populations. Linkages defined using least-cost path analysis (Averill-Murray et al. 2013) illustrate a minimum connection of habitat for desert tortoises between blocks of habitat and represent priority areas for conservation of population connectivity. Figure 8 illustrates that, across the range, desert tortoises in areas under the highest level of conservation and management remain subject to numerous threats, stresses, and mortality sources.

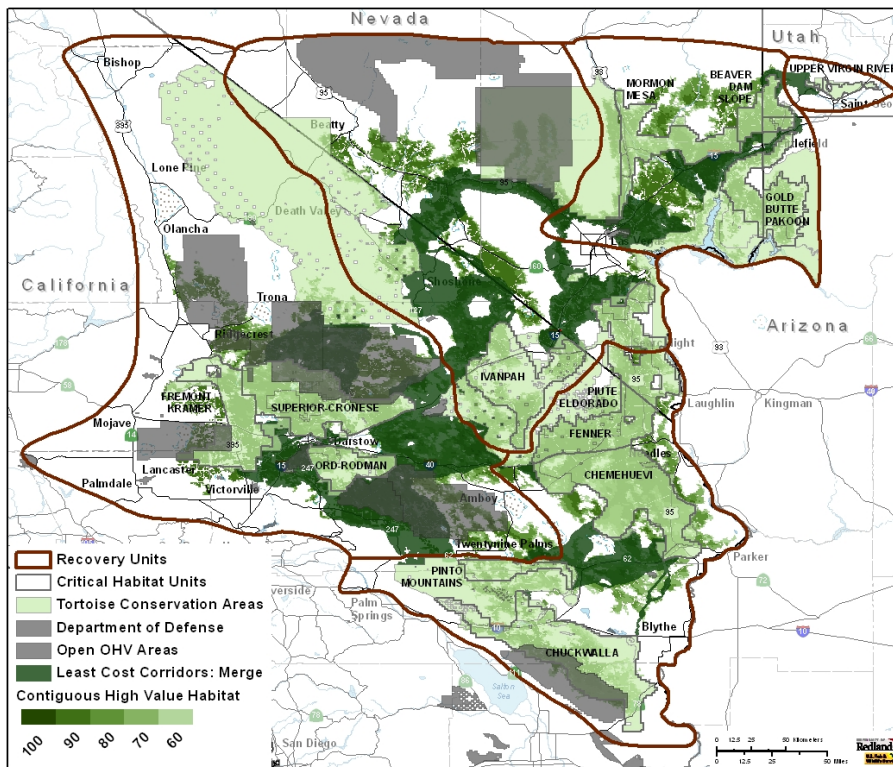


Figure 8. Desert tortoise habitat linkages and high-value habitat.

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ENVIRONMENTAL BASELINE

The action area is defined as all areas to be affected directly or indirectly by the Federal action including interrelated and interdependent actions, and not merely the immediate area involved in the action (50 CFR § 402.02). Subsequent analyses of the environmental baseline, effects of the action, cumulative effects, and levels of incidental take are based upon the action area as determined by the Service. Regulations implementing the Act define the environmental baseline as the past and present effects of all Federal, State, or private actions and other human activities in the action area (50 CFR § 402.02). Also included in the environmental baseline are the anticipated effects of all proposed Federal projects in the action area that have undergone section 7 consultation, and the effects of state and private actions that are contemporaneous with the consultation in progress.

DESCRIPTION OF THE ACTION AREA

The action area for this programmatic consultation broadly includes areas of the current NTTR excluding areas identified as classified and secured (Figure 1), areas of proposed alternatives, and other lands if a nexus to a USAF action is established with USAF oversight which may affect the desert tortoise or its habitat. The action area is located in Clark, Lincoln, and Nye Counties in southern Nevada. Projects may be covered under this PBO only if: (1) the USAF is designated the lead Federal agency for the consultation, (2) USAF retains discretion sufficient to ensure compliance with all applicable measures, or terms and conditions, required for the proposed action, and (3) the action is appended, or exempted from appending procedures, as specified in this PBO.

STATUS OF THE DESERT TORTOISE IN THE ACTION AREA

To evaluate its current status, results from past desert tortoise surveys were incorporated in the BA submitted for this PBO (pp. 47–64). Between 2010 and 2016, desert tortoise surveys were conducted in parts of the NTTR in the South Range to model the general range and densities of desert tortoise. Within the NTTR, the survey locations focused on areas where access was permitted and identified earlier in the 2009 delineation of the range of desert tortoise habitat (see Figure 20 and 24 in the BA). In the following density discussions, the estimated numbers of tortoises within the action area refer to tortoises 180 millimeters or larger in length.

Based on past surveys and modeling efforts, the relative abundance of desert tortoises in the Eastern Action Area or South Range of NTTR was estimated to be mostly low with some patches of moderate or moderately high areas (Figure 9). Desert tortoise habitat occurs throughout the Eastern Action Area or South Range of the NTTR (Figure 10). Desert tortoise habitat is limited to small areas of the western and southern parts of the Western Action Area (Figure 11). Models estimated approximately 866,260 acres (3,505 km² (1,353 mi²)) of potential desert tortoise habitat occurs within the action area (Table 1 of USAF 2018).

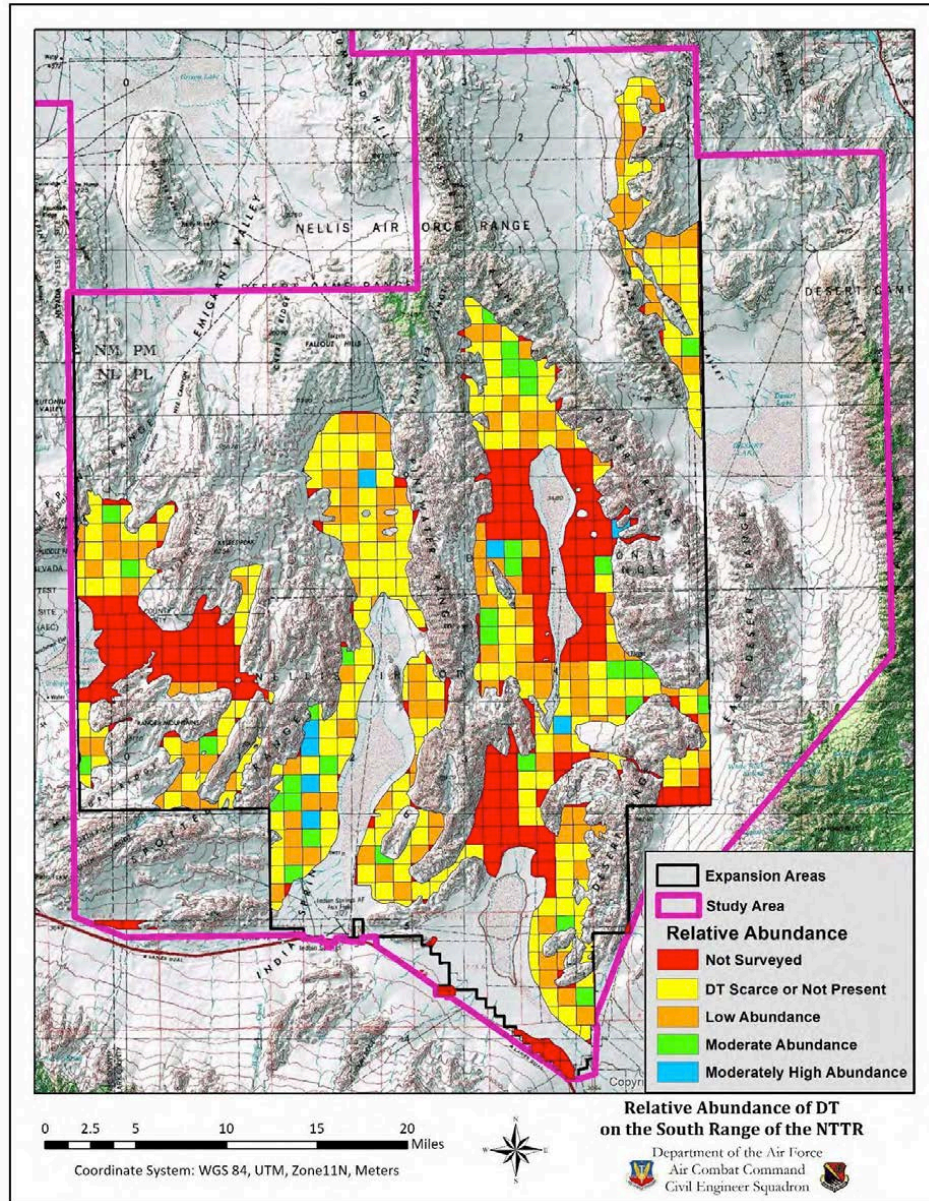


Figure 9. Estimated relative abundance of desert tortoise and areas surveyed in the Eastern Action Area or South Range of NTTR (Figure 24 on page 60 of the BA).

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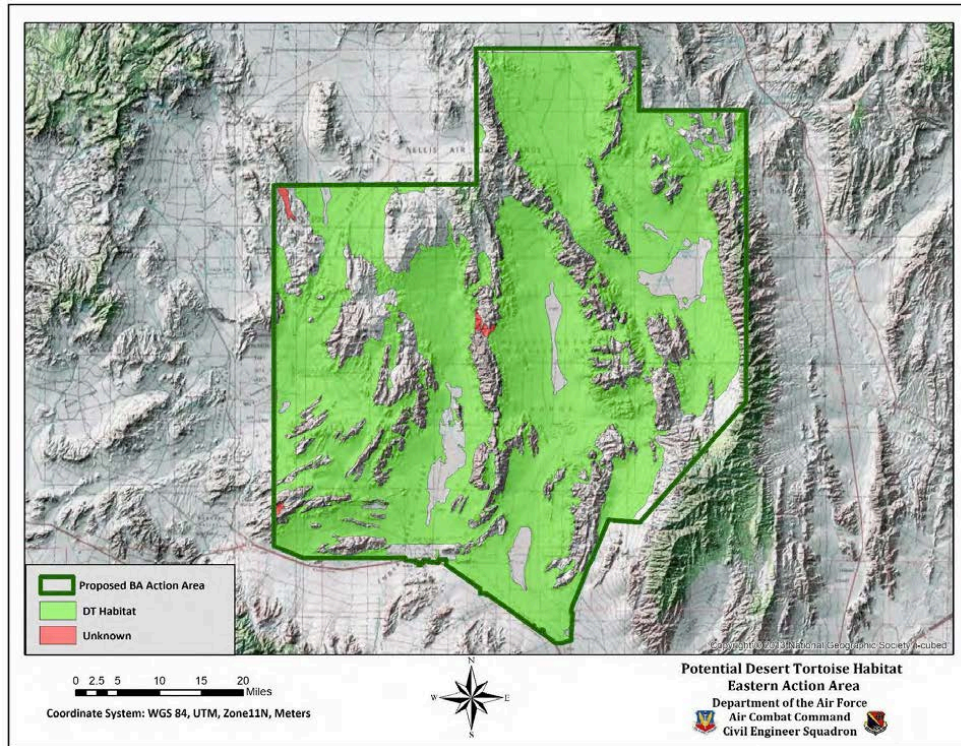


Figure 10. Desert tortoise habitat suitability model in the Eastern Action Area or South Range of the NTTR (page 63, Figure 25 on page 63 of the BA).

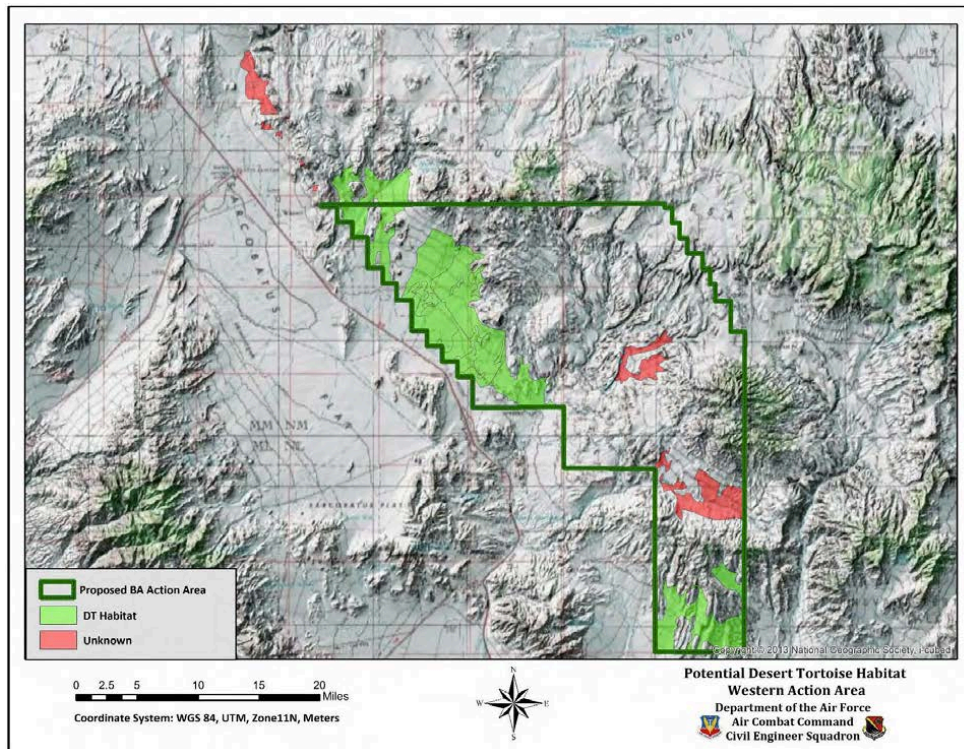


Figure 11. Desert tortoise habitat suitability model in the Western Action Area (page 64, Figure 26 of the BA).

The action area occurs within the Eastern Mojave¹² and Northeastern Mojave recovery units for desert tortoise (Figure 7 in Service 2011 and Figure 1 in Service 2016). Models estimate approximately 866,260 ac (3,506 km²) of desert tortoise habitat occurs in the action area (see Table 1 in USAF 2018) within the 3,937,849 ac (15,936 km²) of estimated habitat (Table 3) in the Eastern Mojave recovery unit. Monitoring of the Eastern Mojave recovery unit indicated a declining trend in density between 2004 and 2014 (Service 2015).

Models estimate a small portion of desert tortoise habitat (13,722 ac (56 km²)) within the action area (USAF 2017) occurs in the Northeastern Mojave recovery unit (2,626,111 ac (10,627 km²); see Table 3). Monitoring of the Northeastern Mojave recovery unit indicated an increasing trend between 2004 and 2014 (Service 2015); however, very low density estimates (1.3 and 1.9

¹² The recovery unit delineations changed in 2011 from those originally delineated in 1994 and referenced in the 2003 PBO.

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tortoises per km²) were observed in 2017 in two Northeastern Mojave recovery unit strata (strata are areas sampled or “regions” in Program DISTANCE, Service 2018).

We considered estimated desert tortoise density data from the affected recovery units and monitoring results from the Coyote Spring Valley strata to estimate potential desert tortoise densities in desert tortoise habitat in the action area and areas of desert tortoise habitat proposed to be disturbed. The estimated density of adult tortoises within the overall Recovery Units and strata therein typically ranges between 1 and 6 per km² or 3 to 16 per mi². Although most of the action area occurs in the Eastern Mojave recovery unit, the action area is geographically closer to long-term sampling strata in the Northeastern Mojave recovery unit, in particular the Coyote Spring Valley strata (see Figure 1 in Service 2016). For the purposes of this biological opinion, we use adult density estimates from the Coyote Spring Valley strata to extrapolate adult desert tortoise density estimates for the action area. In 2016, the adult tortoise density in the Coyote Spring Valley strata was 4.2 per km² (10.9 mi², CV 31). A density of 4.2 adult desert tortoises per km² equates to 14,725 adult desert tortoises in the estimated 866,260 ac (3,506 km² (1,353 mi²)) of desert tortoise habitat in the action area.

We do not provide estimates in this biological opinion for the number of small desert tortoises and eggs that would be affected by the proposed action due to the large number of assumptions that would be needed and uncertainty regarding these estimates.

FACTORS AFFECTING THE SPECIES IN THE ACTION AREA

Factors affecting the desert tortoise in the action area include all actions previously consulted on by the USAF and the Service. The precise number of desert tortoises killed or injured as a result of the projects or actions covered under previously issued biological opinions is unknown, mostly due to the difficulty in locating desert tortoises, particularly small ones, and the lack of reporting. The Service often relies on desert tortoise density estimates and habitat disturbance as a surrogate for mortality take particularly for large disturbances. For information on the environmental baseline prior to 2003, refer to the previous BOs: 1-5-94-F-162, 1-5-96-F-278, 1-5-02-F-522, and 1-5-03-F-418.

Actions having occurred since 1994, resulted in an estimated 3,252 acres of desert tortoise habitat disturbance, an approximate 335% increase over 23 years. As mentioned earlier, there is no designated desert tortoise critical habitat in the action area, however parts of the DNWR have been identified as affording various degrees of conservation benefit for desert tortoise. In 1994, when critical habitat was designated for the desert tortoise, the Service determined that areas of the Desert National Wildlife Refuge (formerly referred to as Range) were not to be included because the designation would not afford areas within it any additional benefit (59 FR 5837). The areas excluded for designation as critical habitat were part of the area identified as the Coyote Spring Desert Wildlife Management Area (DWMA [58 FR 45749]) which includes parts of the action area currently managed by the Service. The portion of the action area that is currently managed in part or in whole by the Service as the Desert National Wildlife Refuge is identified as a desert tortoise conservation area in the 2011 recovery plan (labeled U.S. Fish and Wildlife Service in Figure 2, p. 23) and is identified as the Coyote Spring DWMA in the 1994 desert tortoise recovery plan (Service 1994:41). In addition, the parts of the action area managed

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in part or in whole by the Department of Defense are identified as providing conservation benefit to the desert tortoise (Service 2011, Figure 3, p. 24).

The USAF reported the following impacts to desert tortoise and desert tortoise habitat for previous consultations.

- In March 2012, the USAF and the Service agreed to assign take for the Request to Amend the Biological Opinion for Weapons Testing/Training on the Weapons and Tactics Center Range Complex (File No. 1-5-96-F-278) as the maximum allowable (H90, M-1=18, and 971 acres) because of the lack of information. The BO is a reinitiation of Biological Opinion for Continuing Current Weapons Testing/Training on the U.S. Department of the Air Force's Weapons and Tactics Center Range Complex (File No. 1-5-94-F-162).
- In April 2012, the USAF reported 7.3 acres of desert tortoise habitat was disturbed for the Dog Bone Lake/Target 62-1 Bypass Road, Lincoln County, Nevada (File No. 1-5-03-F-418).
- The Service issued a PBO for Activities on the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark and Lincoln Counties, Nevada (1-5-02-F-522 PBO) on June 17, 2003. In December 2011, the USAF reported 1 take from harassment and the disturbance of 640 acres of desert tortoise habitat for the 1-5-02-F-522 PBO. In addition since its issuance, there has been one amendment (1-5-02-F-522.AMD1, June 2004) and one appended action (84320-2010-F-0422, August 2010) to the PBO. Amendment 1-5-02-F-522.AMD1 replaced Term and Condition 1.a and 1.d, removing the requirement for fencing and monitoring around Target 62-6 as well as fencing requirements around sites of regular desert tortoise activity. In lieu of fencing, project site clearance surveys could occur on a case-by-case basis as required by the NAFB Natural Resource Manager and Service. If tortoises were found they could be fitted with radio-telemetry devices. Since the amendment in 2004, there are no records of clearance surveys.
- The August 2010, BO for the Request to Append the Expeditionary Readiness Training Course Expansion to the Programmatic Biological Opinion for the South Range of Nellis Air Force Base, Nevada Test and Training Range, and the Nevada Training Initiative, Clark County, Nevada project (Append 84320-2010-F-0422) resulted in up to 21 acres of disturbance to desert tortoise habitat.

EFFECTS OF THE PROPOSED ACTION

Direct effects are the immediate effects of the action and are not dependent on the occurrence of any additional intervening actions for the impacts to species or critical habitat to occur. Indirect effects are those for which the proposed action is an essential cause, and that are later in time, but still reasonably certain to occur. If an effect will occur whether or not the action takes place, the action is not an essential cause of the indirect effect. In contrast to direct effects, indirect effects are more subtle, and may affect tortoise populations and habitat quality over an extended period of time, long after surface-disturbing activities have been completed. Indirect effects are of

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particular concern for long-lived species such as the desert tortoise because project-related effects may not become evident in individuals or populations until years later.

GENERAL EFFECTS ANALYSIS

The various activities proposed by the USAF are anticipated to affect desert tortoises in several ways. Desert tortoises will be captured, handled, and moved from harm's way; they may be killed by heavy equipment and vehicles if not observed. Disturbance of desert tortoise habitat will result in loss, degradation, and fragmentation of habitat; increased edge effects on tortoises; and increased predation pressure from human-subsidized predators.

To analyze how the various activities of the proposed action may affect desert tortoises, we will qualitatively describe effects and then consider the best available information with regard to the effects to the reproduction, numbers, and distribution of desert tortoises in the action area and recovery units to determine whether the proposed action is likely to jeopardize the continued existence of the species.

We acknowledge that in every proposed activity, desert tortoises are at risk of being killed or injured when workers (including authorized biologists and biological monitors) drive outside of areas that have been fenced or cleared of tortoises. Small desert tortoises are at greater risk than larger animals because they are more difficult to see. This will generally be the case for every proposed activity, regardless of whether tortoises have previously been captured, handled, and moved out of harm's way.

Up to 8,729 acres (35.3 km²) of desert tortoise habitat are proposed to be directly affected by the USAF's proposed action (Table 1). This will result in direct, long-term loss, degradation, and fragmentation of habitat that will adversely impact foraging, breeding, and sheltering of desert tortoises. Desert tortoise abundance in the action area is estimated to primarily be low to moderate with pockets of moderately high relative abundance. We use the 2016 adult desert tortoise density estimate from the Coyote Springs Valley strata (4.2 adult desert tortoise per km²; Service 2016) and the number of acres identified to be affected to estimate the number of adult desert tortoise that may be directly affected by the proposed action and each program. Based on this, approximately 149 adult desert tortoises may be directly affected by the USAF's proposed action (4.2 desert tortoise per km² x 35.3 km²). This represents a small number of adult tortoises estimated to occur in desert tortoise habitat throughout the action area (approximately 1.0 percent or 149 of 14,072). As described previously, the USAF has proposed measures that will reduce the number of these tortoises likely to be killed or injured by the proposed action.

Although we do not know precisely where the all the affected acres identified in Table 1 will occur or within which of the two recovery units the disturbance will occur, the disturbance does not constitute a numerically significant portion of the two affected recovery units (approximately 0.1 percent; 8,729 ac of disturbance within 6,563,960 ac of combined desert tortoise habitat in the Eastern and Northeastern Mojave recovery units).

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Effects of Capturing, Handling, and Moving Desert Tortoises

Desert tortoises observed in harm's way will be captured and moved to safe areas prior to ground-disturbing activities. Desert tortoises may be moved just outside the perimeter of a project (less than 300 meters). Tortoises moved short distances (less than 300 meters) may return to the point of capture and need to be moved again. Because of the difficulty in locating small desert tortoises and eggs, an unknown number of tortoises and eggs may not be observed prior to ground-disturbing activities and may consequently be killed by project activities. Capturing, handling, and moving tortoises may result in accidental death or injury if performed improperly, such as during extreme temperatures, or if individuals void their bladders and are not rehydrated. Averill-Murray (2001) determined desert tortoises that voided their bladders during handling had lower overall survival rates (0.81 to 0.88) than those that did not void (0.96). To minimize these potential effects, the USAF proposed that the NAFB Natural Resources Manager or an authorized biologist will follow the most current version of the Desert Tortoise Field Manual (Service 2009) when capturing, handling, and moving tortoises. These personnel also will use appropriate protective measures and procedures to reduce the spread of pathogens among individuals by using new latex gloves for each tortoise handled.

Currently, the USAF has not identified specific activities that will require translocation (i.e., moving tortoises more than 1,640 ft (500 m)); therefore, translocation is outside the scope of this consultation and would require additional section 7 consultation to evaluate effects from that proposed action.

Effects of Habitat Disturbance and Loss

The USAF determined that all programs and project-level actions except Ready Access, Weapons Delivery Areas Cleanup, Borrow Pits, Test and Evaluation, or Battlefield Training may result in disturbance of, or other impacts to desert tortoise habitat as identified in Table 1. The USAF proposed to minimize mortality and injury of tortoises in disturbance areas by conducting preconstruction clearance surveys of previously undisturbed areas prior to surface- and vegetation-disturbing activities. USAF will capture, handle, and move tortoises as described in the previous section (*Effects of Capturing, Handling, and Moving Desert Tortoises*).

Surface-disturbing activities may degrade the quality of desert tortoise habitat in several ways. Mechanical disturbance of desert soils may cause the following: (1) changes in annual and perennial plant production and species composition including introduction of nonnative plants, including noxious weeds, or increases in the area of distribution of weeds; (2) outright soil loss due to increased rates of water and wind erosion; (3) reduced soil moisture; (4) reduced infiltration rates; (5) changes in soil thermal regime; and (6) compaction or an increase in surface strength (Adams, et al. 1982; Biosystems 1991; Burge 1983; Bury 1978; Bury and Luckenbach 1983 and 1986; Davidson and Fox 1974; Hinkley et al. 1983; Nakata 1983; Vollmer et al. 1976; Webb 1983; Wilshire 1977 and 1979; Wilshire and Nakata 1976; Woodman 1983). The USAF will implement the following measures to minimize potential effects from surface-disturbing activities: (1) erosion control measures will be used to maintain soil; (2) sediment fences will be placed around construction sites; (3) excavation areas will be lightly wetted to minimize dust; and (4) soils may be lightly rolled to reduce wind erosion.

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Project vehicles and equipment drive in undisturbed habitat can destroy vegetation and damage soils. Vegetation that is destroyed reduces vegetation cover resulting in a decrease in the thermal insulation provided by the vegetative cover, which results in increased daytime temperatures. Higher temperatures decrease the soil moisture, which causes soil temperature to increase further because less heat is required to vaporize the water present. Revegetation is inhibited as a result of these processes (Webb et al. 1978).

Project vehicles and equipment that drive over desert habitat often damage soils which are protected by fragile organic or inorganic crusts. The organic crust can be the result of various microflora such as algae, lichen, and fungi, which form cryptobiotic crusts or macroflora consisting of the remnants of fibrous root material from dead annual plants (Cooke and Warren 1973; Went and Stark 1968). The inorganic crust can be comprised of desert pavement, silt and clay, or chemicals. All of these crusts help prevent erosion, and may increase infiltration and retard evaporation (Epstein et al. 1966). To minimize impacts to vegetation and soils in undisturbed habitat, the USAF proposed having the NAFB Natural Resources Manager identify and authorize surface-disturbing activities within an identified, confined area.

The effects of off-road vehicle (OHV) activity in arid lands continue long after the event if some physical property of the soil is altered. Loosened soils blown off the surface can collect at the bases of shrubs or accumulate in nearby foothills, resulting in small dunes. Finer pulverized soils require lower threshold wind velocities for transportation than coarser pulverized soils having higher fine-clay content. Alluvial fans, bajadas, and desert flats with sandy soils, which have very low moisture content and are devoid of vegetation, are most affected by wind erosion following disturbance by OHVs (Gillette and Adams 1983). Recovery of Mojave desert vegetation and soils may require 30 to 100 years or more following OHV activity (Lathrop 1983). Dust may be deposited on vegetation near disturbance areas. Dust can impact vegetation, which in turn can affect the desert tortoise by decreasing the available forage. Gibson et al. (1998) found that heavy dust does not kill creosotebush; however, net photosynthesis may be reduced and leaf temperature substantially increased. Continued use of disturbances may preclude natural revegetation of these areas. Dust and particulate pollution is not expected to have significant impacts on desert tortoise.

Because recovery of vegetation in the desert can take decades or longer, we consider most ground-disturbing impacts to be long-term. Vasek et al. (1975) documented transmission line projects in the Mojave Desert resulted in an unvegetated maintenance roads, enhanced vegetation along the road edge and between tower sites (often dominated by nonnative species), and reduced vegetation cover under the towers; these areas recovered significantly but not completely in about 33 years. Webb (2002) determined that absent active restoration following extensive disturbance and compaction in the Mojave Desert, soils in this environment could take between 92 and 124 years to recover. Other studies have shown that recovery of plant cover and biomass in the Mojave Desert could require 50 to 300 years in the absence of restoration efforts (Lovich and Bainbridge 1999). A quantitative review of studies evaluating post-disturbance plant recovery and success in the Mojave and Sonoran deserts determined it takes 76 years for full reestablishment of total perennial plant cover and an estimated 215 years for the recovery of species composition typical of undisturbed areas (Abella 2010). This review also determined a number of variables likely affect vegetation recovery times, including but not limited to climate

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(e.g., precipitation and temperatures), invasion by nonnative plant species, and the magnitude and extent of ongoing disturbance.

Projects that have the ability to retain the native root structure and seeds within the project area would help retain soil stability, minimize soil erosion, and minimize fugitive dust pollution. Retention of native seed and roots within the project site will also facilitate recovery of vegetative cover. Use of native plant species will minimize the need to water the vegetation, because native species are already adapted to the local climate and moisture regime of the area.

The USAF proposes to restore desert tortoise habitat during the term of this proposed action. Active restoration, including decompaction, seeding, and planting, can reduce the time required to restore desert ecosystems; success is varied and dependent on numerous variables. Based on this information, some number of restored acres may be unsuitable as habitat for several decades after project activities are implemented and restoration work is started. The potential exists that habitat within disturbed areas could still be permanently lost if restoration efforts are not successful. The USAF proposed the following measures which may increase the likelihood of restoration efforts: (1) conserving and recontouring the top 6 inch layer of soil, and (2) establishing native plants in disturbance areas, and (4) removing invasive plants. These actions are likely to reduce the amount of time required to return disturbed areas to habitat suitable for desert tortoise occupancy.

Desert tortoises would not persist in areas where habitat has been completely removed. The number of desert tortoises that may persist in areas where the habitat has been disturbed (but not completely removed) is a function of the type of habitat and the nature of the disturbance; we cannot predict how many desert tortoises are likely to persist in such areas over time.

Although the USAF is not proposing to create new target areas, it estimates up to 7,742 acres of additional disturbance surrounding existing targets may occur when ordnance and munitions hit targets. Because many unknowns exist making it difficult to predict where this disturbance may occur, the USAF is not proposing to conduct desert tortoise clearance surveys for the purposes of weapons delivery; therefore, any desert tortoises occurring in the disturbance areas surrounding targets are likely to be killed. Because of the nature of the impact, we do not expect desert tortoise carcasses to be found. Based on the USAF's estimate of 7,742 acres and the 2016 large desert tortoise density estimate from the Coyote Springs Valley Strata, 132 large desert tortoises and an unknown number of small tortoises and eggs may be killed by the weapons delivery program.

Based on the USAF's estimate of 11.5 acres of disturbance for the Threat Emitters and Roads program and the 2016 large desert tortoise density estimate from the Coyote Springs Valley Strata, we estimate 1 large tortoise and an unknown number of small tortoises and eggs may be affected within the acres to be disturbed. The USAF proposes to complete desert tortoise clearance surveys prior to constructing threat emitter sites and access roads, which will minimize mortality risk during construction. Additional effects may occur over the duration of the withdrawal as threat emitter sites are accessed during operations activities.

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Based on the USAF's estimate of affecting 126 acres of desert tortoise habitat for fencing under the Infrastructure Construction and Maintenance program, we estimate 3 large tortoises and an unknown number of small tortoises and eggs may be affected. The USAF proposes to complete desert tortoise clearance surveys prior to constructing fences, which will minimize mortality risk during fence installation. Fences may restrict desert tortoise movement over the duration of the withdrawal.

Based on the USAF's estimate of affecting 13 acres of desert tortoise habitat for the Insertion and Extraction Program, we estimate 1 large tortoise and an unknown number of small tortoises and eggs may be affected. The USAF proposes to complete desert tortoise clearance surveys prior to constructing fences, which will minimize mortality risk during fence installation.

Because they are difficult to observe, proposed actions resulting in habitat disturbance are likely to kill small tortoises and eggs occurring in those areas, although the USAF would likely find some small animals and move them out of harm's way. This may reduce population recruitment or create demographic imbalances. The potential mortality of small desert tortoises in the action area will likely affect, to some degree, recruitment (i.e., individuals reaching reproductive age).

We did not attempt to estimate the number of small tortoises and eggs that may be impacted for two reasons. First, the large number of assumptions involved decreases the value of this exercise, particularly in the context of the entirety of both the Eastern and Northeastern Mojave recovery units. Second, the natural high rate of mortality among eggs and small tortoises also would reduce the value of the estimate.

Although we are not comparing the overall estimate of the numbers of small desert tortoises and eggs likely to be killed or injured to the overall numbers within the recovery units, we can reasonably conclude that the estimate is a small percentage of the overall numbers of small desert tortoises and eggs. We reach this conclusion because the number of large desert tortoises affected by the proposed actions is a small percentage of the population in the Northeastern and Eastern Mojave Recovery Units. Consequently, although actions that disturb habitat are likely to kill many small desert tortoises and eggs and some additional animals and eggs would be killed during operations, the proposed actions are not likely to appreciably diminish the number of small desert tortoises or eggs in the action area or across the two affected recovery units.

To offset the disturbance and loss of desert tortoise habitat from the proposed action, the USAF proposed to either set aside compensation areas in the NTTR where desert tortoise habitat will be restored and protected, or coordinate with the Service to identify other methods of compensation for the loss of desert tortoise habitat. We expect these efforts to improve habitat in other areas of the NTTR, which will lead to an increase in desert tortoises in those areas. Implementation of some of these activities has the potential to result in adverse effects to the desert tortoise. Because we do not have specific information regarding these future activities, these actions may require future project-specific authorizations prior to implementation, at which time, we will address their adverse effects to the desert tortoise in future project-specific section 7 consultations.

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Effects of Roads, Motor Vehicles, and Project Area Access on the Desert Tortoise

The USAF proposed to continue to use a network of existing roads throughout the NTTR. In addition, 4.0 acres of new road will be constructed and used to access new emitter locations, and 836 acres of roads and trails previously restricted from vehicle use due to the past proposed Wilderness Area designation, will now be available for use. Project access roads may be used solely by project vehicles or by both project and other USAF vehicles. The risk to desert tortoises on access roads is affected by variables such as speed limits, weather conditions, the nature and condition of the roads, and activity patterns of desert tortoises at the time the roads are in use. Use of roads on the NTTR may result in injury or mortality of desert tortoises not observed by vehicles; habitat fragmentation; increased opportunities for disturbance; and introduction of non-native plants and animals.

Road mortality is a considerable, non-natural source of vertebrate mortality in urban as well as protected areas (Andrews et al. 2008). Roads may be crossed by dispersing desert tortoises as well as those whose home range includes the road, resulting in mortality or injury if the animal is not observed (Bury and Luckenbach 2002, Nicholson 1978). Slow-moving animals, such as the desert tortoise, are not capable of crossing roads quickly which further increases their mortality risk associated with roads. Vehicles on well-maintained and paved roads may travel at excessive speeds, preventing the operator from seeing desert tortoises in time to avoid them. These long-lived species likely experience significant population impacts when adult females are killed. Additionally tortoises use depressions in roads as drinking sites, which may increase their risk to vehicular collisions. The USAF proposed several measures expected to minimize these effects: (1) providing desert tortoise awareness education, (2) establishing vehicular traffic controls (speed limits, signs, and travel restrictions), (3) checking for tortoises under vehicles prior to driving to reduce potential injury and mortality, and (4) establishing signs to identify where vehicles may drive and to increase awareness of vehicle operators. We cannot estimate or quantify the level of non-compliance to these measures.

Use of roads in the NTTR may also affect desert tortoise activity in the vicinity of roads. Census data indicate that desert tortoise numbers decline as vehicle use increases (Bury et al. 1977) and that tortoise sign increases with increased distance from roads (Nicholson 1978). General road use, and road construction and maintenance activities (grading, paving, and graveling) may cause physiological stress, and disruption of movement, feeding, breeding, and sheltering behavior in desert tortoises.

Roads can also contribute to increased abundance of introduced predators and invasive plants. Predators and invasive plants may migrate outward from roads, affecting desert tortoises in adjacent areas. The total area affected, or the "road-effect zone," can be substantial for species that either travel long distance or are vulnerable to predation by species introduced along road corridors (Boarman and Sazaki 1996). The combined environmental effects generated by roads (e.g., thermal, hydrological, pollutants, noise, light, invasive species, human access) within the "road-effect zone," extend outward from approximately 300 to 2,600 ft beyond the road edge. Additional effects and USAF-proposed minimization measures addressing invasive plants are described in more detail below (see *Effects of Nonnative Plant Species on the Desert Tortoise*).

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Road kills and litter from vehicles may attract subsidized tortoise predators. Roads are major attractants for common ravens, which are predators on juvenile tortoises (Knight and Kawashima 1993, Boarman 1993). Ravens, being partly scavengers, are known for cruising road edges in search of road kills (Kristan et al. 2004). Desert tortoises using road depressions as drinking sites may be at increased risk from predation. Additional effects and USAF-proposed minimization measures addressing predator impacts are described in more detail below (see *Effects of Subsidized Desert Tortoise Predators*).

Effects to desert tortoises will increase from baseline conditions on roads in the previously proposed Wilderness Area, new project access roads, or those that are substantially improved. The majority of the desert tortoises impacted are likely those whose home ranges are intersected by or adjacent to these roads and trails. The USAF estimates 836 acres of roads and trail occur in previously proposed Wilderness that will now be used by authorized for use. Based on this, we estimate 15 large tortoises and an unknown number of small tortoises and eggs may be affected. USAF-proposed measures will minimize desert tortoise mortality and injury risk.

Edge Effects on the Desert Tortoise

Disturbance from USAF-proposed actions will likely result in edge effects that will impact desert tortoises within habitat adjacent to the disturbance area (Zurita et al. 2012). Desert tortoises may be adversely affected by construction noise, ground vibrations, and artificial lighting. Increased noise levels and the presence of full-time facility lighting may affect desert tortoise behavior. While limited data exists on the effects of noise on desert tortoises, Bowles et al. (1997) demonstrated that the species has relatively sensitive hearing, but few physiological effects were observed with short-term exposures to jet air craft noise and sonic booms. These results cannot be extrapolated to chronic exposures over the lifetime of an individual or a population. Based on the ability of other species to adapt to noise disturbance, noise attenuation as distance from the project increases, and the fact that desert tortoises do not rely on auditory cues for their survival, we do not expect any desert tortoises to be injured or killed as a result of most project-related noise.

Because few data exist relative to edge effects from noise, light, vibration, and increased dust from project activities, we cannot determine how these potential impacts may affect desert tortoise populations within and adjacent to project areas. Thus, the magnitude and extent of these edge effects cannot be articulated at this time, but conceivably could disturb individual desert tortoises to the extent that they abandon all or a portion of their established home ranges and move elsewhere. The USAF did not propose any minimization measures specific to address edge effects.

Effects of Nonnative Plant Species on the Desert Tortoise

Surface disturbance from USAF-proposed actions will increase the potential introduction and spread of nonnative, potentially invasive plant species. Vehicles, roads, and other ground-disturbing activities contribute to the spread of nonnative species (or the displacement of native species) and the direct loss and degradation of habitats (Brooks 1995; Avery 1998). Project vehicles and equipment may transport nonnative propagules into the project area where they may

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become established and proliferate. In addition, the introduction of nonnative plant species may lead to increased wildfire risk, which ultimately may result in future habitat losses (Service 2011; Brooks et al. 2003) and changes in forage opportunities for desert tortoises. If herbicides are used, tortoises may be directly or indirectly affected.

Roadsides are widely considered to be one of the primary pathways for nonnative plant invasions into desert regions (Amor and Stevens 1976 and Brooks and Pyke 2001, cited in Brooks and Berry 2006). Roads facilitate dispersal of plant seeds (Trombulak and Frissell 2000 *in* Brooks and Berry 2006). Four-wheel drive vehicles carry significantly more seeds than two-wheel drive vehicles (Lonsdale and Lane 1994, cited in Brooks and Berry 2006). OHV use tends to be concentrated around dirt roads and other pathways of travel away from roadsides, such as washes and utility ROWs (Matchett et al. 2004, cited in Brooks and Berry 2006), which may explain why there are more nonnative plant species near dirt roads. Roadsides not only experience high levels of disturbance, but they also have high levels of productivity from rainfall flow off of road surfaces and onto adjacent roadside verges (Johnson et al., 1975 and Starr 2002, cited in Brooks and Berry 2006). Where road densities are high, nonnative plant richness and biomass may increase from the combined effects of high nonnative plant biomass near roads, increased dispersal of seeds along and away from roads by vehicles, decreased distances from roads to other areas of the landscape, and locally high productivity levels along roadsides.

The potential proliferation of nonnative plant species could also contribute to an increase in fire frequency within the action area. Fires in desert tortoise habitat result in loss of habitat by altering plant composition and structure.

Invasion of non-native plants can affect the quality and quantity of plant foods available to desert tortoises. Nonnative species generally do not provide adequate nutrition to desert tortoises; when they out-compete native forage plants, they reduce the amount of food available to desert tortoises. Such outcomes may decrease desert tortoise health and therefore, survivorship and reproduction potential. Females may lay fewer eggs although we are unaware of any research that demonstrates this effect; many other factors influence egg production in desert tortoises.

The USAF proposed the following conservation measures to address the potential effects from nonnative plant species: (1) reducing the disturbed area and reducing disturbance intensity when permissible; (2) keeping the top 6 inches of soil putting this soil back on the top layer in disturbed areas; (3) seeding or planting native plants followed by irrigation; (4) minimizing vehicles from off-road travel; and (5) mechanical, hand, or chemical treatment of weeds.

Effects on Desert Tortoise Genetics and Population Connectivity

The USAF proposed up to 8,729 acres of disturbance in desert tortoise habitat, which may affect connectivity between local desert tortoise populations occurring in the action area. Genetic variability of the species and sufficient ecological heterogeneity within and among populations must be maintained to ensure desert tortoise recovery (Murphy et al. 2007; Hagerty and Tracy 2010). This variation is necessary to allow tortoises to adapt to changes in the environment over time (Service 1994, 2011).

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Landscape genetic analysis performed by Latch et al. (2011) identified both natural (slope) and anthropogenic (roads) landscape variables that significantly influenced desert tortoise gene flow of a local population. Although they found a higher correlation of genetic distance with slope compared to roads, desert tortoise pairs from the same side of a road exhibited significantly less genetic differentiation than tortoise pairs from opposite sides of a road. Some project actions may decrease population connectivity beyond the existing conditions.

As discussed in the revised recovery plan (Service 2011) and elsewhere, habitat linkages are essential to maintaining rangewide genetic variation (Edwards et al. 2004, Segelbacher et al. 2010) and the ability to shift distribution in response to environmental stochasticity, such as climate change (Ricketts 2000, Fischer and Lindenmayer 2007, EPA 2009). Natural and anthropomorphic constrictions (e.g., I-15 at the Nevada-California border) can limit gene flow and the ability of desert tortoises to move between larger blocks of suitable habitat and populations.

Because little research exists relative to effects of habitat disturbance on desert tortoise genetics and population connectivity, we cannot at this time articulate the magnitude and extent of these potential effects on tortoises from USAF-proposed activities. It is conceivable that connectivity between local desert tortoise populations, and linkages within and to the action area may be impacted by proposed actions, particularly road use and the use of weapons delivery areas; however, the action area has not been identified to contain linkage habitat important for desert tortoise recovery (Averill-Murray et al. 2013).

While some level of impact to population connectivity and habitat linkages may occur from the proposed action, the loss and disturbance of 8,729 ac (31 km²) of desert tortoise habitat represents a small percentage (approximately 1.0 percent) of the total desert tortoise habitat (866,260 ac (3,506 km²)) in the action area. Furthermore, this loss and disturbance represents an even smaller percent of the estimated desert tortoise habitat in the Eastern and Northeastern Mojave recovery units (approximately 0.1 percent; 8,729 ac of disturbance within 6,563,960 ac of combined desert tortoise habitat in the Eastern and Northeastern Mojave recovery units). Based on this, we do not anticipate the loss of habitat will result in significant fragmentation or loss of connectivity over the entirety of the Eastern and Northeastern Mojave recovery units.

Effects of Subsidized Desert Tortoise Predators

The common raven is a known predator of the desert tortoise. Human activities in desert tortoise habitat potentially subsidize limited resources available for ravens and other desert tortoise predators. Habitat disturbance may remove shrubs and cover for desert tortoises exposing them to avian and other predators. Animals killed by vehicles on roads provide food for desert tortoise predators. Other human sources of desert tortoise predator subsidies include trash and discarded food, ponded water, and raven roosting and nesting sites.

Most raven predation on tortoises appears to occur during the raven breeding season (Boarman 2002b). By one estimate, ravens probably do most (75 percent) of their foraging within 0.25 mi of their nest (Sherman 1993) and raven predation pressure is notably intense near their nests (Kristan and Boarman 2001). Therefore, ravens nesting on towers or other infrastructure, where

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no other nesting substrate exists within 0.5 mi, may significantly reduce juvenile tortoise populations within 0.25 mi of the corridor, but this effect is quite localized.

Natural predation rates may be altered or increased when natural habitats are disturbed or modified and human presence in otherwise remote desert areas increases. During the past few decades, the population of the common raven has increased substantially in the desert southwest, primarily in response to human-provided subsidies of food, water, and nest sites. There is documentation of numerous carcasses of hatchling and juvenile desert tortoises under the nests of common ravens and a reduction in the proportion of hatchling and juvenile desert tortoise at several locations in the Mojave Desert. Human activities that attract common ravens, desert kit foxes, feral dogs, and coyotes by providing resources in the form of food or water that would otherwise be unavailable may substantially increase predation of tortoises in the area (Berry 1986). Road-kill of wildlife provides additional attractants and subsidies for opportunistic predators and scavengers. The use of water to control dust on construction sites and access roads result in ponding of water would provide a subsidized resource for ravens and other desert tortoise predators.

To avoid and minimize the availability of predator subsidies, the USAF proposed measures to control trash and other subsidized resources including (1) avoiding the creation of artificial perches for predators, (2) monitoring for and removing raven nests, (3) managing trash for NTTR and each project so that it is contained and secured in containers inaccessible to ravens and other predators and removed periodically, (4) using predator-proof trash receptacles, and (5) implementation of a tortoise education program.

Effects of Electromagnetic Radiation

The impact of electromagnetic radiation from emitters or during test and evaluation on desert tortoise is not fully understood at this time. As more information is procured on this type of impact, the USAF will implement methods to minimize impacts to desert tortoise, if possible. However, current literature indicates that adverse impacts to the desert tortoise from threat emitters would be unlikely and discountable due to the fact that desert tortoise exposure is estimated to have a low likelihood because it is close to the ground at an angle out of line from the direction that electromagnetic radiation is expected to travel from emitters. Thus, chronic long-term exposure to electromagnetic radiation is not likely for desert tortoise.

Effects of Depleted Uranium, Munition, or Pyrotechnics

The impact of depleted uranium, munition or pyrotechnic residues used in weapons delivery areas and other training areas on desert tortoise is not fully understood at this time. Any adverse effects caused by exposure to depleted uranium and other chemicals would likely be most severe through inhalation. Inhalation would be less likely when desert tortoises are in their burrow. Desert tortoise could be exposed to residual depleted uranium through cutaneous contact or incidental ingestion though soil studies at NTTR indicate is not likely. There are currently no research studies documenting any effects to desert tortoises from depleted uranium, munition or pyrotechnic residues. The USAF proposed to remove and properly dispose depleted uranium,

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munition or pyrotechnic waste contaminated debris (e.g. cartridges) to minimize desert tortoise exposure to harmful materials.

Effects of Weapons Delivery Areas

Activities associated with weapons delivery areas will result in habitat disturbance and loss, desert tortoise mortality, disturbance of individuals in areas adjacent to disturbance, and exposure to depleted uranium. Targets would impact the desert tortoise mostly by ground disturbing actions caused by exploding and non-exploding ordnance and small arms bullets. Up to 7,742 acres of desert tortoise habitat may be disturbed by weapons delivery areas. Desert tortoises directly impacted in weapons delivery areas are unlikely to be detected because of exploding ordnance which obliterates or buries them making them difficult to observe. To avoid and minimize effects from weapons delivery areas the USAF proposed desert tortoise awareness training, and restoration and protection of desert habitat.

Effects of Threat Emitters

Activities associated with threat emitters programs may cause desert tortoise mortality, disturbance of individuals, and habitat disturbance. Up to 11.5 acres of desert tortoise habitat may be disturbed by placement of the emitters and associated roads (7.5 for Emitters, and 4.0 for Roads). To avoid and minimize effects from threat emitters to desert tortoises, the USAF proposed the following measures: minimizing disturbance area; monitoring and clearance surveys, removing or preventing predator nests; and desert tortoise awareness training.

Effects of Infrastructure Construction and Maintenance

Activities associated with infrastructure construction and maintenance could affect up to a total of 962 acres of desert tortoise habitat, 126 acres for fencing and 836 acres for road and trail use (Inside Wilderness). To avoid and minimize effects from infrastructure construction and maintenance the USAF proposed to minimize disturbance area, covering or fencing holes or trenches, monitoring and clearance surveys, removing or preventing predator nests, and desert tortoise awareness training.

Effects of Ready Access, Battlefield Training, and Insertion and Extraction (Drop and Landing Zone), and Overland Navigation

Activities associated with ready access, battlefield training, and insertion and extraction (drop and landing zone), and overland navigation may cause disturbance or mortality of desert tortoise. Disturbance to habitat from ready access and battlefield training is expected to be minor because of small group sizes. Program vehicle activity will pose the greatest risk of injury or mortality from collisions to desert tortoises and disturbance to habitat.

To avoid and minimize effects from ready access, battlefield training, and insertion and extraction (drop and landing zone) and overland navigation the USAF proposed measures of desert tortoise awareness training and vehicular traffic controls (speed limits, signs, and travel restrictions). Activities associated with programs related to insertion and extraction (drop and

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landing zone) and overland navigation could disturb up to 13 acres of desert tortoise habitat from landing zone construction. To avoid and minimize effects from insertion and extraction (drop and landing zone) and overland navigation the USAF proposed to minimize disturbance area, monitoring and clearance surveys.

Effects of Fire Suppression on the Desert Tortoise

If a wildfire occurs in desert tortoise habitat and requires the USAF suppression activities, desert tortoises and their habitat may be affected, but if suppression does not occur, the effects of the wildfire may be widespread resulting in devastating effects to localized tortoise populations. Wildfire suppression activities are typically short in duration (less than a week) and effects are localized. Desert tortoises, their nests, and habitat may be crushed by fire suppression vehicles and equipment traveling off-road. Creating fuel breaks may result in a swath of disturbance and create conditions for nonnative plants to establish. If suppression activities are not undertaken by the USAF or hindered, the amount of habitat burned and number of tortoises affected by the fire may increase.

An unknown number of acres could be disturbed from fire suppression activities. To avoid and minimize effects to desert tortoise and habitat from fire suppression activities, the USAF proposed the following guidelines as appropriate for desert tortoise conservation measures: utilize the current Mojave Desert Initiative (MDI) guidelines; avoid spreading non-native plants by ensuring that all firefighting equipment has been cleaned before entering the area; use the current map (Figure 10 and Figure 11) for potential desert tortoise habitat to determine where special consideration suppression tactics will be conducted; fight wildland fires aggressively in order to minimize burned acreage; minimize soil surface disturbances during fire suppression; limit the use of mechanized equipment when possible; restrict use of firefighting equipment and vehicles to existing roads and trails when possible; use of aerial retardant authorized in the BLM fire management plan (the preferred method of fire suppression; foam or fugitive retardant is preferable to iron oxide retardant in desert tortoise habitat); establish fire camps, staging areas, and helispots in previously disturbed areas outside mapped desert tortoise habitat; have a resource advisor assigned to the fire; and provide all firefighters and support personnel with a briefing on desert tortoise and their habitat to minimize tortoise injuries and destruction, particularly those associated with vehicle use.

Effects of the Action on Desert Tortoise Recovery

The USAF's proposed activities will not affect the desert tortoise's potential for recovery based on several factors. First we considered the estimated number of large tortoises that may be affected by surface disturbance. Desert tortoise abundance in the action area is estimated to primarily be low to moderate with only pockets of moderately high relative abundance. We estimate approximately 149 large tortoise may occur in areas of desert tortoise habitat that may be disturbed. This represents a small number of tortoises estimated to occur in desert tortoise habitat throughout the action area (approximately 1.0 percent or 149 of 14,072). All desert tortoises estimated to occur in weapons delivery target impact areas (approximately 132 large individuals and an unknown number of small tortoises and eggs) are anticipated to be killed. As

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described in the effects analyses, the USAF proposed measures for other program areas that will reduce tortoises occurring in those areas from being killed or injured by the proposed action.

Next, we considered effects to small tortoises and eggs. We did not attempt to estimate the number of small tortoises and eggs that may be impacted for two reasons. First, the large number of assumptions involved decreases the value of this exercise, particularly in the context of the entirety of both the Eastern and Northeastern Mojave recovery units. Second, the natural high rate of mortality among eggs and small tortoises would reduce the value of the estimate.

Although we do not estimate numbers of small tortoises and eggs likely to be affected by the proposed action, we acknowledge some number are likely to be killed. Because they are difficult to observe, proposed actions resulting in habitat disturbance are likely to kill small tortoises and eggs occurring in those areas, although the USAF would likely find some small animals and move them out of harm's way. This may reduce population recruitment or create demographic imbalances. The potential mortality of small desert tortoises in the action area will likely affect, to some degree, recruitment (i.e., individuals reaching reproductive age).

Although we are not comparing the overall estimate of the numbers of small desert tortoises and eggs likely to be killed or injured to the overall numbers within the recovery units, we can reasonably conclude that the estimate is a small percentage of the overall numbers of small desert tortoises and eggs because the number of large desert tortoises affected by the proposed actions is a small percentage of the population in the Eastern Mojave Recovery Unit. Consequently, although actions that disturb habitat are likely to kill many small desert tortoises and eggs and some additional animals and eggs would be killed during operations and maintenance, the proposed actions are not likely to appreciably diminish the number of small desert tortoises or eggs in the action area.

The USAF estimates 8,729 ac of desert tortoise habitat will be disturbed from proposed actions. This represents a small percentage (approximately 1.0 percent) of the total desert tortoise habitat estimated to occur in the action area (8,729 ac of disturbance within 866,260 ac of desert tortoise habitat), and an even smaller percent of the estimated desert tortoise habitat in the Eastern and Northeastern Mojave recovery units combined (approximately 0.1 percent; 8,729 ac of disturbance within 6,563,960 ac of combined desert tortoise habitat in the Eastern and Northeastern Mojave recovery units).

Although the action area occurs in an identified tortoise conservation area (Averill-Murray et al. 2013), habitat in the area is not designated critical habitat for the desert tortoise, and as previously described, the overall disturbance and loss of habitat is relatively small. The proposed action area will not significantly affect desert tortoise connectivity across the Eastern and Northeastern Mojave recovery units because it is not located within an important linkage corridor (Averill-Murray et al. 2013; Figure 8).

We do not have the ability to place a numerical value on edge effects, habitat degradation, impacts to habitat connectivity, and overall fragmentation that the proposed action may cause. As a result, the percentage of habitat within the recovery units that would be affected may be greater than the area physically disturbed; however, we still expect the direct and indirect

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disturbance would not constitute a numerically significant portion of the two affected recovery units. Therefore, we anticipate adequate intact habitat will remain in which desert tortoises will be able to forage, breed, and shelter.

Based on these considerations, the proposed action may have an overall slight negative effect on the reproduction, numbers, and distribution of desert tortoises in the action area; however, it is unlikely to appreciably diminish the ability of the desert tortoise to reach stable or increasing population trends in the future.

CUMULATIVE EFFECTS

Cumulative effects are those effects of future non-Federal (State, tribal, local government, or private) activities that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they would likely require separate consultation pursuant to section 7 of the Act.

We are unaware of any non-Federal activities proposed to be conducted in the action area. The majority of the lands adjacent to the action area are administered by BLM, Service (Division of Refuges), Department of Defense, and Department of Energy. Therefore, any actions on these adjacent lands would likely include a Federal action and be subject to consultation under section 7 of the Act.

CONCLUSION

After reviewing the status of the species, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the Mojave desert tortoise.

We have reached this conclusion because:

- The number of desert tortoises anticipated to be killed or injured is low and small relative to the estimated number of tortoises occurring within the action area and impacted recovery units.
- Impacts to desert tortoises will be minimized or avoided through implementation of measures intended to reduce the potential adverse effects to individuals and habitat.
- The proposed action area does not include any areas of critical habitat designated for recovery of the species.
- The amount of desert tortoise habitat proposed to be disturbed is small relative to the amount available in the action area and within the Eastern and Northeastern Mojave recovery units.
- New actions greater than 20 acres in all program areas (except the Weapons Delivery Program) that may adversely affect the desert tortoise will require additional project-specific consultation between the USAF and Service and subsequently will be appended

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to this PBO.

INCIDENTAL TAKE STATEMENT

Each USAF action that may result in incidental take must have an incidental take statement, whether the action is preparing planning documents for future projects or the implementation of specific activities under the plan. The take anticipated as a result of a specific action would be a subset of the programmatic incidental take statement. Though the intent in the appended programmatic approach is for the programmatic incidental take statement to contain all necessary reasonable and prudent measures and associated terms and conditions, due to the lack of available information regarding the specifics of individual projects, it may be necessary to develop project-specific reasonable and prudent measures and terms and conditions to ensure the minimization of the impacts of the incidental take associated with the specifics of each individual project. However, if this is the case, the Service would carefully consider whether the individual proposed project is beyond the scope of the programmatic consultation.

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened wildlife species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not the purpose of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

In June 2015, the Service finalized new regulations implementing the incidental take provisions of section 7(a)(2) of the Act. The new regulations also clarify the standard regarding when the Service formulates an Incidental Take Statement [50 CFR 402.14(g)(7)], from "...if such take may occur" to "...if such take is reasonably certain to occur." This is not a new standard, but merely a clarification and codification of the applicable standard that the Service has been using and is consistent with case law. The standard does not require a guarantee that take will result; only that the Service establishes a rational basis for a finding of take. The Service continues to rely on the best available scientific and commercial data, as well as professional judgment, in reaching these determinations and resolving uncertainties or information gaps.

The Service hereby incorporates by reference the conservation measures proposed by the USAF from the Description of the Proposed Action into this incidental take statement as part of these terms and conditions to be applied to those actions for which incidental take of desert tortoise is exempted. The terms and conditions below and any additional measures proposed by the USAF or included by the Service may be applied to future actions appended to this biological opinion. Where action-specific terms and conditions (i.e., terms and conditions developed for each action

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to be appended and covered under this programmatic opinion in the future) vary from or contradict the minimization measures proposed under the Description of the Proposed Action or general terms and conditions below, the action-specific terms and conditions shall apply. The measures described below are general in nature and may or may not apply to future actions proposed for appendage to this PBO. Terms and conditions are nondiscretionary and must be implemented by the USAF so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply.

The USAF has a continuing duty to regulate the activity that is covered by this incidental take statement as long as the affected area is retained in Federal ownership or control. If the USAF (1) fails to require the project proponent to adhere to the action-specific terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, or (2) fails to retain oversight to ensure compliance with action-specific terms and conditions, the protective coverage of section 7(o)(2) may lapse.

AMOUNT OR EXTENT OF TAKE ANTICIPATED

We considered the following factors to determine the amount of estimated take of desert tortoise (Table 6) that could occur as a result of mixed and framework programmatic actions that may be authorized, carried out, or funded by the USAF under this PBO: described effects; proposed thresholds of habitat disturbance (Table 1); history of effects from similar actions including the previous PBO covering the same action area; minimization measures proposed by the USAF; historic surveys within the action area and described in the BA (USAF 2017); estimated desert tortoise abundance in the action area; and rangewide monitoring data in the Eastern and Northeastern Mojave Recovery Units, particularly the Coyote Springs Valley strata (Service 2015, 2016, 2018).

As indicated below, the incidental take anticipated for fire suppression is unknown. While it is possible that desert tortoises may be crushed aboveground or in their burrows by fire suppression actions, these takes will not likely be discovered or included in the annual consultation reports. Most effects to the desert tortoise from fire suppression would be infrequent.

EFFECT OF TAKE

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the desert tortoise. This determination is based in part on the implementation of conservation measures detailed in this PBO and BA provided by the USAF with their request for consultation and subsequent discussions during the consultation period. We will consider the anticipated level of incidental take to be exceeded when the detected numbers of adult tortoises found dead or injured from an action covered in this biological opinion exceed the numbers identified in Table 6. Because of the nature of the action, we do not expect the USAF will locate tortoise carcasses killed by target impacts in the weapons delivery areas. Therefore, we will consider the anticipated level of take to be exceeded if disturbance of desert tortoise habitat within the weapons delivery areas exceeds 7,742 acres.

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Table 6. Anticipated level of incidental take of large desert tortoises for mixed and framework programmatic actions of the proposed action and expected over 20-year duration of the action.

Program activity	Non-injury or Non-mortality (Capture) ¹	Detected Injury or Mortality ²	Estimated Total of Injury or Mortality Take
Continued Use of Existing Roads	6/year	20 total during term of PBO or 3 in a given year	60
Weapons Delivery Areas & Cleanup	0	0 ³	132 ³
Threat Emitters	2	1	2
Infrastructure Construction and Maintenance	4/year	5 total during term of PBO or 2 in a given year	20
Borrow Pits	2/year	2	4
Test and Evaluation	1/year	2	4
Ready Access Battlefield Training Insertion and Extraction (Drop and Landing Zone) and Overland Navigation	1/year	2	4
Fire Suppression	unknown	unknown	unknown

¹ All desert tortoises observed in harm's way may be moved to a safe location as outlined in this PBO. These are estimates of the number we expect will need to be moved. Unless otherwise specified, the number is the total for duration of the proposed action.

² Except for the Weapons Delivery Areas & Cleanup program, the numbers in this column represent triggers that if exceeded require reinitiation of this PBO. Unless otherwise specified, the number is the total for duration of the proposed action.

³ We do not expect the USAF will locate carcasses of tortoises killed by target impacts in weapons delivery areas.

We anticipate that some desert tortoises in a calendar year are likely to be taken in the form of capture as they are moved from harm's way to adjacent habitat prior to or during activities. Moving tortoises out of harm's way is beneficial to the species. Therefore, all desert tortoises observed in harm's way may be moved to a safe location as outlined in this PBO. Should capture of desert tortoises exceed the number identified in Table 6, the USAF and FWS will coordinate to determine if reinitiation of the PBO is necessary.

For programs other than the weapons delivery program, desert tortoises that are not detected during clearance surveys prior to surface-disturbing actions or moved from roads are likely to be killed or injured. Because of the difficulty in finding small desert tortoises, we expect that most of these individuals, as well as eggs, are likely to be killed, injured, or destroyed during the USAF's proposed actions. The USAF is unlikely to locate carcasses of most of the individuals it kills or injures because of the difficulty in locating smaller individuals, the cryptic nature of the species (i.e., some individuals may be killed in burrows and not located), and numerous other factors (e.g. presence of scavengers). The inability to locate a large proportion of these carcasses

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means that the number of carcasses that are discovered generally represent a subset of the number of tortoises incidentally taken, most of which will be small desert tortoises; therefore, based on our best professional judgment, we have identified numbers for detected injury or mortality of large desert tortoises to provide measurable points at which we will consider the anticipated level of incidental take to be exceeded.

Because of the large number of assumptions and uncertainty that exist regarding estimating potential take of small desert tortoises and eggs, we do not include an estimate of incidental take of these life stages; however, if the amount of take for large desert tortoises is exceeded, the re-initiation of formal consultation would also require re-evaluation of the effects of the action on small desert tortoises and eggs.

The Service believes that the following RPMs and associated terms and conditions are necessary and appropriate to minimize take of desert tortoise. The measures below must be implemented to ensure incidental take exemptions apply but do not limit the USAF from imposing additional measures, as appropriate. Because actions are expected to proceed that do not exceed the acreage thresholds or require further consultation with the Service, we expect the USAF to require all protective measures for proposed actions, which may include measures not identified below.

REASONABLE AND PRUDENT MEASURES WITH TERMS AND CONDITIONS

The Service believes that the following RPMs with Terms and Conditions stated below or incorporated by reference are necessary and appropriate to minimize the incidental take for mixed and framework programmatic actions. Measures under this incidental take statement will apply towards future USAF actions that may result in adverse effects to the desert tortoise. The Service considers desert tortoise sign in a project action area as an indicator that desert tortoises potentially or likely occur there. In order to be exempt from the prohibitions of section 9 of the Act, the USAF, or other jurisdictional Federal agency, must comply with RPMs as implemented by Terms and Conditions. For future actions to be appended to this programmatic biological opinion, additional Terms and Conditions may be provided at the project-level consultation and are non-discretionary. The majority of these RPMs with Terms and Conditions provide clarifying guidelines, information, and personnel responsibilities related to the minimization measures proposed by the USAF (see *Proposed Measures to Minimize the Potential Effects of the Action*).

RPM 1 **Applies towards weapons delivery areas, threat emitters, infrastructure construction and maintenance, borrow pits actions, and other activities that involve vehicle and equipment use, and excavations.** *The USAF, and other jurisdictional Federal agencies as appropriate, shall implement or ensure implementation of measures to minimize injury or mortality of desert tortoises due to project construction, operation and maintenance; and most actions involving habitat disturbance.*

Terms and Conditions:

- 1.a. *Field Contact Representative*—the USAF shall ensure a Field Contact Representative (FCR), which may be the NAFB Natural Resources Manager, is

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identified as the main point of contact for ensuring the USAF's proposed minimization measures and Terms and Conditions of this PBO are implemented on projects requiring construction, excavations, and other activities involving vehicle and equipment use. The FCR will serve as an agent of the USAF and the Service to ensure that all instances of non-compliance or incidental take are documented (i.e., photo, GPS coordination, and description of event) and included in annual reporting (see Reporting in Description of the Proposed Action). The USAF has discretion over approval of potential FCRs; however, those who also may be acting as authorized desert tortoise biologists must also be approved by the Service (see Term and Condition 1.b.). All FCRs will report **directly** to USAF and the Service.

The FCR, authorized desert tortoise biologist, and monitors (see Term and Condition 1.b.) shall have a copy of all stipulations when work is being conducted on the site and will be responsible for overseeing compliance with terms and conditions of the project. The USAF shall ensure the FCR and authorized desert tortoise biologists have authority to halt any activity that is in violation of the stipulations. The FCR shall be on site year-round during all project activities.

- 1.b. *Authorized desert tortoise biologist*—All authorized desert tortoise biologists will be approved by the Service and will act as representatives of the USAF and the Service. Potential authorized desert tortoise biologists must submit their statement of qualifications to the Service's Southern Nevada Fish and Wildlife Office in Las Vegas for approval, allowing a minimum of 30 days for Service response. The statement form is available in the Desert Tortoise Field Manual on the internet at: https://www.fws.gov/nevada/desert_tortoise/dt/dt_auth_form.htm. Authorized desert tortoise biologists will serve as mentors to train desert tortoise monitors and will approve monitors if required on a project. An authorized desert tortoise biologist is responsible for errors committed by desert tortoise monitors.

All authorized desert tortoise biologists and monitors will report directly to the USAF and the proponent concurrently regarding all compliance issues and take of desert tortoises; this includes all draft and final reports of non-compliance or take. Authorized desert tortoise biologists and monitors will be responsible for ensuring compliance with all proposed minimization measures for the project. This responsibility includes: (1) enforcing the litter-control program; (2) ensuring that desert tortoise habitat disturbance is restricted to authorized areas; (3) ensuring that all equipment and materials are stored within the boundaries of the construction zone or within the boundaries of previously-disturbed areas or designated areas; (4) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; (5) ensuring that no tortoises are underneath project vehicles and equipment prior to use or movement; (6) ensuring that all monitors (including the authorized desert tortoise biologist) have a copy of the required measures in their possession, have read them, and they are readily available to the monitor when on the project site.

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An authorized desert tortoise biologist will record each observation of desert tortoise handled on the Desert Tortoise Handling and Take Report (Appendix B). This information will be provided directly to the USAF and the Service.

- 1.c. Desert tortoise monitors assist an authorized desert tortoise biologist during surveys and serve as apprentices to acquire experience. Desert tortoise monitors ensure proper implementation of protective measures, and record and report desert tortoises and sign observations in accordance with Term and Condition 1.b. They will report incidents of noncompliance to the authorized desert tortoise biologist or FCR. No monitors will be on the project site unless supervised by an authorized desert tortoise biologist or approved by the USAF.

If a desert tortoise is immediately in harm's way (e.g., certain to immediately be crushed by equipment), desert tortoise monitors may move the desert tortoise and place it in a designated safe area until an authorized desert tortoise biologist assumes care of the animal.

Desert tortoise monitors may not conduct field or clearance surveys or other specialized duties of an authorized desert tortoise biologist unless directly supervised by an authorized desert tortoise biologist or approved to do so by the Service; "directly supervised" means an authorized desert tortoise biologist has direct sight and voice contact with the desert tortoise monitor.

- 1.d. *Desert tortoise clearance*—In areas of new disturbance to desert tortoise habitat (except for the weapons delivery areas), or in areas where disturbance to recovered desert tortoise habitat is likely to occur, the USAF will complete proposed clearance surveys using authorized desert tortoise biologists prior to initiating any surface- or vegetation-disturbing activities. An authorized biologist shall excavate all burrows that have characteristics of potentially containing desert tortoises in the area to be disturbed with the goal of locating and removing all desert tortoises and desert tortoise eggs. During clearance surveys, all handling of desert tortoises and their eggs and excavation of burrows shall be conducted solely by an authorized desert tortoise biologist in accordance with the most current Service-approved guidance (currently Service 2009). If any tortoise active nests are encountered, the Service must be contacted immediately, prior to removal of any tortoises or eggs from those burrows, to determine the most appropriate course of action. Unoccupied burrows shall be collapsed or blocked to prevent desert tortoise entry. Outside construction work areas, all potential desert tortoise burrows and pallets within 50 ft of the edge of the construction work area shall be flagged. If the burrow is occupied by a desert tortoise during the less-active season, the tortoise shall be temporarily penned (see Term and Condition 1.f.). No stakes or flagging shall be placed on the berm or in the opening of a desert tortoise burrow. Desert tortoise burrows shall not be marked in a manner that facilitates disturbance. Avoidance flagging shall be designed to be easily distinguished from access route or other flagging, and shall be designed in

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consultation with experienced construction personnel and authorized biologists. All flagging shall be removed following construction activities. An authorized desert tortoise biologist will inspect areas to be backfilled immediately prior to backfilling.

- 1.e. *Handling of desert tortoises*—Unless in imminent danger, desert tortoises shall only be moved by an authorized desert tortoise biologist or desert tortoise monitor (see restrictions in Term and Condition 1.c) solely for the purpose of moving the tortoises out of harm's way. During construction, operation, and maintenance, an authorized desert tortoise biologist may pen, capture, handle, and relocate desert tortoises from harm's way as appropriate and in accordance with the most current Service-approved guidance. No tortoise shall be handled by more than one person. Each tortoise handled will be given a unique number, photographed, and the biologist will record all relevant data on the Desert Tortoise Handling and Take Report (Appendix B) to be provided to the USAF in accordance with the project reporting requirements.

If desert tortoises need to be moved at a time of day when ambient temperatures could harm them (less than 40 ° F or greater than 95° F), they shall be held overnight in a clean cardboard box. These desert tortoises shall be kept in the care of an authorized biologist under appropriate controlled temperatures and released the following day when temperatures are favorable. All cardboard boxes shall be discarded after one use and never hold more than one tortoise. If any tortoise active nests are encountered, the Service must be contacted immediately, prior to removal of any tortoises or eggs from those burrows, to determine the most appropriate course of action.

Desert tortoises located in the project area sheltering in a burrow during the less-active season may be temporarily penned in accordance with Term and Condition 1.f at the discretion of an authorized desert tortoise biologist. Desert tortoises should not be penned in areas of moderate to heavy use, rather they should be moved from harm's way in accordance with the most current Service-approved guidance (currently Service 2009).

Desert tortoises shall be handled in accordance with the Desert Tortoise Field Manual (Service 2009). Equipment or materials that contact desert tortoises (including shirts and pants) shall be sterilized, disposed of, or changed before contacting another tortoise to prevent the spread of disease. All tortoises shall be handled using disposable surgical gloves and the gloves shall be disposed of after handling each tortoise. An authorized desert tortoise biologist shall document each tortoise handling by completing the Desert Tortoise Handling and Take Report (Appendix B).

- 1.f. *Penning*—Penning shall be accomplished by installing a circular fence, approximately 20 ft in diameter to enclose and surround the tortoise burrow. The

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pen should be constructed with 1-inch horizontal by 2-in vertical, galvanized welded wire. Steel T-posts or rebar should be placed every 5 to 6 ft to support the pen material. Pen material will extend 18 to 24 in aboveground. The bottom of the enclosure will be buried 6 to 12 in or bent towards the burrow, have soil mounded along the base, and other measures implemented to ensure zero ground clearance. Care shall be taken to minimize visibility of the pen where disturbance by personnel may occur. An authorized desert tortoise biologist or desert tortoise monitor shall check the pen at a frequency to ensure that the desert tortoise is secure and not stressed. No desert tortoise shall be penned for more than 48 hours without written approval by the Service. Because this is a new technique, all instances of penning or issues associated with penning shall be reported to the Service within 3 days (see Appendix B).

RPM 2 **Impacts to Desert Tortoise Habitat—Applies towards all actions that involve habitat impacts.** *The USAF, and other jurisdictional Federal agencies as appropriate, shall ensure their agency personnel, and their contractors implement the following measures to minimize loss and long-term degradation and fragmentation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, and introduction of weeds or contaminants from construction, operation, and minor maintenance activities:*

Terms and Conditions:

- 2.a. *Habitat protection plans*—the USAF shall ensure that projects develop and implement an approved fire prevention and response plan, erosion control plan, and a weed management plan prior to surface disturbance.
- 2.b. *Restoration plan*—the USAF shall ensure the development and implementation of a restoration and reclamation plan. The plan will describe objectives and methods to be used, species of native plants and seed mixture to be used, time of planting, success standards, actions to take if restoration efforts fail to achieve the success standards, and follow-up monitoring. The plan will be prepared and approved prior to the surface disturbance phase of the project. Reclamation will be addressed on a case-by-case basis.
- 2.c. *Chemical spills*—Hazardous and toxic materials such as fuels, solvents, lubricants, and acids used during construction will be controlled to prevent accidental spills. Any leak or accidental release of hazardous and toxic materials will be stopped immediately and cleaned up at the time of occurrence. Contaminated soils will be removed and disposed at an approved landfill site.

REPORTING REQUIREMENTS

Pursuant to 50 CFR 402.14(i)(3), the USAF must report the progress of the action and its impact on the species to the Service as specified in this incidental take statement. The USAF shall ensure that a report documenting desert tortoise encounters, incidental take (including capture

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and relocation), and effectiveness and compliance with the desert tortoise protection measures is prepared and submitted to the Service's Southern Nevada Fish and Wildlife Office in Las Vegas. Reporting requirements are described under Reporting in the Description of the Proposed Action and in the Reasonable and Prudent Measures With Terms and Conditions. Mortality or injuries to desert tortoises from actions covered by this PBO must be reported immediately (Appendix B). Annual reports for take and appended actions will cover the calendar year, and are due January 31st following each calendar year (Appendix C). For appended actions greater than 20 acres, a project completion report will be submitted to the Service.

DISPOSITION OF DEAD OR INJURED DESERT TORTOISES

To ensure that the protective measures are effective and are being properly implemented, the USAF shall contact the Service immediately if a desert tortoise is killed or injured as a result of any activity covered under this programmatic biological opinion. Upon locating a dead or injured federally listed species within the action area, notification must be made by phone to the Southern Nevada Fish and Wildlife Office at (702) 515-5230 and by completing the Desert Tortoise Handling and Take Report (Appendix B). At that time, the Service and the USAF shall review the circumstances surrounding the incident to determine whether additional protective measures are required. Care should be taken in handling sick or injured animals to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death.

If a desert tortoise is injured or killed, it shall be delivered to a qualified veterinarian for appropriate treatment or disposal. The applicant shall bear the cost of any required treatment of listed species injured from the project, euthanasia of sick animals, and cremation of animals that die during treatment. Should sick or injured listed species be treated by a veterinarian and survive, they may be transferred as directed by the Service.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Service recommends the following conservation measures be considered for the NTTR.

1. We recommend that the USAF identify desert tortoise population landscape linkages and develop appropriate methods to conserve these areas and fulfill mission goals.
2. We recommend that the USAF evaluate its transportation network and effects on desert tortoise and habitat to develop alternatives to minimize adverse effects. Examples of actions or options could include:
 - a. develop a travel plan;
 - b. close and restore unnecessary routes;
 - c. reduce travel routes in washes or other areas with high densities of desert

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- tortoises;
- d. install signs to inform vehicle operators to stay out of sensitive areas; and
 - e. develop transportation layouts configured to minimize desert tortoise exposure to vehicle collision situations with an appropriate combinations of barrier fencing, tunnel opportunities, or focused crossing areas with increased sightability and operator awareness.
3. We encourage the development of long-term monitoring for the desert tortoise in cooperation with the Desert Tortoise Recovery Office.
 4. We recommend that surveys occur unbiased throughout the range of topographic conditions of NTTR to provide a more complete understanding of the distribution and habitat use of desert tortoise so that proposed actions can be properly evaluated.
 5. We recommend that the USAF fund and implement studies of health effects to desert tortoises caused by ordinance materials and dispersed particulate pollution; and
 6. We recommend the collection of baseline desert tortoise and habitat information in areas where alternatives may cause adverse effects as well as control areas.

In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION REQUIREMENT

This concludes formal consultation on the actions outlined in your request. As required by 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over an action has been retained (or is authorized by law) and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

Examples of when reinitiation under 50 CFR§ 402.16 would be required are if (1) for an action proposed to be appended, or during the process of implementation, the threshold for habitat disturbance as identified in Table 1 or take identified in Table 6 is exceeded; (2) a proposed action would result in effects beyond those identified in the *Effects of the Proposed Action*; or (3) an action is proposed in an area that will result in a level of effect to important habitat for the desert tortoise which may affect our ability to recover the species as determined by the Service.

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If we can be of further assistance, please contact Corey Kallstrom in Las Vegas at (702) 515-5461 or via email at Corey_Kallstrom@fws.gov.

Sincerely,



Glen W. Knowles
Field Supervisor

Enclosure

cc:

Desert Conservation Plan Administrator, Department of Comprehensive Planning, Clark County,
Las Vegas, Nevada

Administrator, Nevada Division of Wildlife, Reno, Nevada

Supervisory Biologist - Habitat, Nevada Department of Wildlife, Las Vegas, Nevada

Field Station Manager, Las Vegas Field Station, Bureau of Land Management, Las Vegas,
Nevada

District Manager, Southern Nevada District Office, Bureau of Land Management, Las Vegas,
Nevada

Project Leader, Desert National Wildlife Refuge Complex, Fish and Wildlife Service, Las Vegas,
Nevada

Field Supervisor, Fish and Wildlife Service, Northern Nevada Field Office, Reno, Nevada

Refuge Manager, Desert National Wildlife Range, Fish and Wildlife Service, Las Vegas, Nevada

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APPENDIX A
REQUEST TO APPEND ACTION FORM

**ACTION APPENDED TO THE USAF NEVADA TEST and TRAINING RANGE
PROGRAMMATIC BIOLOGICAL OPINION (File No. 08ENVS00-2018-F-0028)**

This consultation consists of the programmatic biological opinion (PBO), the USAF’s request to append the proposed action to the PBO with project-specific information (Part A, below), and the Fish and Wildlife Service’s response (Part B, below).

Fish and Wildlife Service File No. for Proposed Action:

(provided by Fish and Wildlife Service)

Part A: Information provided by the USAF

Date of request:	
USAF contact name: phone number:	
Project/action title:	
Proponent/applicant:	
Program:	
Species/critical habitat affected:	
No. of acres of desert tortoise habitat to be affected:	

Description of Proposed Action:

- What is the Federal action (e.g., road, fencing, etc.)?
- When would the action begin and end?
- What are the specific activities that would be implemented; how will they affect listed species and their critical habitat?
- How will access to work areas be accomplished?

Proposed Minimization Measures and Remuneration Fees:

[Terms and conditions for desert tortoise in the PBO may be referenced by number with a brief summary (e.g., T&C 1.a. Designate and require a field contact representative); additional measures may be proposed by the USAF beyond those in the PBO.]

Survey Summary and Results:

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- Describe in detail, the pre-project survey results including description or condition of the habitat, dominant vegetation, and existing disturbance.
- Attach survey data sheets and maps.

Description of existing factors affecting the species in the project (action) area not discussed in the PBO:

- Describe current and prior human uses or activities in the action area. Include reference to previous consultations in the action area and reports of such actions submitted to the Service.

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Part B: Fish and Wildlife Service Response

File No.

Date received:

Date of response:

1. Environmental baseline

- a. The status of the species and factors affecting the species in the action area are described in the PBO and information provided by the USAF (Part A).
- b. See Part A for factors affecting the species in the action area. Table 1 in the PBO provides the maximum habitat disturbance thresholds for each program and sub-program; and Table 6 in the PBO provides the incidental take exemption limits.

2. Project-specific effects of proposed action

- a. Reference the section and page numbers of the PBO that describe the effects that apply to the proposed appended action:
- b. In addition to the general, programmatic-level effects described in the PBO, the proposed action is anticipated to result in the following effects:
 - Large tortoise:
 - Small tortoise:
 - Desert tortoise habitat affected:
 - Other effects:

3. Conclusion

4. Project-level Incidental Take Statement (desert tortoise)

a. Amount or Extent of Take Exempted:

1) Based on the analysis of effects provided above, minimization measures, and anticipated project duration, implementation of the proposed project is anticipated to result in the following take of desert tortoise:

Exempted Mortality, Injury, and Destruction (eggs)			Exempted Non-injury - Mortality		Anticipated Habitat Loss (acres)
Large	Small	Egg	Large	Small	

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2) In addition to the incidental take above, incidental take may occur as a result of indirect effects (e.g., tortoises taken by ravens attracted to the project site or tortoises disturbed by noise and general project activities). The actual number of tortoises taken as a result of indirect effects is often estimated or stated as unknown due to the difficulty in quantifying such effects.

- b. Project-Specific Reasonable and Prudent Measures and Terms and Conditions. Provide (cut and paste) complete list of measures to ensure that project biologists and monitors are provided all appropriate measures for the project. As a term and condition, the USAF will report the status and effects of the appended project and action annually and upon completion for the project in accordance with the reporting requirements in the PBO.

Based on the information provided by the USAF and our analysis above, it is the Service's biological opinion that the proposed activity is within the scope of the PBO and is hereby appended.

Signature: _____

Field Supervisor

Date

Southern Nevada Fish and Wildlife Office

Las Vegas, Nevada

cc:

Supervisory Biologist- Habitat, Nevada Department of Wildlife, Las Vegas, Nevada

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APPENDIX B
DESERT TORTOISE HANDLING AND TAKE REPORT

If a desert tortoise is killed or injured, immediately contact the U.S. Fish and Wildlife Service and the USAF, by phone at the numbers below and complete Section 1 of the form.

USAF

NAFB Natural Resources Manager
99 CES/CEV, Environmental Management
Office
Las Vegas, Nevada
702-652-4354

U.S. Fish and Wildlife Service
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
702-515-5230

Completed forms should be submitted to the USAF and Fish and Wildlife Service:

Project Name:	Report Date:
Fish and Wildlife Service Append File No.- 08ENVS00-	
Authorized Desert Tortoise Biologist: _____	
Employed by:	
Section 1: Complete all information below if a desert tortoise is injured or killed in addition to initial contact described above.	
If tortoise was injured <input type="checkbox"/> or killed <input type="checkbox"/> (check appropriate box):	

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Date and time found: _____

Found by: _____

GPS location (NAD 83): easting: _____ northing: _____

No. of photos taken: _____

Disposition:

Attach report with photos that describe in detail, the circumstances and potential cause of injury or mortality. For injuries include name of veterinarian and detailed assessment of injuries.

Section 2: Complete all information below for each desert tortoise handled.

All instances of desert tortoise handling must be reported in this section and be included in the quarterly, annual, and final project reports.

Desert tortoise number: _____

Date and time found: _____ Sex of tortoise: _____

Air temperature when found: _____ Air temperature when released: _____

Tortoise activity when found: _____

Handled by: _____ Approx. carapace length

GPS location (NAD 83) found: easting: _____ northing:

GPS location released: easting: _____ northing: _____

Approximate distance moved: _____

Did tortoise void bladder; if so state approximate volume and actions taken:

Post handling or movement monitoring and observations:

APPENDIX C
 REPORT TO THE FISH AND WILDLIFE SERVICE
 PROGRAMMATIC BIOLOGICAL OPINION (FILE NO. 08ENVS00-2018-0028)

The information below should be completed by the USAF or Authorized Desert Tortoise Biologist for the project/action. Reports for all appended actions are required annually (due January 31 of each year for prior calendar year activities) and upon completion of the project/action.

Annual Report

Project Completion Report

1. Date:

2. Fish and Wildlife Service File No (for appended actions): 08ENVS00-

3. Project/action status:

Not begun

In progress*

Completed date

If in progress, state approximate percent complete and estimated completion date:

4. Desert tortoise habitat disturbed:

Proposed disturbance (ac)	Actual disturbance (ac)

5. Summary of individual desert tortoises taken:

Size Class	Large	Small	Eggs
Exempted (identified in appended action, as applicable)			

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Actual			
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Describe other individuals taken:

6. Name of authorized desert tortoise biologists and monitors on the project and the dates they were on the project.

7. Describe all non-compliance issues and events.

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