



Environmental Assessment for the Wildland Fire Management Plan at Naval Air Station Fallon, NV

Draft

April 2023



Prepared for:
United States Department of the Navy



This page intentionally left blank.

Abstract

Designation: Environmental Assessment
Title of Proposed Action: Environmental Assessment for the Wildland Fire Management Plan at Naval Air Station Fallon, Nevada
Project Location: Naval Air Station Fallon, Nevada
Lead Agency for the EA: Department of the Navy
Cooperating Agency: Bureau of Land Management
Affected Region: Churchill County, Nevada
Action Proponent: Naval Air Station Fallon
Point of Contact: NEPA Project Manager (Code EV25.AP)
Naval Facilities Engineering Systems Command Southwest
750 Pacific Highway (12th Floor, Environmental)
San Diego, CA 92132-5190

Date: April 2023

The United States Department of the Navy has prepared this Environmental Assessment in accordance with the National Environmental Policy Act, as implemented by Council on Environmental Quality regulations and Navy regulations for implementing the National Environmental Policy Act. The Proposed Action would involve the Navy implementing a Wildland Fire Management Plan at Naval Air Station Fallon (including the Fallon Range Training Complex) in Churchill County, Nevada.

This Environmental Assessment evaluates the potential environmental impacts associated with the Proposed Action and the No Action Alternative to the following resource areas: biological resources; cultural resources; air quality; public health and safety; water resources; visual resources; topography, geology, and soils; and environmental justice.



This page intentionally left blank.

EXECUTIVE SUMMARY

ES.1 Proposed Action

The United States (U.S.) Department of the Navy (Navy) proposes to Implement the wildland fire management actions identified in the 2022 Wildland Fire Management Plan (WFMP) for Naval Air Station (NAS) Fallon (including the Fallon Range Training Complex) (Navy, 2022a).

The NAS Fallon Main Station and the Fallon Range Training Complex are located within Churchill County, Nevada and encompass approximately 239,552 acres of fee-owned lands and public lands that have been withdrawn for military use.

The goals of the WFMP are to mitigate wildland fire hazards on NAS Fallon assets and resources; enhance habitat through preventative fuels treatments and post-fire remediation; collect and analyze fire data and implement adaptive management; and build and strengthen interagency cooperation. The WFMP also identifies measures to minimize and address military-caused fires.

The WFMP is a component of the NAS Fallon Integrated Natural Resource Management Plan and is a living document, thus it will continue to be revised as more data becomes available.

The Navy has prepared this Environmental Assessment in accordance with the National Environmental Policy Act (NEPA), as implemented by the Council on Environmental Quality Regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 775 parts 1500–1508) and Navy NEPA Regulations (CFR 775).

ES.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to minimize fire risk on land managed by the Navy for training, delineate roles and responsibilities of fire management stakeholders, and identify projects and partnering opportunities for fire prevention, suppression, and post-fire remediation. In addition to fire management on Navy lands, the WFMP also identifies measures to minimize and address military-caused fires off Navy lands (Navy, 2022a).

The need for the Proposed Action is to reduce the threat of potential fire-related changes within the lands that are overseen and managed by NAS Fallon, and to the extent practicable, on lands that are not managed by NAS Fallon, but may be impacted by military caused fires.

ES.3 Alternatives Considered

The Navy considered two alternatives in the EA: the Preferred Alternative and the No Action Alternative.

Preferred Alternative: Implementation of the 2022 NAS Fallon Wildland Fire Management Plan

The Navy proposes to implement wildland fire management actions identified in the WFMP for NAS Fallon (Navy, 2022a). Fire management actions proposed in the WFMP would include:

- Fire prevention/presuppression: This would consist of fire incident inventory and mapping, annual monitoring, predictive modeling, training, and data sharing with Fed Fire, the NAS Fallon Environmental Department, and the National Fire Incident Reporting System.
- Ignition management and vegetation management: This would consist of vegetation fuels management including invasive weed control, fire breaks and or fuel breaks. Fire breaks are

narrow strips, 10 to 30 feet wide, where vegetation is completely removed down to the soil. Fuel breaks typically consist of strips of area consisting of reduced vegetation. Fuel breaks typically are substantially wider than fire breaks.

- Installation of fire-resistant vegetative strips via brownstripping and greenstripping:
 - Brownstripping would involve the use of herbicide application and other methods to remove cheatgrass (*Bromus tectorum*), Russian thistle (*Salsola tragus*), and other nonnative, invasive, highly flammable vegetation to bare soil. The use of herbicides is recommended in situations where the use of heavy equipment, such as bulldozers to create fire-resistant strips is not an option due to the potential of unexploded ordnance and/or sensitive natural and cultural resources. In these areas, herbicide would be applied via air (e.g., helicopter or fixed wing aircraft), boom spraying, and/or crew backpack application.
 - Greenstripping: This would result in fire-resistant vegetative strips that prevent groundfires from spreading. Greenstripping would include the establishment and maintenance of strips of perennial, fire-resistant vegetation in strategic locations, and ensure protection of sagebrush, pinyon-juniper woodland, and culturally sensitive properties. Native and nonnative, drought tolerant and fire-resistant plant seeds would be sown to establish greenstrips of fire-resistant perennial vegetation. Natives are preferred for use in rehabilitation, but beneficial nonnative plants may be applied where ecological constraints exist and where nonnative species increase the likelihood of successful propagation.
- Post-fire Restoration and Maintenance; Increased Interagency Coordination; and Adaptive Management: This would involve interagency coordination, collection and analysis of data, and implementation of adaptive management to enhance habitat through fuel treatment and post-fire remediation.

The Navy anticipates that implementing brownstripping and greenstripping would be the largest task within the overall implementation of the WFMP. NAS Fallon utilizes an integrated pest management approach to invasive plant control (Navy, 2020b).

NAS Fallon currently has no existing aerial herbicide application operations. The Bureau of Land Management has actively used aerial application of herbicide and has conducted greenstripping and brownstripping in the region for years. NAS Fallon proposes to follow suit by beginning the program as detailed in the WFMP. Herbicide could be applied by helicopter or fixed wing aircraft, depending on topography of target area. Droplet size would depend on the application method/rate specific to individual herbicide and equipment used to dispense the herbicide. In all cases, herbicide application instructions identified by the manufacturer would be followed. The types of herbicides used must be approved by the U.S. Department of Defense, by the Navy, and by the State of Nevada for the intended purpose and project site. As per the NAS Fallon 2020 Integrated Pest Management Plan, all proposed herbicides must be on the NAS Fallon Authorized Use List.

If approved subsequent to completion of the NEPA process, the actions would be implemented in the locations identified in the WFMP and in Section 1.3 of this EA. The actions would be funded, implemented and evaluated over a span of approximately five years, beginning in calendar year 2023.

No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur. The Navy would continue to use the land for various activities but would not implement the wildland fire management measures discussed in the WFMP. The No Action Alternative would not meet the purpose of and need for the Proposed Action; however, as required by NEPA, the No Action Alternative is carried forward for analysis in this EA. The No Action Alternative will be used to analyze the consequences of not undertaking the Proposed Action and will serve to establish a comparative baseline for analysis.

ES.4 Summary of Environmental Resources Evaluated in the EA

Council on Environmental Quality regulations, NEPA, and Navy instructions for implementing NEPA, specify that an EA should address those resource areas potentially subject to more than trivial or *de minimis* impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact.

The following resource areas have been addressed in this EA: biological resources; cultural resources; air quality; public health and safety; water resources; visual resources; topography, geology, and soils; and environmental justice. Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in detail in this EA: hazardous materials and waste; land use; noise; recreation; utilities; socioeconomics; traffic; and airspace.

ES.5 Summary of Potential Environmental Consequences of the Action Alternatives

Table ES-1 summarizes the potential environmental consequences of the alternatives.

ES.6 Public Involvement

The Navy is soliciting public and agency comments during a public Draft EA review period from April 6, 2023, through May 6, 2023. Comments received during the public comment period will be considered in preparing the Final EA. A summary of comments received on both the Draft EA and the WFMP will be provided in an Appendix of this EA.

Table ES-1 Summary of Potential Impacts to Resource Areas

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action</i>
Biological Resources	<p>Less Than Significant Impact.</p> <p>Continued establishment of nonnative, invasive vegetation such as cheatgrass thereby increasing the risk of more frequent and intense wildfires.</p>	<p>Less Than Significant Impact.</p> <p>Temporary, direct impacts to vegetation from fire breaks, brownstripping and greenstripping. Temporary, direct impacts to wildlife from loss of habitat. Indirect impacts to wildlife ingesting herbicide treated vegetation. Long-term benefits to biological resources from reduced frequency and intensity of wildfires. The only federally listed endangered species with a potential to occur within the FRTC is the Dixie Valley toad (<i>Anaxyrus williamsi</i>). Dixie Valley toads are confined to the isolated spring complexes and adjacent marsh areas within the Dixie Meadows parcel. Dixie Meadows is considered a low fire risk area and is not prioritized for any fire prevention activities; therefore, the WFMP proposed actions do not have the potential to affect the Dixie Valley toad. If an action is proposed that has the potential to affect the Dixie Valley toad, the Navy will enter consultation with the United States Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act. Avoidance and minimization measures would restrict herbicide activities in Dixie Meadows. Because no herbicide application or other wildfire management activities would occur in Dixie Meadows, there would be no adverse effect to Dixie Valley toad. In the event that an unanticipated wildfire affects the Dixie Valley toad and/or Dixie Valley toad habitat, or if it is reasonably foreseeable that such a fire will do so, the Navy would initiate emergency consultation with USFWS concerning such effects on the species in accordance with 50 CFR 402.05.</p>
Cultural Resources	<p>Less Than Significant Impact.</p> <p>Unmanaged vegetation and insufficient fuel/fire breaks would increase the potential for spread of fire and pose threats to cultural resources such as pinyon trees and native grasses.</p>	<p>Less Than Significant Impact.</p> <p>Management actions would not affect cultural resources. Within the FRTC, 305 Inventories have been conducted covering approximately 22,808 acres. In total, the inventories have documented 639 cultural properties. Avoid known cultural resources. Long-term benefits to regional cultural resources from reduced frequency and intensity of wildfires.</p>

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action</i>
Air Quality	Less Than Significant Impact. Continuation of existing conditions would have potential to cause minor negative impacts to air quality.	Less Than Significant Impact. Management actions would generate temporary and negligible emissions in the fire management area. Temporary and localized impacts caused by the presence of earth moving equipment and dust. No significant impacts to air quality identified with implementation of WFMP. Long-term benefits to air quality resources from reduced frequency and intensity of wildfires.
Public Health and Safety	Less Than Significant Impact. Continuation of existing conditions would retain the existing fire-related threats to people and property.	Less Than Significant Impact. As part of management actions, the Navy would restrict public access, post signs, and notify the public in advance of aerial application of herbicides to eliminate potential human exposure to herbicides. Long-term benefits to public health and safety from reduced frequency and intensity of wildfires that escape the FRTC.
Water Resources	Less Than Significant Impact. Continuation of existing conditions would continue to contribute to the loss of vegetation from wildfire potentially leading to erosion, stormwater runoff and negative impacts to water quality.	Less Than Significant Impact. Management actions would result in localized erosion and dispersants of chemicals, which could lead to temporary and negligible water resource impacts by following proper application protocols. Long-term benefits to water resources from reduced frequency and intensity of wildfires which lead to vegetation loss, erosion, and stormwater impacts.
Visual Resources	Less Than Significant Impact. Continuation of existing conditions would retain the existing risk of smoke with the potential to negatively impact visual conditions.	Less Than Significant Impact. Temporary and localized impacts caused by the presence of earth moving equipment and dust. Long-term visual impacts from the addition of firebreaks/ or fuel breaks. Brownstripping and greenstripping may be visible from public viewing places such as highways. Long-term benefits to visual resources from reduced frequency and intensity of wildfires.
Topography, Geology, and Soils	Less Than Significant Impact. Continuation of existing conditions would retain the existing level of fire-related contributions to loss of vegetation, erosion, stormwater runoff and impact to geologic resources.	Less Than Significant Impact. Temporary and minor disturbance of soils during management actions. Long-term benefits to geological resources from reduced frequency and intensity of wildfires that lead to vegetation loss, erosion, and slope instability.

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action</i>
Environmental Justice	Less Than Significant Impact. Continuation of existing conditions would retain the existing level of fire-related risks to environmental justice communities.	Less Than Significant Impact. There would be a beneficial impact to local populations from implementation of the WFMP as it would reduce risk of wildfires and potential loss to the community. Long-term benefits to effected communities from reduced frequency and intensity of wildfires.

Notes: FRTC = Fallon Range Training Complex; WFMP = Wildland Fire Management Plan; USFWS = U.S. Fish and Wildlife Service

**Environmental Assessment
Naval Air Station Fallon Wildland Fire Management Plan
Fallon, Nevada**

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS.....v

ABSTRACT..... ABSTRACT-i

EXECUTIVE SUMMARY ES-1

 ES.1 Proposed Action..... ES-1

 ES.2 Purpose of and Need for the Proposed Action..... ES-1

 ES.3 Alternatives Considered ES-1

 ES.4 Summary of Environmental Resources Evaluated in the EA ES-3

 ES.5 Summary of Potential Environmental Consequences of the Action Alternatives ES-3

 ES.6 Public Involvement ES-3

1 PURPOSE OF AND NEED FOR THE PROPOSED ACTION..... 1-1

 1.1 Introduction 1-1

 1.2 Background 1-1

 1.2.1 NAS Fallon Mission 1-1

 1.2.2 Wildland Fire Management..... 1-4

 1.3 Project Location 1-5

 1.4 Purpose of and Need for the Proposed Action..... 1-5

 1.5 Scope of Environmental Analysis..... 1-6

 1.6 Key Documents 1-6

 1.7 Relevant Laws and Regulations 1-6

 1.8 Public and Agency Participation and Intergovernmental Coordination..... 1-8

2 PROPOSED ACTION AND ALTERNATIVES..... 2-1

 2.1 Proposed Action..... 2-1

 2.2 Screening Factors..... 2-1

 2.3 Alternatives Carried Forward for Analysis..... 2-1

 2.3.1 No Action Alternative 2-1

 2.3.2 Alternative 1: Implementation of the NAS Fallon Wildland Fire Management Plan 2-2

 2.4 Alternatives Not Carried Forward for Detailed Analysis 2-4

 2.5 Best Management Practices Included as Part of the Proposed Action..... 2-9

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES..... 3-1

3.1	Biological Resources	3-3
	3.1.1 Regulatory Setting	3-3
	3.1.2 Affected Environment	3-4
	3.1.3 Environmental Consequences.....	3-10
3.2	Cultural Resources	3-15
	3.2.1 Regulatory Setting	3-15
	3.2.2 Affected Environment	3-15
	3.2.3 Environmental Consequences.....	3-18
3.3	Air Quality	3-20
	3.3.1 Regulatory Setting	3-20
	3.3.2 Affected Environment	3-22
	3.3.3 Environmental Consequences.....	3-23
3.4	Public Health and Safety	3-24
	3.4.1 Regulatory Setting	3-25
	3.4.2 Affected Environment	3-26
	3.4.3 Environmental Consequences.....	3-26
3.5	Water Resources.....	3-29
	3.5.1 Regulatory Setting	3-29
	3.5.2 Affected Environment	3-30
	3.5.3 Environmental Consequences.....	3-33
3.6	Visual Resources	3-35
	3.6.1 Affected Environment	3-35
	3.6.2 Environmental Consequences.....	3-35
3.7	Topography, Geology, and Soils	3-36
	3.7.1 Regulatory Setting	3-37
	3.7.2 Affected Environment	3-37
	3.7.3 Environmental Consequences.....	3-38
3.8	Environmental Justice.....	3-39
	3.8.1 Regulatory Setting	3-39
	3.8.2 Affected Environment	3-39
	3.8.3 Environmental Consequences.....	3-41
3.9	Summary of Potential Impacts to Resources and Impact Avoidance and Minimization	3-41
4	CUMULATIVE IMPACTS	4-1

4.1 Definition of Cumulative Impacts 4-1

4.2 Scope of Cumulative Impacts Analysis 4-1

4.3 Past, Present, and Reasonably Foreseeable Actions 4-2

 4.3.1 Past Actions 4-2

 4.3.2 Present and Reasonably Foreseeable Actions 4-3

4.4 Cumulative Impact Analysis 4-4

 4.4.1 Biological Resources 4-4

 4.4.2 Cultural Resources 4-5

 4.4.3 Air Quality 4-6

 4.4.4 Public Health and Safety 4-7

 4.4.5 Water Resources 4-7

 4.4.6 Visual Resources 4-8

 4.4.7 Topography, Geology, and Soils 4-9

 4.4.8 Environmental Justice 4-10

5 OTHER CONSIDERATIONS REQUIRED BY NEPA 5-1

 5.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations 5-1

 5.2 Irreversible or Irrecoverable Commitments of Resources 5-4

 5.3 Unavoidable Adverse Impacts 5-4

 5.4 Relationship between Short-Term Use of the Environment and Long-Term Productivity 5-4

6 REFERENCES 6-1

7 LIST OF PREPARERS 7-1

List of Figures

1-1 Regional Location of Naval Air Station Fallon and Fallon Range Training Complex 1-2

1-2 Naval Air Station Fallon and Fallon Range Training Complex Project Location 1-3

2-1 Proposed Wildland Fire Actions in Range Bravo 17 2-5

2-2 Proposed Wildland Fire Actions in Horse Creek Unit of DVTA 2-6

2-3 Proposed Wildland Fire Actions in Range Bravo-16 2-7

2-4 Proposed Wildland Fire Actions in Range Bravo-19 2-8

List of Tables

ES-1 Summary of Potential Impacts to Resource Areas ES-4

3-1 Threatened and Endangered Species Known to Occur or Potentially Occurring in the ROI
..... 3-10

3-2 Percent Race and Ethnicity 3-40

3-3 Percent Low-Income 3-40

3-4 Percent under the Age of 18..... 3-40

3-5 Summary of Potential Impacts to Resource Areas 3-42

3-6 Impact Avoidance and Minimization Measures 3-42

4-1 Cumulative Action Evaluation..... 4-2

5-1 Principal Federal and State Laws Applicable to the Proposed Action 5-1

Appendices

Appendix A Wildlife Species Observed at Fallon Range Training Center..... A-1

Abbreviations and Acronyms

Acronym	Definition	Acronym	Definition
APE	Area of Potential Effect		
ARFF	Aircraft Rescue Fire Fighting Foam	Navy	U.S. Department of the Navy
B	Bravo	NDOW	Nevada Department of Wildlife
BGEPA	Bald and Golden Eagle Protection Act	NAWDC	Naval Aviation Warfighting Development Center
BLM	Bureau of Land Management	NDEP	Nevada Department of Environmental Protection
BMP	best management practice	NEPA	National Environmental Policy Act
CAA	Clean Air Act	NHPA	National Historic Preservation Act
CEQ	Council on Environmental Quality	NNHP	Nevada Natural Heritage Program
CFR	Code of Federal Regulations	NO ₂	nitrogen dioxide
CO	carbon monoxide	NPDES	National Pollutant Discharge Elimination System
CO ₂	carbon dioxide	NRHP	National Register of Historic Places
CONEX	container express	OPNAVINST	Office of the Chief of Naval Operations Instruction.
CWA	Clean Water Act	PA	Programmatic Agreement
DoD	Department of Defense	PFAS	per- and poly-fluoroalkyl substances
DPS	distinct population segment	PFOS	perfluorooctane sulfonate
DVTA	Dixie Valley Training Area	PM _{2.5}	fine particulate matter less than or equal to 2.5 microns in diameter
EA	environmental assessment	PM ₁₀	particulate matter less than or equal to 10 microns in diameter
EIS	environmental impact statement	ROI	Region of Influence
EO	Executive Order	SHPO	State Historic Preservation Officer
ESA	Endangered Species Act	SO ₂	sulfur dioxide
°F	Degrees Fahrenheit	T&E	Threatened or Endangered
FRTC	Fallon Range Training Complex	UFC	Unified Facilities Criteria
GHG	Greenhouse Gases	U.S.	United States
GIS	Geographic Information Systems	USACE	United States Army Corps of Engineers
HAPs	Hazardous Air Pollutants	USFWS	United States Fish and Wildlife Service
HUC	Hydrologic Unit Code	U.S.C.	United States Code
ICRMP	Integrated Cultural Management Plan	USEPA	United States Environmental Protection Agency
INRMP	Integrated Natural Resources Management Plan	UXO	Unexploded Ordnance
IPMP	Integrated Pest Management Plan	WFMP	Wildland Fire Management Plan
Main Station	Naval Air Station Fallon Main Station		
MBTA	Migratory Bird Treaty Act		
MSATS	Mobile Source Air Toxics		
NAAQS	National Ambient Air Quality Standards		
NAS	Naval Air Station		
NAVFAC SW	Naval Facilities Engineering Systems Command Southwest		

1 Purpose of and Need for the Proposed Action

1.1 Introduction

The United States (U.S.) Department of the Navy (Navy) proposes to implement the wildland fire management actions identified in the 2022 Wildland Fire Management Plan (WFMP) prepared for Naval Air Station (NAS) Fallon Main Station (Main Station) which includes the Fallon Range Training Complex (FRTC). Wildland fire management is an important Navy program that strives to maintain the ecological integrity and sustainability of the training environment to ensure no net loss to military readiness (Navy, 2022a).

The Navy proposes to implement the WFMP within the framework of regulatory compliance, mission obligations, anti-terrorism and force protection limitations, and funding constraints. Any requirement for the obligation of funds for actions would be subject to availability of funds appropriated by Congress, and none of the proposed actions would be interpreted to require obligation or payment of funds in violation of any applicable law, most notably the Anti-Deficiency Act (31 U.S. Code [U.S.C.] 1324, et seq.).

The Navy has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA), as implemented by the Council on Environmental Quality (CEQ) Regulations (40 Code of Federal Regulations [CFR] parts 1500–1508) and Navy regulations for implementing NEPA (32 CFR 775).

As the federal action proponent, the Navy is responsible for ultimately choosing whether to select an action alternative for implementation at the end of the NEPA process. Should potential impacts be determined to be significant, the Navy would prepare an Environmental Impact Statement (EIS) pursuant to CEQ and Navy regulations for implementing NEPA.

1.2 Background

1.2.1 NAS Fallon Mission

NAS Fallon administers approximately 239,552 acres in the high desert region of northern Nevada (Figure 1-1). The station includes several disjunct areas of Churchill County that compose the Main Station and FRTC. In accordance with the Military Lands Withdrawal Act of 2020 and the National Defense Authorization Act for Fiscal Year 2021, NAS Fallon consists of both open and closed lands. Open lands are withdrawn areas that remain open for public use, and closed lands are restricted (either altogether or most of the time) from public use.

NAS Fallon and the FRTC are the Navy's premier integrated strike warfare training facilities supporting present and emerging National Defense requirements. The mission of NAS Fallon is to provide the most realistic integrated air warfare training support available to carrier air wings, Marine air groups, tenant commands, and individual units participating in training events, including joint and multinational exercises, while remaining committed to its assigned personnel.

The FRTC includes four bombing ranges on which live munitions are utilized (Bravo [B]-16, B-17, B-19, B-20) and two ranges where no live munitions are utilized (Dixie Valley Training Area [DVTA] and Shoal Site) (Figure 1-2). The FRTC is used to train deploying air and ground units in a realistic environment and to prepare units for overseas combat operations (Navy, 2020a).

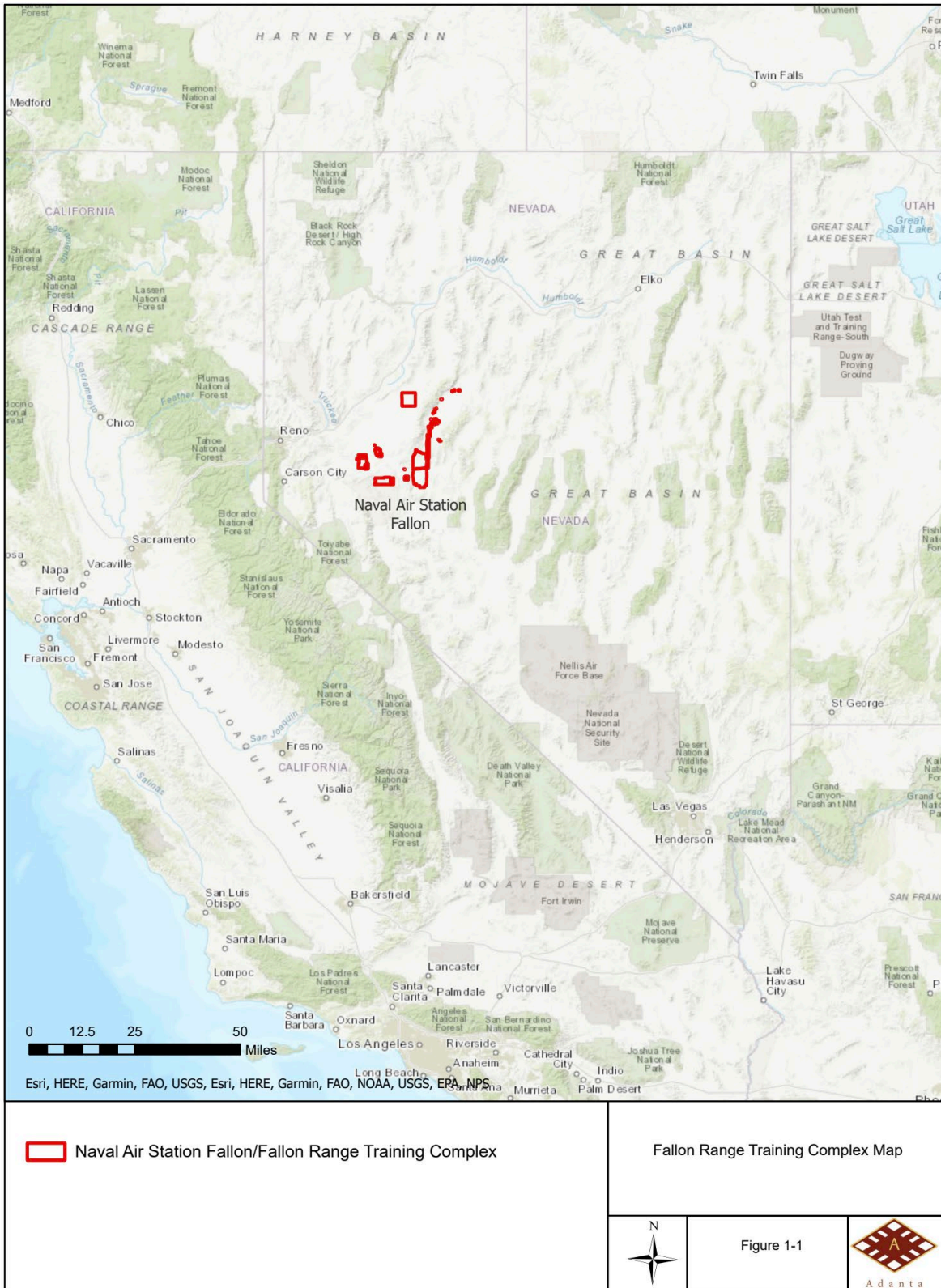
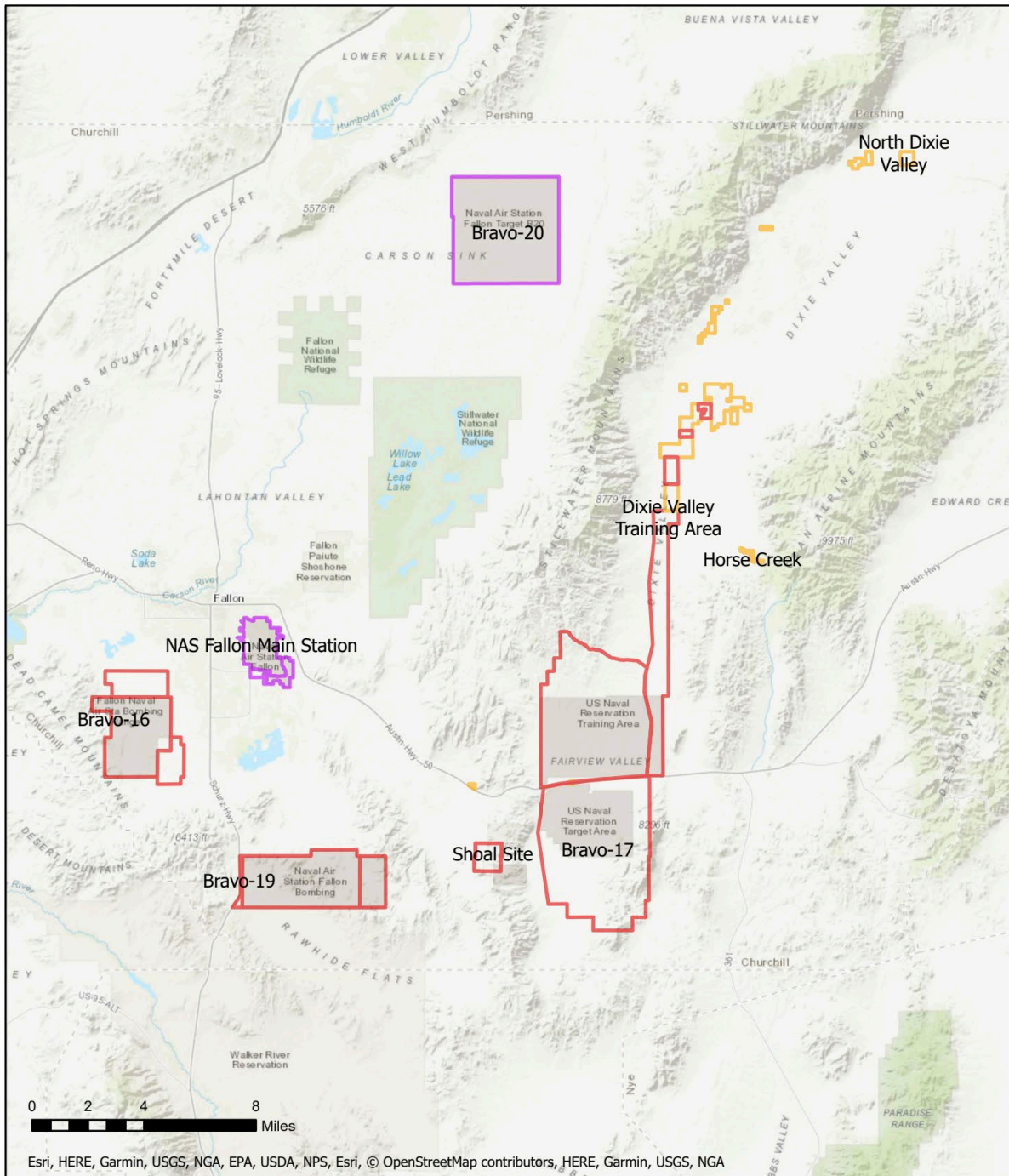


Figure 1-1 Regional Location of Naval Air Station Fallon and Fallon Range Training Complex



<ul style="list-style-type: none"> Navy Acquired Property Combined Navy Acquired & Withdrawn Property Navy Withdrawn Property 	<p>Naval Air Station Fallon and Fallon Range Training Complex Project Location</p>	
	<p>Figure 1-2</p>	

Figure 1-2 Naval Air Station Fallon and Fallon Range Training Complex Project Location

1.2.2 Wildland Fire Management

Department of Defense (DoD) Instruction 6055.06 authorizes the development of wildland fire management programs on military installations. The Office of the Chief of Naval Operations Instruction (OPNAVINST) 5090.1E, Environmental Readiness Program Section 12-3.8.K, *Wildland Fire Management*, states that Navy installations shall develop WFMPs if they have vegetation in undeveloped areas that is capable of sustaining fire. NAS Fallon and the FRTC are located in a region highly susceptible to wildland fire, which can be caused by many sources, including outdoor recreation activities, military training, vehicles, power-line failures, and lightning. Regardless of the cause, wildland fires pose a significant threat to training missions, structures, infrastructure, as well as natural and cultural resources. Fires that start on Navy lands also have the potential to spread onto adjacent public or private lands.

Although fire is a natural component of many habitats of the Great Basin, the presence of invasive grasses, particularly cheatgrass (*Bromus tectorum*), across the Great Basin bioregion has changed both the fire frequency (known as the fire return interval) and the ability of shrubs to carry fire in the sagebrush steppe. This has resulted in an increase in the spread and density of cheatgrass and contributed to the continued decline of sagebrush (Davies et al., 2011).

A WFMP provides the framework for wildland fire management through fire prevention, suppression, and post-fire remediation activities to support the military mission and safely accomplish the resource protection and ecosystem management objectives of an Integrated Natural Resources Management Plan (INRMP). A WFMP also identifies proactive measures to minimize fire risk on land managed by the Navy for training, delineates roles and responsibilities of fire management stakeholders, and identifies projects and partnering opportunities for fire prevention, suppression, and post-fire remediation. In addition to fire management on Navy lands, the WFMP also identifies measures to minimize and address military-caused fires off Navy lands (Navy, 2022a).

The primary focus of the NAS Fallon WFMP is to prevent military or naturally caused fires from escaping the FRTC and reducing the threat of potential fire-related changes within the lands that are overseen and managed by NAS Fallon, and to the extent practicable on lands that are not managed by NAS Fallon, but may be impacted by military caused fires.

The proposed NAS Fallon WFMP was completed in May 2022. The goals of the WFMP are to:

- Mitigate wildland fire hazards on assets and resources;
- Enhance habitat through preventative fuels treatments and post-fire remediation;
- Collect and analyze fire data and implement adaptive management; and
- Build and strengthen interagency cooperation (Navy, 2022a).

The guiding principles of the WFMP are as follows:

- Human safety is the top priority;
- Fire policy is established on a foundation of sound risk management;
- Fire management must be economically viable;
- Fire and suppression management will support mission readiness requirements;
- Pre-suppression solutions will reduce habitat fragmentation by invasive species and favor the resilience of native communities;
- Pre- and post-restoration methods will favor optimal species richness;

- Fire protection mechanisms will protect sensitive species (i.e., singleleaf pinyon pine (*Pinus monophylla*), greater sage-grouse (*Centrocercus urophasianus*), desert bighorn sheep (*Ovis canadensis*) from catastrophic fire events;
- Fire protection mechanisms will facilitate cooperative partnerships and support interagency and regional partnering efforts consistent with military mission requirements; and
- NAS Fallon land managers will strive for continual improvement of landscape conditions through adaptive management and evidence-based decision making (Navy, 2022a).

1.3 Project Location

The Navy proposes to implement the WFMP management actions at the Main Station and the following locations on the FRTC:

- Range B-16, approximately 8 miles southwest of the Main Station.
- Range B-17 in the Bell Canyon and Fairview Peak areas, approximately 50 miles southeast of the Main Station.
- Range B-19, approximately 20 miles south of the Main Station.
- Range B-20, approximately 48 miles northeast of the Main Station.
- The Horse Creek unit of the DVTA, approximately 60 miles northeast of the Main Station.
- North DVTA, approximately 78 miles northeast of the Main Station.
- The Shoal Site, approximately 50 miles southeast of the Main Station west of B-17.

Collectively, the aforementioned areas constitute the study area (Figure 1-2).

According to the WFMP, the facilities on Range B-17 and the Shoal Site are the most at risk from the spread of wildland fire within the FRTC. Fire threats in these locations are from a vegetation fire initiated in B-17, including fires starting near the western infrastructure in B-17. In addition, the presence of singleleaf pinyon pine Utah juniper forest in the higher elevations of B-17 near Fairview Peak (Figure 1-2) presents a substantial potential fuel source.

Infrastructure at the Shoal Site could be affected by high-intensity fires, as the majority of this parcel is composed of big sagebrush (*Artemisia tridentata*) communities. The Horse Creek Unit of DVTA (Figure 1-2) also has the potential for high-intensity fires as it contains stands of big sagebrush. Infrastructure in northwest DVTA appears to be safe from fire, or at least can easily be protected in the advent of a smoldering or creeping fire. Ranges B-16 (Figure 1-2), B-19 (Figure 1-2), and the other DVTA parcels also appear to be prone to only surface fires with short-range spotting, (Navy, 2022a).

1.4 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to minimize fire risk on land managed by the Navy for training, delineate roles and responsibilities of fire management stakeholders, and identify projects and partnering opportunities for fire prevention, suppression, and post-fire remediation. In addition to fire management on Navy lands, the WFMP also identifies measures to minimize and address military caused fires off Navy lands (Navy, 2022a).

The need for the Proposed Action is to reduce the threat of potential fire-related changes within the lands that are overseen and managed by NAS Fallon and to the extent practicable, on lands that are not managed by NAS Fallon, but that may be impacted by military caused fires (Navy, 2022a).

1.5 Scope of Environmental Analysis

This EA includes an analysis of potential environmental impacts associated with the Proposed Action and the No Action Alternative. The environmental resource areas analyzed in this EA include: biological resources; cultural resources; air quality; public health and safety; water resources; visual resources; topography, geology, and soils; and environmental justice.

The study area for each resource analyzed may differ due to how the Proposed Action interacts with or impacts the resource. For instance, the study area for geological resources may only include the footprint of a fire break or fuel break whereas the air quality study area would expand out to include areas that may be impacted by smoke or dust.

Because potential impacts were considered to be negligible or nonexistent, the following resources were not evaluated in this EA: hazardous materials and waste; land use; noise; recreation; utilities; socioeconomics; traffic; and airspace.

1.6 Key Documents

Key documents are sources of information incorporated into this EA. Documents are considered to be key because of similar actions, analyses, or impacts that may apply to this Proposed Action. CEQ guidance encourages incorporating documents by reference. Documents incorporated by reference in part or in whole include:

- **Final Wildland Fire Management Plan for Naval Air Station Fallon, Nevada, (Navy, 2022a).** This document addresses wildland fire management of the Main Station and the FRTC to proactively minimize and manage wildland fire on lands managed by the Navy for training.
- **Final Integrated Natural Resources Management Plan Naval Air Station Fallon, Nevada, (Navy, 2014).** This document provides a framework for future management of natural resources on lands NAS Fallon owns or controls. The INRMP was developed in cooperation with the U.S. Department of Interior, U.S. Fish and Wildlife Service (USFWS), and the Nevada Department of Wildlife (NDOW).
- **Final Environmental Impact Statement for the Fallon Range Training Complex Modernization, (Navy, 2020a).** This document analyzes the environmental impacts resulting from the renewal of and the proposed expansion of the 1999 Public Land Withdrawal of 202,864 acres of land for military use and the expansion of the FRTC.
- **Integrated Pest Management Plan, Naval Air Station Fallon, Nevada, (Navy, 2020b).** This document is a comprehensive, long-range document that captures all of the pest management operations and pesticide-related activities conducted on the installation.
- **Native Plants & Paiute Names, Prepared by the Agai Dicutta Yadooan Program, Department of Cultural Affairs, (Agai, 2006).** This document compiles information gathered from various references to identify medicinal and important plants used by Nevada Tribes.

Documents incorporated herein by reference are available upon request during the public review period by contacting the Navy via the information provided above in the Abstract.

1.7 Relevant Laws and Regulations

The Navy has prepared this EA based upon federal and state laws, statutes, regulations, and policies pertinent to the implementation of the Proposed Action, including the following:

- NEPA (42 U.S.C. sections 4321 et seq.)
- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500–1508)
- Navy regulations for implementing NEPA (32 CFR part 775)
- American Indian Religious Freedom Act (42 U.S.C. section 1996)
- Archaeological Resources Protection Act (16 U.S.C. sections 469 et seq.)
- Clean Air Act (CAA) (42 U.S.C. sections 7401 et seq.)
- Clean Water Act (CWA) (33 U.S.C. sections 1251 et seq.)
- National Historic Preservation Act (NHPA) (54 U.S.C. sections 3001018 et seq.)
- Endangered Species Act (ESA) (16 U.S.C. sections 1531 et seq.)
- Migratory Bird Treaty Act (MBTA) (16 U.S.C. sections 703 et seq.)
- Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. sections 668 et seq.)
- Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. sections 9601 et seq.)
- Emergency Planning and Community Right-to-Know Act (42 U.S.C. sections 11001 et seq.)
- Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. sections 136 et seq.)
- Resource Conservation and Recovery Act (42 U.S.C. sections 6901 et seq.)
- Toxic Substances Control Act (15 U.S.C. sections 2601 et seq.)
- Native American Graves Protection and Repatriation Act (25 U.S.C. Chapter 32)
- Executive Order (EO) 11988, Floodplain Management
- EO 11990, *Protection of Wetlands*
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*
- EO 13148, *Greening the Government Through Leadership in Environmental Management (revoked EO 12088, Federal Compliance with Pollution Control Standards)*
- EO 13175, *Consultation and Coordination with Indian Tribal Governments*
- EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*
- EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*
- EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (revoked EO 13807, Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects)*
- EO 14008, *Tackling the Climate Crisis at Home and Abroad*
- EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*

A description of the Proposed Action's consistency with these laws, policies, and regulations, as well as the names of regulatory agencies responsible for their implementation, is presented in Chapter 5 (Table 5-1).

1.8 Public and Agency Participation and Intergovernmental Coordination

Pursuant to CEQ regulations (40 CFR part 1506.6), the Navy works to maximize public involvement in the development of the NEPA analysis for its proposed actions. The Navy anticipates conducting public outreach to provide the opportunity for public participation. The public participation notices and information will be posted to the Navy Region Southwest website at:

<https://cnrsw.cnrc.navy.mil/Operations-and-Management/Environmental-Support/Public-Information-Access-to-Navy-Projects/>.

The Navy has published a Draft EA notice of availability for three days in the following newspapers: 1. Reno Gazette Journal; 2. Lahonton Valley News; 3. the Nevada Appeal; and 4. the Fallon Post. Notice of the public comment period will be sent to the Nevada State Clearinghouse.

The Navy has also made the Draft EA available for public review at the Churchill County Library, in Fallon, Nevada, and on the Navy Region Southwest website. The Navy will consider and address relevant public comments in the Final EA. The Navy will also publish the Final EA notice of availability and any ultimate decision document in the newspapers identified above and upload the Final EA/decision document to the Navy Region Southwest website and make it available at the Churchill County Library. A summary of comments received on both the Draft EA and the Draft WFMP will be provided in an Appendix.

Participating Agencies

The Navy intends to review, affirm, and create partnerships with stakeholders, share data, and hold interagency planning and strategy meetings as part of this project. Known stakeholders include relevant federal, state, county, and tribal personnel. The Bureau of Land Management (BLM) will be invited to be a cooperating agency on this EA; however, the Navy is not anticipating BLM to be a signatory to the decision document. Stakeholders at this time include Churchill County, the City of Fallon, BLM Carson District, the Bureau of Reclamation, the Bureau of Indian Affairs, the USFWS, the U.S. Department of Energy, the Nevada Division of Forestry, the NDOW, the Nevada Department of Agriculture, the Nevada State Historic Preservation Officer (SHPO) and local Tribes and Navy tenants. These and other interested parties will be invited to review the EA during the public review period from April 6, 2023, through May 6, 2023.

Regarding cultural resources, including those important to tribes, Section 106 consultation would occur on a project-by-project basis for implementation of the NAS Fallon WFMP. NAS Fallon would follow the BLM Programmatic Agreement (PA) for wildland fire management activities on NAS Fallon and the FRTC. If a project falls within the constraints of the PA, then the Navy would make a “no adverse effects” determination. If a project does not fall within the constraints of the BLM PA, then the Navy would follow the consultation process outlined in 36 CFR 800.

The federally listed Dixie Valley toad (*Anaxyrus williamsi*) is known to occur in the isolated spring complexes and adjacent marsh areas within the Dixie Meadows parcel. Dixie Meadows is considered a low fire risk area and is not prioritized for any fire prevention activities; therefore, the WFMP proposed actions do not have the potential to affect the Dixie Valley toad. If an action is proposed that has the potential to affect the Dixie Valley toad, the Navy will enter into consultation with the USFWS pursuant to Section 7 of ESA. In the event that an unanticipated wildfire affects the Dixie Valley toad and/or Dixie Valley toad habitat, or if it is reasonably foreseeable that such a fire will do so, the Navy would initiate

emergency consultation with USFWS concerning such effects on the species in accordance with 50 CFR 402.05.

2 Proposed Action and Alternatives

2.1 Proposed Action

The Navy proposes to implement the wildland fire management actions identified in the WFMP (Navy, 2022a).

The fire management actions in the WFMP would consist of:

- Fire prevention/presuppression;
- Ignition management and vegetation management;
- Installation of fire-resistant vegetative strips;
- Post-fire restoration and maintenance; increased interagency coordination; and adaptive management.

If approved subsequent to completion of the NEPA process, the actions would be implemented in the locations identified in the WFMP and in Section 1.3 of this EA. The actions would be funded, implemented and evaluated over a span of approximately five years, beginning in calendar year 2023. The Navy's proposed expansion of the FRTC (see Final Environmental Impact Statement for the Fallon Range Training Complex Modernization [Navy, 2020a], referenced in Section 1.6) was approved by Congress in December 2022 as part of the FY23 National Defense Authorization Act. If the proposed WFMP is ultimately approved, it would subsequently be further updated as needed to address management of the FRTC expansion areas, subject to any additional analysis required pursuant to NEPA.

2.2 Screening Factors

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federally proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and to meet the purpose and need require detailed analysis.

The only potential reasonable alternative identified that meets the purpose and need is the implementation of the WFMP; therefore, no alternatives except implementation of the NAS Fallon WFMP and the No Action Alternative were evaluated against the following screening factors:

- Mitigate wildland fire hazards on NAS Fallon assets and resources;
- Enhance habitat through preventative fuels treatments and post-fire remediation;
- Collect and analyze fire data and implement adaptive management;
- Build and strengthen interagency cooperation.

2.3 Alternatives Carried Forward for Analysis

Based on the reasonable alternative screening factors and meeting the purpose and need for the Proposed Action, the Preferred Alternative: Implementation of the NAS Fallon and the No Action Alternative are analyzed within this EA.

2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur. The Navy would continue to use the ranges for training activities but would not implement the wildland fire management measures

discussed in the WFMP. The No Action Alternative would not meet the purpose and need for the Proposed Action; however, as required by NEPA, the No Action Alternative is carried forward for analysis in this EA. The No Action Alternative will be used to analyze the consequences of not undertaking the Proposed Action, and will serve to establish a comparative baseline for analysis.

2.3.2 Preferred Alternative: Implementation of the NAS Fallon Wildland Fire Management Plan

2.3.2.1 Types of Management Activities

The Preferred Alternative would result in the implementation of the NAS Fallon WFMP (Navy, 2022a). Proposed fire management actions would include the following activities:

- Fire prevention/Presuppression: This would consist of fire incident inventory and mapping, annual monitoring, predictive modeling, training, and data sharing with Fed Fire, the NAS Fallon Environmental Department, and the National Fire Incident Reporting System.
- Ignition Management and Vegetation Management: This would consist of vegetation fuels management including invasive weed control, fire breaks and/or fuel breaks. Fire breaks are narrow strips, 10 to 30 feet wide, where vegetation is completely removed down to the soil. Fuel breaks typically consist of strips of area consisting of reduced vegetation. Fuel breaks typically are substantially wider than fire breaks. Fuel breaks may consist of the following methods of ignition management and vegetation control.
 - Installation of Fire-Resistant Vegetative strips via brownstripping and greenstripping activities as described below.
 - Brownstripping would involve the use of herbicide application and other methods to remove cheatgrass (*Bromus tectorum*), Russian thistle (*Salsola tragus*), and other nonnative, invasive, highly flammable vegetation to bare soil. The use of herbicides is recommended in situations where the use of heavy equipment, such as bulldozers to create fire-resistant strips is not an option due to the potential of unexploded ordnance (UXO) and/or sensitive natural and cultural resources. In these areas, herbicide would be applied via air (e.g., helicopter or fixed wing aircraft), boom spraying, and/or crew backpack application.
 - Greenstripping: This would result in fire-resistant vegetative strips that prevent groundfires from spreading. Greenstripping would include the establishment and maintenance of strips of perennial, fire-resistant vegetation in strategic locations, and ensure protection of sagebrush (*Artemisia* spp.), pinyon-juniper woodland, and culturally sensitive properties. Native and nonnative, drought tolerant and fire-resistant plant seeds would be sown to establish greenstrips of fire-resistant perennial vegetation. Native plants are preferred for use in rehabilitation; however beneficial nonnative plants may be applied where ecological constraints exist and where nonnative species increase the likelihood of successful propagation.
- Post-fire Restoration and Maintenance; Increased Interagency Coordination; and Adaptive Management: This would involve interagency coordination, collection and analysis of data, and implementation of adaptive management to enhance habitat through fuel treatment and post-fire remediation. There are many methods that could be utilized to support post-fire

restoration. These methods can include ongoing weed control, spreading of native seed, and spreading desirable nonnative seed, as discussed in the WFMP, Section 3.

The Navy anticipates that implementing brownstripping and greenstripping would be the largest task within the overall implementation of the WFMP. NAS Fallon utilizes an integrated pest management approach to invasive plant control (Navy, 2020b).

NAS Fallon currently has no existing aerial herbicide application operations. BLM has regularly employed an aerial application of herbicide and has conducted greenstripping and brownstripping in the region for years. NAS Fallon proposes to follow suit by beginning the program as detailed in the WFMP. Herbicide could be applied by helicopter or fixed wing aircraft, depending on topography of herbicide target area. Droplet size would depend on the application method/rate specific to individual herbicide and equipment used to dispense the herbicide.

Before use, the types of herbicides would need to be approved by DoD, by the Navy, and by the State of Nevada for the intended purpose and project location. As per the NAS Fallon 2020 Integrated Pest Management Plan (IPMP), all proposed herbicides must be included on the NAS Fallon Authorized Use List (Navy, 2020b). All new herbicide applications must be approved by the installation Integrated Pest Management Coordinator. In all cases, herbicide application instructions identified by the manufacturer would be followed.

The validation process for aerial application of herbicides/pesticides would be completed by the Naval Facilities Engineering Systems Command Southwest (NAVFAC SW) Pest Management Consultant. Aerial application of herbicide would not occur in populated areas, or over bodies of water such as creeks, ponds, or wildlife guzzlers. Additional measures would be taken to avoid impacts to natural and cultural resources as discussed in Chapter 3 and presented in the Impact Avoidance and Minimization Measures in Table 3-6.

2.3.2.2 Prioritization of Management Activities

The Navy would implement the actions based on priorities identified in the WFMP. The prioritized actions (subject to funding availability) are either “high,” “moderate,” or “low.” Figures 2-1 to 2-4 indicate the priority of each identified action. Effective wildland fire management via the implementation of the WFMP depends on adequate funding for fire prevention, wildland fire suppression, fire rehabilitation, and fuels management. The Navy is committed to the continued implementation of operational controls that minimize fire risk within its area of responsibility when training and has Memoranda of Understanding/Memoranda of Agreement in place to address fire response.

On NAS Fallon lands that are also used as bombing grounds, any ground-based management activities listed above could only be used immediately adjacent to existing roads or infrastructure that have not been subject to bombing activities or have been cleared of all UXO. Other NAS Fallon lands that do not have UXO risk can be treated with traditional techniques that involve earth disturbing activities. However, traditional methods may not be preferred due to natural resources, cultural resources, and/or safety concerns. Each location would be reviewed prior to any activities to implement fire control to ensure the optimal method for fire control and safety is used.

A complete list of wildland fire management goals, objectives, and actions is included in the WFMP, Implementation Table, Table 9-1 (Navy, 2022a).

2.3.2.3 Timing of Management Activities

The Navy anticipates beginning implementation of the WFMP in 2023 and continuing on an ongoing annual basis as needed. During the period of implementation, the Navy would assess the effectiveness of the actions, coordinate with stakeholders, and refine the actions as needed to ensure achievement of the WFMP objectives.

2.4 Alternatives Not Carried Forward for Detailed Analysis

Due to the focused purpose and need of the Proposed Action and specific screening factors, no alternatives other than the Preferred Alternative and the No Action Alternative were considered, and thus there are no alternatives that were initially considered but then not carried forward for detailed analysis.

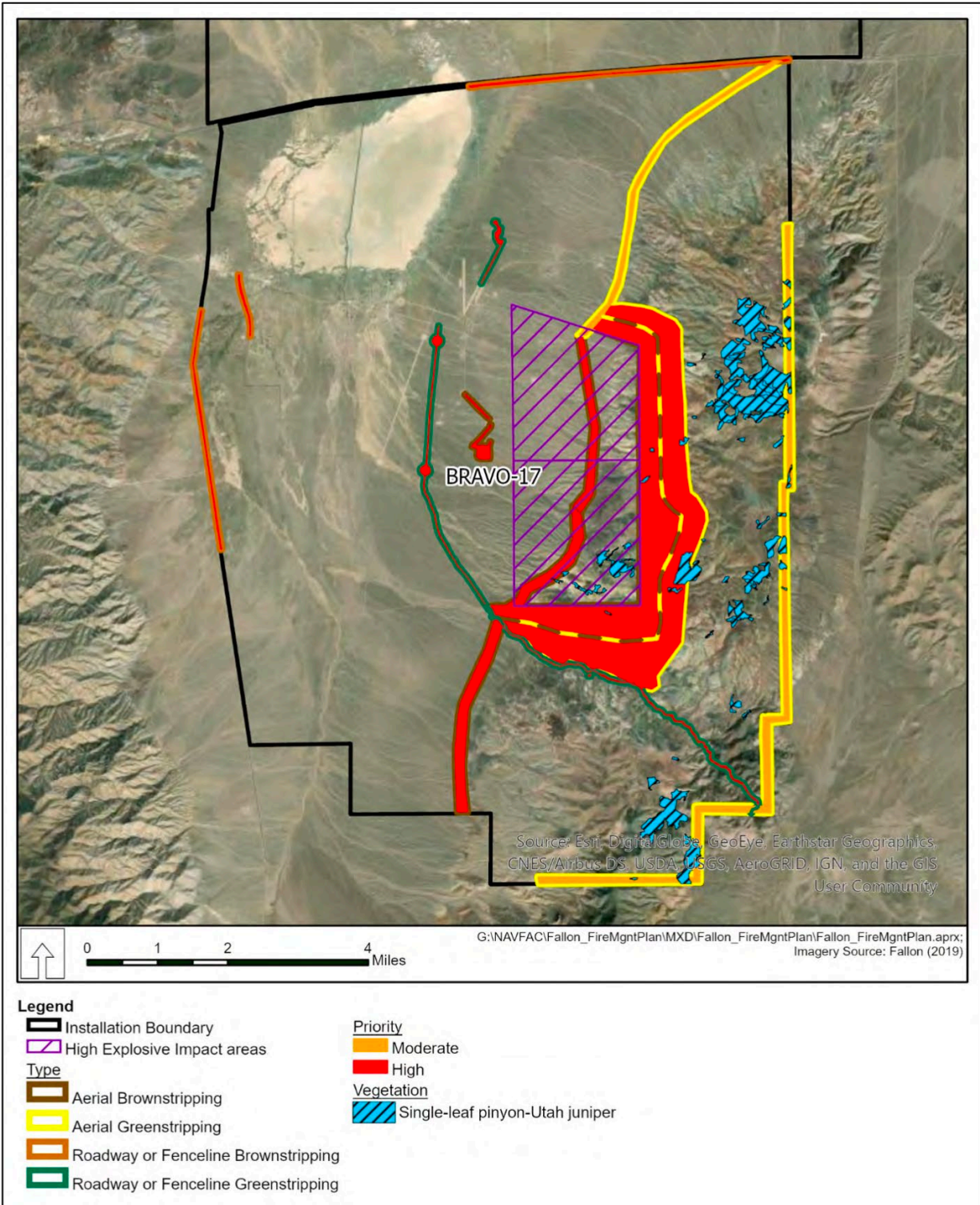


Figure 2-1 Proposed Wildland Fire Actions in Range Bravo 17

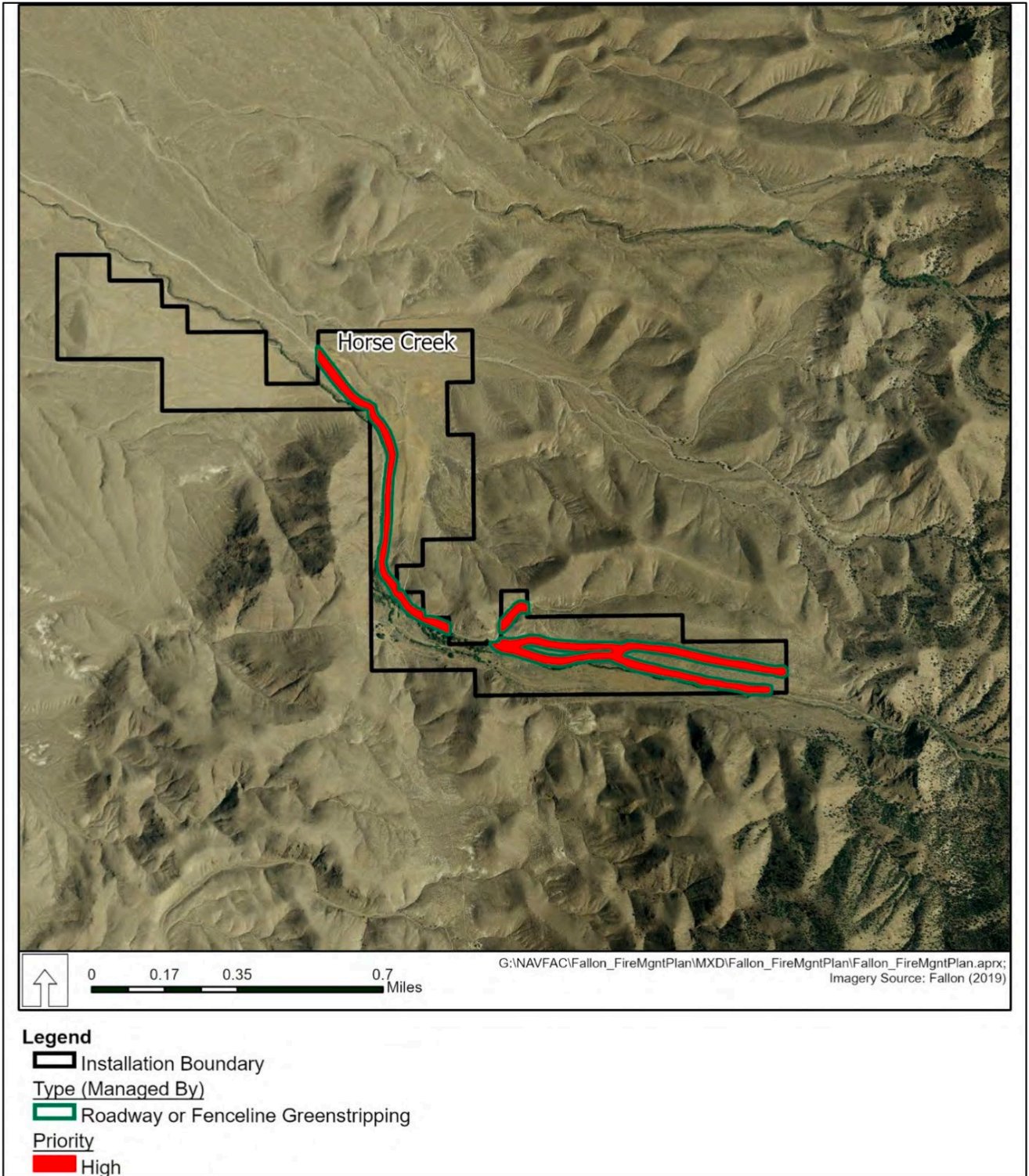


Figure 2-2 Proposed Wildland Fire Actions in Horse Creek Unit of DVTA

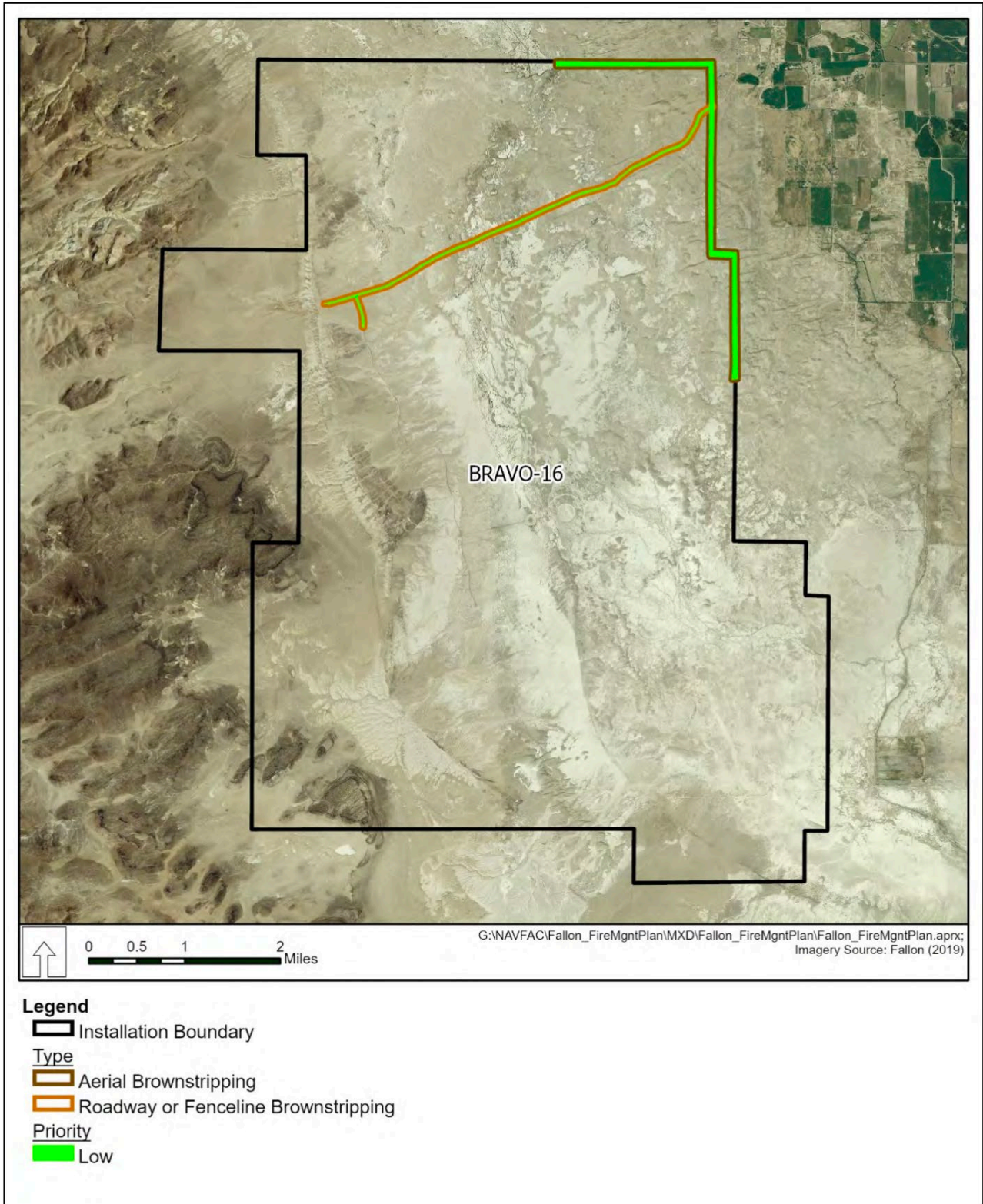


Figure 2-3 Proposed Wildland Fire Actions in Range Bravo-16

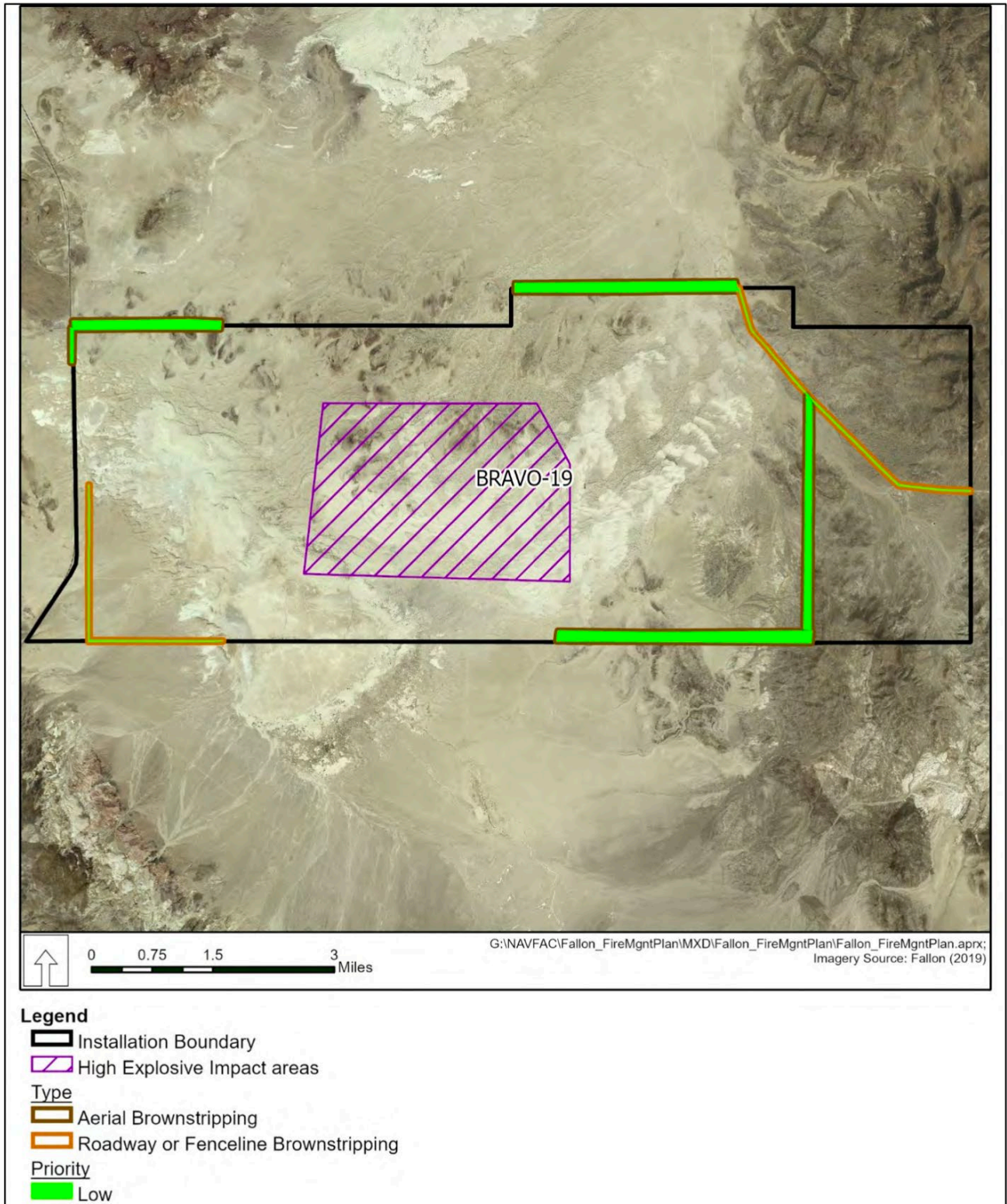


Figure 2-4 Proposed Wildland Fire Actions in Range Bravo-19

2.5 Best Management Practices Included as Part of the Proposed Action

This section presents an overview of the best management practices (BMPs) that are incorporated into the Proposed Action in this document. BMPs are existing policies, practices, and measures that the Navy would adopt to reduce the environmental impacts of designated activities, functions, or processes.

Although BMPs mitigate potential impacts by avoiding, minimizing, or reducing/eliminating impacts, BMPs are distinguished from potential mitigation measures because BMPs are (1) existing requirements for the Proposed Action, (2) ongoing, regularly occurring practices, or (3) not unique to this Proposed Action. In other words, the BMPs identified in this document are inherently part of the Proposed Action and are not potential mitigation measures proposed as a function of the NEPA environmental review process for the Proposed Action.

BMPs include actions required by federal or state law or regulation. The recognition of the general management measures prevents unnecessarily evaluating impacts that are unlikely to occur.

BMPs and mitigation measures are discussed separately in Chapter 3.

This page intentionally left blank.

3 Affected Environment and Environmental Consequences

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing either of the alternatives and an analysis of the potential direct and indirect effects of each alternative. The alternatives analyzed include the No Action Alternative and the Preferred Alternative, implementation of the NAS Fallon WFMP.

All potentially relevant environmental resource areas were initially considered for analysis in this EA. In compliance with the NEPA, CEQ, and Navy guidelines; the discussion of the affected environment (i.e., existing conditions) focuses only on those resource areas potentially subject to more than trivial or *de minimis* impacts. Additionally, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact.

“Significantly,” as used in NEPA, requires considerations of both context and intensity. Context means that the significance of an action must be analyzed under several perspectives such as society as a whole, the affected region, the affected interests, and the locality. Significance varies with the setting of a proposed action. For instance, in the case of a site-specific action, significance would usually depend on the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant. Intensity refers to the severity or extent of the potential environmental impact, which can be thought of in terms of the potential amount of the likely change. In general, the more sensitive the context, the less intense a potential impact needs to be in order to be considered significant. Likewise, the less sensitive the context, the more intense a potential impact would need to be expected to be significant.

This section includes biological resources; cultural resources; air quality; public health and safety; water resources; visual resources; topography, geology, and soils; and environmental justice.

The potential impacts to the following resource areas are considered to be negligible or non-existent so they were not analyzed in detail in this EA:

Hazardous Materials and Wastes: NAS Fallon recognizes that potential impacts to natural resources may result from the release of hazardous substances, pollutants, and contaminants into the environment. The Navy, Installation Restoration Program is responsible for identifying Comprehensive Environmental Response, Compensation and Liability Act releases, considering risks and assessing impacts to human health and the environment, including impacts to endangered species, migratory birds, and biotic communities, as well as developing and selecting response actions when it is likely that a release could result in an unacceptable risk to human health and the environment (Navy, 2014).

The Proposed Action would result in a change to the current use of hazardous materials by implementing the wildfire management actions described in the WFMP. This change would involve the aerial application of herbicides in areas on active bombing ranges identified in the WFMP as high priority areas requiring wildfire management. FRTC lands that do not have UXO risk may be treated with traditional mechanical techniques that involve earth disturbing activities, or application of herbicides by hand or from a boom sprayer. However, depending on the particular circumstances at a given location, these methods may not be appropriate due to particular site conditions. These methods may not be appropriate due to the presence of natural resources, cultural resources, and/or safety concerns. Each location where aerial application of herbicide is proposed would be scheduled by Range Control.

Measures would be taken to apply herbicides only in targeted areas. As per the NAS Fallon 2020 IPMP (Navy, 2020b), all proposed herbicides must be on the NAS Fallon Authorized Use List. The types of

herbicides used must be approved by DoD, by the Navy, and by the State of Nevada for the intended purpose and project site. Herbicide application instructions identified by the manufacturer would be followed. Additional impact avoidance and minimization measures are included in Section 3.9 of this EA. Specific protocols and additional impact avoidance and minimization measures are included in the NAS Fallon WFMP (Navy, 2022a) and IPMP (Navy, 2020b).

The Proposed Action would occur within the boundaries of FRTC, where access is controlled and restricted. Access would be further restricted in publicly accessible areas with temporary signage during aerial application of herbicides. The contractor would hold a current Nevada Commercial Applicator License. Licensed applicators would carry a spill kit capable of containing and preventing release of chemical into adjacent water sources, would prepare a spill contingency plan in advance of treatment, and have it readily available during mixing and loading operations. Applicators would follow approved procedures for cleanup of accidental spills as defined by herbicide Safety Data Sheets. Applicators would ensure proper exposure control and personal protection is provided as defined by herbicide Safety Data Sheets. Applicators would be required to apply the most stringent interpretation of all applicable Federal, state, and local regulations for vegetation control measures. Finally, applicators would apply the most stringent interpretation of specification, law, regulation, or label direction if a contradiction among them is found concerning application of the proposed chemicals. Therefore, implementation of the alternatives would result in only negligible impacts from hazardous materials and wastes.

Land Use: The Proposed Action would not result in a formal change to existing land uses at the FRTC. Implementing the wildfire management actions described in the WFMP would not preclude the viability of existing land use activities or the continued use of the area (both on and off the Main Station and FRTC) and would be compatible with adjacent land uses. Aerial application of herbicides would involve the use of fixed or rotary wing (helicopters) aircraft, both currently in use at the Main Station and the FRTC. Aircraft operations associated with aerial application of herbicide would be scheduled through Range Control and would be in compliance with the Air Installation Compatible Use Zone Program, which addresses public safety. The Proposed Action would occur within the boundaries of FRTC where access is controlled and restricted. The Proposed Action would be compatible with the existing land uses. Therefore, implementation of the alternatives would not result in significant impacts to land use.

Noise: The Proposed Action may result in temporary increases in noise levels in locations along roads where heavy equipment may be in use or near areas where aircraft are spraying herbicide. Noise generated from implementing the wildfire management actions described in the WFMP is not anticipated to exceed noise generated from routine military aircraft exercises at the FRTC. Therefore, implementation of the alternatives would result in only negligible impacts to noise.

Recreation: Access to recreational areas at FRTC such as Fairview Peak and Horse Creek would be temporarily closed during implementation of wildland fire management activities, such as aerial application of herbicides. Closure or delays to accessing FRTC recreational areas would be short-term, and intermittent as wildfire management measures are implemented. The Navy would provide prior notice of the closures. The Proposed Action would occur within the boundaries of FRTC where access is controlled and restricted. Therefore, implementation of the alternatives would result in only negligible impacts to recreation.

Utilities: The Proposed Action would not require a change to existing utilities or utility demand. Therefore, implementation of the alternatives would result in no impacts to utilities or impact demand for utilities.

Socioeconomics: Implementation of the WFMP would reduce the risk of wildfires and associated potential property loss. There would be no increase in personnel or change in activities that may result in a change in socioeconomic conditions. Therefore, implementation of the alternatives would result in only negligible impacts to socioeconomics.

Traffic: The Proposed Action would not result in any new road construction. Contractors and FRTC personnel would access the FRTC to implement wildfire management measures at existing entry points. Measures would be taken to close certain sections of the FRTC, usually open to the public during aerial application of herbicides. Closure or delays to accessing FRTC are anticipated to be short-term, and intermittent as wildfire management measures are implemented. The Proposed Action would occur within the boundaries of FRTC where access is controlled and restricted. There are no known traffic congestion issues on the FRTC because the ranges are remote. Regardless, a Traffic Control Plan would be implemented to alert drivers to potential increases in traffic. Similarly, the Traffic Control Plan would include measures to close sections of the FRTC open to the public during aerial application of herbicides. Any potential road closures on the FRTC would be short-term. Therefore, implementation of the alternatives would result in only negligible impacts to transportation.

Airspace: The Proposed Action would involve the use of fixed wing and or rotary wing aircraft to apply herbicide on various target treatment areas in the FRTC. This would likely include low flying exercises that would enable pilots to avoid overspray on non-target areas, such as population centers, open water, wildlife guzzlers, etc. All use of aircraft within FRTC airspace would be required to be scheduled through Fallon Range Schedules 30 days in advance of civilian/commercial aircraft use in FRTC airspace to ensure airspace is closed to military aviation exercises, with no less than 10 days in advance for civilian/commercial aircraft use in FRTC airspace. It is also recommended that weekends and holidays are utilized to avoid mission scheduling conflicts.

Pilots would follow the Air Installation Compatible Use Zone program and the FRTC Ground Training Guide (Naval Aviation Warfighting Development Center [NAWDC], 2019 as cited in Navy, 2014). Therefore, implementation of the alternatives would result in no impacts to airspace.

3.1 Biological Resources

Biological resources include living, native, or naturalized plant and animal species and the habitats within which they occur. Plant associations are referred to generally as vegetation, and animal species are referred to generally as wildlife. Habitat can be defined as the resources and conditions present in an area that support a plant or animal.

Within this EA, biological resources are divided into three major categories: (1) terrestrial vegetation, (2) terrestrial wildlife, and (3) aquatic wildlife. Threatened, endangered, and other special status species are discussed in their respective categories.

3.1.1 Regulatory Setting

Special-status species, for the purposes of this assessment, are those species listed as threatened or endangered (T&E) under the ESA and species afforded federal protection under the MBTA and BGEPA, as well as those that are granted special status pursuant to Nevada state law.

The purpose of the ESA is to conserve the ecosystems upon which T&E species depend and to conserve and recover listed species. Section 7 of the ESA requires action proponents to consult with the USFWS or National Marine Fisheries Service to ensure that their actions are not likely to jeopardize the continued

existence of federally listed T&E species or result in the destruction or adverse modification of designated critical habitat. Critical habitat cannot be designated on any areas owned, controlled, or designated for use by the DoD where an INRMP has been developed that, as determined by the Department of Interior or Department of Commerce Secretary, provides a benefit to the species subject to critical habitat designation.

Birds, both migratory and most native-resident bird species, are protected under the MBTA, and their conservation by federal agencies is mandated by EO 13186 (Migratory Bird Conservation). Under the MBTA it is unlawful by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, [or] possess migratory birds or their nests or eggs at any time, unless permitted by regulation. The 2003 National Defense Authorization Act gave the Secretary of the Interior authority to prescribe regulations to exempt the Armed Forces from the incidental taking of migratory birds during authorized military readiness activities. The final rule authorizing the DoD to take migratory birds in such cases includes a requirement that the Armed Forces must confer with the USFWS to develop and implement appropriate conservation measures to minimize or mitigate adverse effects of the proposed action if the action would have a significant negative effect on the sustainability of a population of a migratory bird species.

Bald and golden eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos*) are protected by the BGEPA. This act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

Non-federally listed sensitive wildlife species include those species that are listed as endangered, threatened, or rare in the State of Nevada. The Nevada Natural Heritage Program (NNHP) has a ranking system for rare plant and wildlife species. The NNHP systematically collects information on Nevada's at risk, rare, endangered, and threatened biological features, providing the best single source of information on Nevada's imperiled biodiversity. Although protection of non-federally listed species is not mandatory on federal installations, management of these species contributes to the overall maintenance of their natural populations and reduces the likelihood that any determination will be made that these species require additional legislative protection in the future. Ecosystem-based management is a process that considers the environment as a complex system functioning as a whole, not as a collection of parts. Accordingly, managing for keystone species, such as these species, and their habitat also benefits other species.

3.1.2 Affected Environment

The following discussions provide a description of the existing conditions for each of the categories under biological resources within or near the proposed study areas at the FRTC and the Main Station. T&E species are discussed in each respective section below.

3.1.2.1 Terrestrial Vegetation

The FRTC encompasses approximately 240,000 acres of predominately rangeland and open space, 96,000 acres of which are open to the public, with variable hillside land cover characteristic of Nevada high desert topography. Vegetation in the study areas includes terrestrial plant as well as freshwater aquatic communities and constituent plant species.

The central portion of B-16 is occupied primarily with desert shrub habitat dominated by Bailey's greasewood (*Sarcobatus spp.*). Bailey's greasewood, fourwing saltbush (*Atriplex canescens*), and Indian

ricegrass (*Achnatherum hymenoides*) are the dominant plant species in the sandy habitats on the western portion of B-16. Sodic sands and stable dunes dominated by black greasewood (*Sarcobatus vermiculatus*) are the prevalent sandy habitats in the eastern portion of B-16. The northern part of B-16 is comprised primarily of two distinct vegetation types: rubber rabbit brush (*Ericameria nauseosa*) and Bailey's greasewood. The southern part of B-16 is predominantly covered by unvegetated playas. The dominant vegetation types away from the playas are a mixture of black greasewood-Bailey's greasewood-seepweed (Navy, 2014).

B-17 has a high diversity of distinct plant communities, with 52 vegetation types. More than half of the range is covered by Bailey's greasewood either as the sole dominant or in combination with as many as 14 other species, including 3 perennial grasses. The most widely distributed vegetation consists of Bailey's greasewood-spiny hopsage-shadscale. The northwestern portion of B-17's basin floor is a sodic flat characterized by black greasewood and alkali seepweed (*Suaeda vera*). Sandy habitat that supports fourwing saltbush and Indian ricegrass is intermixed with piedmont slope habitats on the western half of B-17. The piedmont slope habitats are lower in elevation on the western side of the training range and gradually increase in elevation toward the east, where B-17 is bordered by Fairview Peak. The piedmont slope habitats are vegetated with a mosaic of desert shrub communities that may be dominated by Bailey's greasewood, shadscale, seepweed, or a combination of these. Indian ricegrass is common in the grass and forb layer of the lower piedmont slopes on B-17. Sagebrush-dominated habitats are present in higher elevations along the eastern portion of B-17. These habitats are dominated by black sagebrush (*Artemisia nova*) or Wyoming big sagebrush (*Artemisia tridentata* ssp. *Wyomingensis*) with singleleaf pinyon pine (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*) in the higher elevations (Navy, 2014).

B-19 contains sandy habitats, including large areas of unvegetated dunes. There is a large playa surrounded by a moist saline flat area in the southwestern portion of B-19. Within the moist saline flat area, iodine bush (*Allenrolfea occidentalis*), seepweed, and black greasewood are the dominant shrubs, with inland saltgrass (*Distichlis spicata*) present in the understory. The sandy habitats include sodic sands, sodic dunes, stable dunes, and sandy range sites, all of which have fourwing saltbush as dominant or co-dominant in the shrub layer. Bailey's greasewood, black greasewood, seepweed, and shortspine horsebrush (*Tetradymia spinosa*) are also present in varying amounts. Indian ricegrass is prevalent in most of the sandy habitats. Small localized piedmont slope habitats are interspersed with the sandy habitats throughout B-19. These are low elevation slopes with rocky or gravelly soils, and Bailey's greasewood is the dominant shrub (Navy, 2014).

Range B-20 has little vegetation that can carry fire. By contrast, the Shoal Site contains large areas of sagebrush vegetation, and therefore could spread fire to adjacent private or public lands (Navy, 2022a).

Horse Creek is dominated by riparian woodland and wetland communities containing arrow willows and cottonwoods within the Horse Creek drainage. Upland habitats are dominated by Bailey's greasewood with rabbit brush and other shrub species indicative of past disturbance. The vegetation grades into Wyoming big sagebrush and Bailey's greasewood on the upper slopes.

Dixie Meadows and the Settlement Area of Dixie Valley contain ponds and moist soils with high wetland species cover values. These wetlands, excluding open water, cover roughly 500 acres and are composed of stands of sedges (*Carex praegracilis*), rush-grass mixtures (*Juncus balticus*) with (*Distichlis spicata*), or (*Poa secunda*), (*Elocharis macrostachyal*) with (*Juncus balticus*), and in the most saturated soils, bulrush

(*Schoenoplectus americanus*). This hydrophytic vegetation can burn if it is dried out, but these plants are unlikely to burn provided that the soils remain saturated (Navy, 2022a).

Most other ranges and the remainder of the DVTA contain lower-elevation vegetation that is of the low-to-moderate severity classes. The riparian areas and the wetlands of Dixie Meadows are low to moderate in the FlamMap modeling results, and therefore it is assumed in this WFMP that, providing these soils stay moist, fire may not be a hazard to these communities (Navy, 2022a).

A complete list of plant species documented on NAS Fallon-administered lands and vegetation classifications for FRTC lands, including major vegetation Alliances and association descriptions, can be found in the NAS Fallon 2014 INRMP. The 2014 INRMP, Table 2-1, contains all common vegetation Alliances mapped aboard the FRTC and the Main Station.

Special Status Plant Species

According to the NAS Fallon 2014 INRMP, the following three species with NNHP sensitive rankings have been detected on NAS Fallon lands. The exact locations of each species have not been mapped within the installation.

Sand Cholla (*Opuntia pulchella*). Sand cholla is protected by a Nevada State Law (Nevada Revised Statutes 527.060-.120) and is categorized as sensitive and ranked S2 (Imperiled due to rarity and/or other demonstrable factors) and S3 (Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction) by the NNHP. Sand cholla was observed at three locations in the northwestern portion of B-16 on dry sites dominated by Bailey's greasewood and shadscale; it would be expected in similar habitats elsewhere (Navy, 2014).

Lahontan indigo bush (*Psoralea kingii*) is categorized as sensitive and ranked as S3 (Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction) by NNHP. This species is also designated as sensitive by the BLM State Office (Navy, 2014).

Lahontan beardtongue (*Penstemon palmeri* var. *macranthus*) is categorized as sensitive and ranked as S2 (Imperiled due to rarity and/or other demonstrable factors) by NNHP (Navy, 2014).

None of these three sensitive plant species were observed during wildlife surveys conducted in the study areas at B-16, B-17, B-19 and Horse Creek between May 1, 2022, and June 25, 2022 (Navy, 2022b).

3.1.2.2 Terrestrial Wildlife

Wildlife includes all animal species (i.e., insects and other invertebrates, freshwater fish, amphibians, reptiles, birds, and mammals) focusing on the species and habitat features of greatest importance or interest.

Bird Species

Ranges at the FRTC contain a diverse range of habitats including freshwater marshes, riparian areas, alkali playas, desert shrublands, mountain shrublands and wooded forests, unvegetated sand dunes and irrigated farmlands. Lahontan Valley wetlands are recognized as some of the most significant in the Western U.S. Carson Lake has been designated as a site of international importance and is part of the Western Hemispheric Shorebird Reserve Network. The Lahontan Valley is also named a Globally Important Bird Area by the American Bird Conservancy. Each year 250,000 shorebirds migrate through this valley. The diverse wetlands attract more than a million waterfowl, as well as over 20,000 other

shorebirds, including pelicans, egrets, herons, ibis, gulls, and terns. The irrigated agricultural lands provide important songbird habitat for migrants and breeding birds (Navy, 2014).

A total of 59 different birds, including 7 raptors were visually observed and or detected by sound in the FRTC study areas at Ranges B-16, B-17, B-19, and Horse Creek during 12 wildlife surveys conducted between May 1, 2022, and June 25, 2022 (Navy, 2022b). Appendix A, Table A-2 presents the names and conservation status of each bird species detected during the surveys. A complete list of birds documented on NAS Fallon is included in the 2014 Final INRMP, Appendix K (Navy, 2014).

Special Status Bird Species

Nearly all birds occurring in the FRTC are protected under the MBTA as discussed above. No federally listed T&E species have been documented at the FRTC during ecological inventories that have been conducted to date, including during the avian surveys conducted between May 1, 2022, and June 25, 2022 (Navy, 2022b).

Yellow-Billed Cuckoo (*Coccyzus americanus*) have a greyish brown back and white front with rufous primary feathers (Dunn & Alderfer, 2011). It is a riparian obligate species that requires dense cottonwood-willow forested tracts (NNHP, 1999).

Conservation Status: Yellow-billed cuckoo is listed by the NNHP as a “Critically Imperiled” species and is listed by the BLM as a “Sensitive Species.” It is also listed by the USFWS as a “Bird of Conservation Concern” and as a “Threatened” species. Yellow-billed cuckoos are protected under MBTA.

Known and Potential Locations in the Study Area: The Yellow-billed cuckoo has been documented as occurring within Churchill County but not on the Main Station or the FRTC.

Greater Sage-Grouse (*Centrocercus urophasianus*) was previously listed as a federal candidate for potential T&E listing. In March 2020, the USFWS withdrew the proposed rule to list the Bi-State distinct population segment (DPS) of greater sage-grouse (*Centrocercus urophasianus*) in California and Nevada as threatened under ESA of 1973, as amended (Act). The USFWS concurrently withdrew the proposed rule under section 4(d) of the Act and the proposed rule to designate critical habitat for the DPS. These withdrawals were based on the USFWS conclusion that the threats to the DPS as identified in the proposed listing rule no longer are as significant as believed at the time of publication of the 2013 proposed rule. The USFWS found the best scientific and commercial data available indicate that the threats to the DPS and its habitat, given current and future conservation efforts, are reduced to the point that the DPS does not meet the Act's definition of an “endangered species” or of a “threatened species” (USFWS, 2023). Greater sage-grouse is listed by the NNHP as a “Vulnerable Species” and is listed by the BLM as a “Sensitive Species.” It is also listed by the USFWS as a “Bird of Conservation Concern.” Although greater sage-grouse is no longer a candidate for ESA Protection, it remains protected under the MBTA.

Known and Potential Locations in the Study Area: Sage-grouse have been observed within the vicinity of NAS Fallon near Horse Creek and Fairview Peak. Focused greater sage-grouse surveys were conducted in three major areas of NAS Fallon including Fairview Peak, Horse Creek, and Dixie Meadows during the 2008 ecological inventory to determine the presence of sage-grouse on Navy land. None were observed in the study areas. Dusky grouse (*Dendragapus obscurus*) was observed in B-17 and Horse Creek study areas during avian surveys conducted in May through June 2022 (Navy, 2022b); however, no greater sage-grouse was observed at that time.

Mammal Species

According to the NAS Fallon 2014 INRMP, the greatest diversity of mammal species in the region is found in upland habitats. A total of 33 mammal species have been observed on NAS Fallon. Eight species of small mammals were documented in 2008 (Tierra Data, Inc., 2008 as cited in Navy, 2014).

Fourteen species of bats have been recorded on NAS Fallon, including two listed as State Sensitive, two listed as State Protected, and five listed as Federal Species of Concern (nine total special-status species) (Tierra Data, Inc., 2008 as cited in Navy, 2014). Townsend's big-eared bat (*Corynorhinus townsendii*) and the western red bat (*Lasirurs blossevillii*) are considered at high risk by the Nevada Bat Conservation Plan (NDOW, 2006).

The mountainous habitat on the east side of Range B-17 provides bighorn sheep (*Ovis canadensis*) habitat. Mule deer (*Odocoileus hemionus*) are also present in these areas. Other game mammals include the pronghorn antelope (*Antilocapra americana*), mountain lion (*Puma concolor*), and desert cottontail. NAS Fallon and NDOW have worked cooperatively to install big game guzzlers located in the Fairview Peak and Slate Mountain ranges.

A total of 20 unique mammal species were detected (12 small mammal species and 8 large mammal species) in the FRTC study areas at Ranges B-16, B-17, B-19, and Horse Creek during 12 wildlife surveys conducted between May 1, 2022, and June 25, 2022 (Navy, 2022b). Appendix A, Table A-3 presents the names and conservation status of each mammal species detected during the surveys. A complete list of mammals documented on NAS Fallon is included in Appendix K of the 2014 Final INRMP (Navy, 2014).

Special Status Mammal Species

Desert Kangaroo Rat (*Dipodomys deserti*) is a large kangaroo rat (head and body 5 ¼ inches long, tail 7 ¾ inches long) that is pale sandy brown on its back and white on its sides and underbelly with four toes on its hind foot. Its tail has a pale brown stripe on the upper side and is white on the underside and at its tip (Reid, 2006).

Conservation Status: The desert kangaroo rat is a Nevada State Protected Species listed by the NNHP as "vulnerable to imperiled."

Known and Potential Locations in the Study Area: Desert kangaroo rats are found in low deserts, in sandy soil with sparse vegetation or in alkali sinks (NDOW, 2022). Desert kangaroo rat was trapped within the B-16 during 2007 surveys (Tierra Data, Inc., 2008 as cited in Navy, 2014) and was observed in Horse Creek during the 2022 mammal surveys (Navy, 2022b).

Reptiles and Amphibian Species

A total of 6 amphibians and 16 reptiles have been documented on NAS Fallon (Navy, 2014). Twelve unique herpetological species were detected (two amphibians, nine lizards, and one snake) in the FRTC study areas at Ranges B-16, B-17, B-19, and Horse Creek during 12 wildlife surveys conducted between May 1- June 25, 2022 (Navy, 2022b). Appendix A, Table A-4 presents the names and conservation status of each herpetological species detected during the surveys.

A complete list of herpetological species documented on NAS Fallon is included in the 2014 Final INRMP, Appendix K (Navy, 2014).

Special Status Amphibian Species

Dixie Valley Toad

Only one federally listed endangered species is known to occur at the FRTC: the Dixie Valley toad (*Anaxyrus williamsi*). While Dixie Valley toads are similar in appearance to western toads, Dixie Valley toads are smaller and more colorful and have large, closely set eyes and large tympanum.

Conservation Status: The Dixie Valley toad is a federally listed endangered species. On December 2, 2022, the USFWS ruled to continue the ESA protections of the toad past a previous emergency listing from April 7, 2022 through December 2, 2022 (USFWS, 2022).

The Dixie Valley toad is listed by the NNHP as a “critically imperiled” species and is listed by the BLM as a “Sensitive Species.”

Known and Potential Locations in the FRTC: Dixie Valley toads are confined to the isolated spring complexes and adjacent marsh areas within the Dixie Meadows parcel (NNHP, 2018). Currently there is no designated Critical Habitat for Dixie Valley toad.

Fish Species

There are perennial ponds and marshes in Dixie Valley which provide suitable habitat for a variety of fish species (Navy, 2014). A total of 6 fish species have been documented on NAS Fallon (Navy, 2014). Of these, only the Dixie Valley tui chub (*Gila bicolor* sp.) is considered native to the region, discussed below). At least one incidental fish species was detected during wildlife surveys conducted at Horse Creek between May 1 and June 25, 2022 (Navy, 2022b). A complete list of fish species documented on NAS Fallon is included in the 2014 Final INRMP, Appendix K (Navy, 2014).

Special Status Fish Species

Dixie Valley Tui Chub (*Gila bicolor* ssp. 9) are western minnows distributed in ponds, lakes, and streams across the western U.S., including Nevada. The Dixie Valley tui chub is a genetically distinct subspecies of tui chub (Finger & May, 2015) and is endemic to Dixie Valley (USFWS, 1991; UC Davis, 1999). The Dixie Valley tui chub is very closely related to several other species of tui chubs endemic to Nevada. Dixie Valley tui chub is known as subspecies 9 out of 12 closely related subspecies within the *Siphateles bicolor* species.

Conservation Status: In 1985, the Dixie Valley Tui chub was federally listed as a Category 2 candidate species by the USFWS. In 1998, the Navy contracted the University of California, Davis, Genomic Variation Laboratory to assess the taxonomic status of Dixie Valley tui chub relative to other geographically proximate populations of tui chub in Nevada. In 2000, the USFWS revised their Candidate species list. This formal change in the Candidate species designation resulted in the Dixie Valley tui chub being removed from USFWS lists. Currently, the Dixie Valley tui chub is designated as “not listed” by USFWS. At the state level, the NNHP has identified the Dixie Valley tui chub as an “At-Risk” status, and the state ranking is “S1”, meaning the state population of the species is at very high risk of extirpation. The Dixie Valley tui chub are ranked globally as “G4T1Q,” meaning the global population of *Siphateles bicolor* species is apparently secure, while the taxonomic variety is at very high risk of extirpation, and the taxonomic distinctiveness is questionable. At a state level, the Nevada Wildlife Action Plan identifies the Dixie Valley tui chub as a “species of conservation priority” (Navy, 2014).

Known and Potential Locations in the Study Area: Dixie Valley tui chub is known to occur within three settlement ponds located in the DVTA: Casey Pond, Turley Pond, and Dempsey Pond. These ponds are all man made and artificially maintained (Navy, 2022a).

Critical Habitat: Federally designated critical habitat for fish species does not occur within NAS Fallon lands. The nearest critical habitat designation to NAS Fallon is for the desert dace (*Eremichthys acros*) located approximately 140 miles to the northwest (Navy, 2014).

Invertebrate Species

Insect surveys were conducted on NAS Fallon documenting a total of 112 distinct insect (and related fauna) taxa in 6 orders (Navy, 2014). A complete list of invertebrate species documented on NAS Fallon is included in the 2014 Final INRMP, Appendix K (Navy, 2014).

3.1.2.3 Threatened and Endangered Species Potentially Occurring in the Region of Influence (ROI) and Critical Habitat Present in ROI

Federally Listed Special Status Species: This includes species listed by the USFWS as T&E, as well as species previously under consideration for a federal listing. Table 3-1 summarizes the T&E species known to occur or potentially occurring in the proposed study areas and ROI, which includes lands within the FRTC. No critical habitat is currently designated on the installation, in part, because of the ongoing implementation of programs within NAS Fallon’s INRMP. An ancillary function of the INRMP is that it may preclude the need for the USFWS to designate critical habitat for federally listed T&E species. NAS Fallon’s INRMP was developed to comply with the guidance and required elements as described in this section (Navy, 2014).

Table 3-1 Threatened and Endangered Species Known to Occur or Potentially Occurring in the ROI

<i>Common Name</i>	<i>Scientific Name</i>	<i>Federal Listing Status</i>	<i>State Listing Status</i>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	FT, BCC	S1B
Dixie Valley toad	<i>Anaxyrus williamsi</i>	FE	S1
Species Previously Considered for Federal Listing			
Greater Sage-Grouse	<i>Centrocercus urophasianus</i>	BCC, NL	S3
Dixie Valley Tui Chub	<i>Gila bicolor ssp. 9</i>	NL	S1

Federal Status: BCC = Birds of Conservation Concern; FE = Federally Endangered; FT = federal threatened, NL = not listed, NNHP = Nevada Natural Heritage Program.

NNHP State Rank:

S1 = Critically imperiled due to extreme rarity, imminent threats, and/or biological factors.

S3 = Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction.

B = Breeding status within the state, rank for breeding occurrences only.

3.1.3 Environmental Consequences

This analysis focuses on wildlife or vegetation types that are important to the function of the ecosystem or are protected under federal or state law or statute.

3.1.3.1 No Action Alternative

Under the No Action Alternative, the wildfire prevention measures in WFMP would not be implemented. This could potentially lead to more wildfires on the FRTC that could spread to BLM, and Tribal Lands. Not implementing wildland fire management actions could lead to the establishment of nonnative, invasive vegetation such as cheatgrass thereby increasing the risk of more wildfires. These wildfires could lead to permanent impacts to fragile native ecosystems, and the species that occupy the FRTC. Although implementation of the No Action Alternative would result in adverse impacts to biological resources, they would be less than significant, essentially reflecting a continuation of current conditions and risk of impacts.

3.1.3.2 Implementation of the NAS Fallon WFMP (Preferred Alternative) Potential Impacts

The study area for the analysis of effects to biological resources associated with the Proposed Action includes portions of the FRTC where the WFMP implementation activities are proposed in Ranges B-16, B-17, B-19, and the Horse Creek Unit of the DVTA. These areas were identified and prioritized based on threats for fire operations and fuels management.

The biggest threat to resources outside of the FRTC is in the Fairview Peak area of Range B-17. Here, extremely intense fire is possible, which has the capability to eradicate remaining stands of big sagebrush and pinyon-juniper woodland. Neither the sagebrush nor the pinyon-juniper communities recover quickly from fire. Most of the lower-basin communities (i.e., greasewood and shadescale communities) may spread fire, but these fires would be surface fires, and not high-intensity fires. The wetland-dependent communities and their associated wildlife appear to be safe from fire, but this is dependent on whether the water sources are protected and not variable due to drought conditions (Navy, 2022a).

Vegetation

Impacts to vegetation would occur in two primary categories: mechanical treatment or chemical treatment. Mechanical treatment of vegetation would involve thinning or clearing vegetation with hand-held tools, such as weed whackers, or may involve heavy equipment (e.g., discing, bulldozing, etc.) in areas that are safe and accessible. For fire breaks, vegetation may be completely removed exposing mineral soil. The removal of vegetation could lead to the loss of habitat. It could also lead to soil erosion, especially during high winds and heavy precipitation events. BMPs such as use of straw waddles and silt fencing would be used to minimize potential erosion on cut slopes. Refer to the Impact Avoidance and Minimization Measures in Section 3.9.

Biological Resource Potential Impacts:

- Temporary, direct impacts to vegetation from fire breaks, brownstripping and greenstripping.
- Temporary, direct impacts to wildlife from loss of habitat.
- Indirect impacts to wildlife ingesting herbicide treated vegetation.
- Direct impacts to wildlife from exposure to herbicides from aerial application.
- No effect to the Dixie Valley toad through restricting chemical and mechanical treatment in Dixie Meadows.

Chemical treatment would involve treating vegetation with herbicides. Crews with backpack applicators or boom sprayers could also be used from vehicles in areas outside of bombing ranges or where there are no safety concerns. Crews using backpack applicators would have optimum control over accidentally treating nontargeted vegetation. Aerial application of herbicide would be used on the bombing ranges and areas with risk of UXO. When applied by air, there would be a potential for herbicide to drift, treating both targeted and nontargeted vegetation. Nontargeted vegetation would be avoided through implementation of Impact Avoidance and Minimization Measures listed in Section 3.9. Prior to herbicide application, an inventory of areas with surface water would be mapped using Geographic Information Systems (GIS) available to the licensed herbicide applicators and pilots. Applicators would avoid contact with open water including wildlife guzzlers. Herbicide would not be applied within 150 feet of water sources (guzzlers, ponds, open water). Herbicide would not be applied during windy days or if there is rain, snow, or fog. Licensed applicators would carry a spill kit capable of containing and preventing release of chemical into adjacent water sources, would prepare a spill contingency plan in advance of treatment, and have it readily available during mixing and loading operations. Aerial application of herbicide would not occur during bird breeding season.

Although implementation of the WFMP would result in the loss of vegetation in portions of the FRTC, the impacts would be temporary and short-term, the Navy anticipates long-term benefits in terms of control of noxious weeds, as well as reduction of the frequency and intensity of wildfire. Implementation of the WFMP would ensure the Navy exercises responsible and sustainable management of natural resources. Reducing the spread of wildfire would result in a healthy ecosystem thereby protecting populations of plants and animals including sensitive species.

Terrestrial Wildlife

The alteration or removal of native vegetation through mechanical means would result in temporary, indirect impacts to wildlife species using that vegetation to forage, or nest. Wildfire management actions would mostly occur in areas where nonnative invasive plants such as cheatgrass carry wildfires off the FRTC. Indirect effects could include temporary reduced forage and habitat, change of territorial boundaries, changes in breeding and nesting behavior following herbicide application as a result of limited reproduction, and avoidance of treated areas for several years following treatment. Permanent loss of ruderal cheatgrass habitat would occur under the Proposed Action. These impacts are anticipated to result in long-term beneficial effects from the reduction of wildfire frequency and intensity, thereby improving existing ecological conditions. Therefore, habitat removal would be negligible and would not negatively impact habitat used by wildlife.

The alteration or removal of native vegetation through use of herbicides could potentially impact wildlife, either directly or indirectly. Indirect exposure could result from terrestrial wildlife grazing on treated vegetation. The effects of ingesting treated vegetation would greatly depend on which herbicide was used, the size of the animal and what period of time elapsed between when the vegetation was treated and when it was ingested. A range of direct effects on wildlife could include damage to vital organs, change in body weight, decreased reproductive success, nest abandonment, increased susceptibility to predation, and mortality. Potential impacts of chemical treatments on wildlife would vary depending on the type of chemical treatment, vegetation being treated, time of application, and duration and mechanism of exposure. Potential impacts would be reduced through the implementation of Impact Avoidance and Minimization Measures listed in Section 3.9.

Aquatic vegetation would not be treated, therefore exposure to aquatic wildlife is not likely to occur with the exception of accidental drift of herbicide into non-targeted areas. This would be minimized with the implementation of Impact Avoidance and Minimization Measures listed in Section 3.9.

Direct exposure to wildlife would involve herbicide being sprayed on species during application. It is likely that most terrestrial wildlife and birds would flush from the approaching aircraft delivering the herbicide. It is possible however, that nesting birds, small herpetological species and rodents may be directly exposed. Toxicity from direct exposure would greatly depend on which herbicide was used, the amount of exposure, the size of the animal, the type of exposure (absorption through the skin or eyes), and or ingestion (i.e., from grooming exposed skin, feathers, or fur). Health effects may range from damage to vital organs, change in body weight, decreased reproductive success, nest abandonment, increased susceptibility to predation, and mortality. Potential impacts of chemical treatments on wildlife would vary depending on the type of chemical treatment, vegetation being treated, time of application, and duration and mechanism of exposure. Potential impacts would be reduced through the implementation of Impact Avoidance and Minimization Measures listed in Section 3.9.

Refer to the NAS Fallon IPMP for detailed information regarding all authorized herbicides, herbicide applicator requirements, and toxicity to humans and wildlife. All currently approved herbicides are listed in Table 3-2 of the IPMP (Navy, 2020b).

Air operations under the Proposed Action would increase a negligible amount above current air operation associated with the Navy's integrated strike warfare training. T&E terrestrial species on the FRTC are already exposed to the ongoing air operations. There would be no significant change in noise contours associated with the proposed increase in airfield operations as compared with baseline conditions and ambient noise levels would not significantly increase.

Direct impacts to wildlife would be avoided through implementation of Impact Avoidance and Minimization Measures listed in Section 3.9. Prior to herbicide application, an inventory of areas with surface water would be mapped using GIS available to the licensed herbicide applicators and pilots. Applicators would avoid contact with open water including wildlife guzzlers. Herbicide would not be applied within 150 feet of water sources (guzzlers, ponds, open water). Herbicide would not be applied during windy days or if there is rain, snow, or fog. Licensed applicators would carry a spill kit capable of containing and preventing release of chemical into adjacent water sources, would prepare a spill contingency plan in advance of treatment, and have it readily available during mixing and loading operations. Application of herbicide would occur outside of migratory bird nesting seasons from March 1 through July 31.

Threatened and Endangered Species

No federally threatened or endangered species have been documented within the proposed mechanical or chemical treatment areas identified in the WFMP.

Dixie Valley Toad The only federally listed endangered species documented within the FRTC is the Dixie Valley toad, which is outside of the areas identified in the WFMP for chemical and mechanical wildfire management activities. Dixie Valley toads are confined to the isolated spring complexes and adjacent marsh areas within the Dixie Meadows parcel, straying up to 14 meters (46 feet) from their pond (Halstead et al., 2021). Dixie Meadows is considered a low fire risk area and is not prioritized for any wildfire prevention activities; therefore, the WFMP proposed actions do not have the potential to affect the Dixie Valley toad. Avoidance and minimization measures would restrict herbicide activities in Dixie Meadows. In addition, open bodies of water including creeks, ponds, marshes, wetlands, and wildlife

guzzlers would not be treated with herbicide. Furthermore, aerial application of herbicides would avoid open water by no less than 150 feet.

If an action is proposed that has the potential to affect the Dixie Valley toad, the Navy will enter into consultation with the USFWS pursuant to Section 7 of the ESA. In the event that an unanticipated wildfire affects the Dixie Valley toad and/or Dixie Valley toad habitat, or if it is reasonably foreseeable that such a fire will do so, the Navy would initiate emergency consultation with USFWS concerning such effects on the species per the USFWS consultation handbook, chapter 8 (USFWS, 1998).

Yellow-billed Cuckoo Although there are no recorded sightings of the yellow-billed cuckoo at the FRTC, there is a potential for it to occur at or near locations where wildfire management activities are taking place. Application of herbicide would occur outside of migratory bird nesting seasons. Mechanical removal of vegetation has the potential for short-term displacement; however, the proposed wildfire management actions are anticipated to result in long-term benefits on the overall ecology by reducing the frequency and intensity of fires and displacement of native sages with encroachment from invasive vegetation. Therefore, there would either be no effect, or a non-significant net beneficial effect to the yellow-billed cuckoo.

No other T&E species are known to occur within the areas prioritized in the WFMP for wildfire management activities. No designated critical habitat occurs within the FRTC or at the Main Station. Although the Dixie Valley toad occurs in Dixie Meadows, Dixie Valley toads are confined to the isolated spring complexes and adjacent marsh areas within the Dixie Meadows parcel. Dixie Meadows is considered a low fire risk area and is not prioritized for any fire prevention activities; therefore, the WFMP proposed actions do not have the potential to affect the Dixie Valley toad.

With implementation of Impact Avoidance and Minimization Measures as set forth in Section 3.9 of this EA, the Navy believes there would be no effect on the Dixie Valley toad or any other threatened or endangered species from implementation of the Preferred Alternative. If an action is proposed that has the potential to affect the Dixie Valley toad, the Navy will enter into consultation with the USFWS pursuant to Section 7 of ESA.

Species Previously Considered for Federal Listing

Greater Sage-Grouse There is suitable habitat for greater sage-grouse within the Northern Dixie Valley and Dixie Meadow. Although the species has not been documented at the FRTC in recent years (Navy, 2014), there exists a potential for greater sage-grouse to occur in the treatment areas. Application of herbicide would occur outside of migratory bird nesting seasons. Mechanical removal of vegetation has the potential for short-term displacement; however, the proposed wildfire management actions are anticipated to result in long-term benefits to the overall ecology by reducing the frequency and intensity of fires and displacement of native sages with encroachment from invasive vegetation. A goal of the WFMP is to improve habitat for sage grouse and restore fire to its ecological role before the introduction of invasive grass. Therefore, there would either be no effect, or a non-significant net beneficial effect to the greater sage-grouse.

Dixie Valley Tui Chub Dixie Valley tui chub, is only known to occur within three settlement ponds outside of the proposed treatment areas. Therefore, there would be no effect to Dixie Valley tui chub. The Proposed Action would comply with the MBTA. Implementation of the wildfire management activities would occur outside of bird breeding seasons. Bird nesting surveys would be conducted prior to the mechanized removal of vegetation to the extent it is safe for contractors to access areas outside of the bombing ranges. Bird nesting surveys would also be conducted prior to crews with backpack applicators

treating vegetation with herbicide by hand. Aerial application of herbicide on bombing ranges would occur outside of bird breeding season to avoid any potential direct exposure to nesting birds and their eggs or chicks.

Wildfire management activities would result in short-term impacts from disturbance to terrestrial wildlife but would not further threaten the existence of any protected species or sensitive habitats. Wildfire management activities would not result in impacts to aquatic species or their habitat. Additionally, installation personnel would continue to manage habitats according to the Installation INRMP, which is designed to protect and benefit T&E species. The proposed wildfire management actions are anticipated to result in long-term benefits on the overall ecology by reducing the frequency and intensity of fires.

Therefore, implementation of the Preferred Alternative would not result in significant impacts to biological resources.

3.2 Cultural Resources

This discussion of cultural resources includes prehistoric and historic archaeological sites; historic buildings, structures, and districts; and physical entities and human-made or natural features important to a culture, a subculture, or a community for traditional, religious, or other reasons.

For the purposes of this analysis, cultural resources can be divided into three major categories:

- Archaeological resources (prehistoric and historic) are locations where human activity measurably altered the earth or left deposits of physical remains.
- Architectural resources include standing buildings, structures, landscapes, and other built-environment resources of historic or aesthetic significance.
- Resources Important to Tribes. Traditional cultural properties include archaeological resources, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

3.2.1 Regulatory Setting

Cultural resources are governed by federal laws and regulations, including the NHPA, American Indian Religious Freedom Act, Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1990. Federal agencies' responsibility for protecting historic properties is defined primarily by Sections 106 and 110 of the NHPA. Section 106 requires federal agencies to take into account the potential effects of their undertakings on historic properties. Section 110 of the NHPA requires federal agencies to establish, in conjunction with the Secretary of the Interior, historic preservation programs for the identification, evaluation, and protection of historic properties. Cultural resources also may be covered by state, local, and territorial laws. However, there are no state or local laws protecting cultural resources in the area prioritized for wildfire management.

3.2.2 Affected Environment

In compliance with the NHPA, the Navy consults with regulators, Indian tribes and/or Native Hawaiians, and other interested parties to identify historic properties and other cultural resources that may be impacted by the Proposed Action. Per NHPA, historic properties are defined as any district, site, building, structure, or object listed in, or eligible for listing in, the National Register of Historic Places (NRHP).

The area of potential effect (APE) for cultural resources is the geographic area or areas within which an undertaking (project, activity, program, or practice) may cause changes in the character or use of any historic properties present. The APE is influenced by the scale and nature of the undertaking and may be different for various kinds of effects caused by the undertaking. For this Proposed Action, the Navy determined that the APE includes the Main Station and FRTC.

The Great Basin and the Plateau Native American cultural regions overlap the APE. Highly varied climate patterns, landforms, and distinct culture histories within the regions have resulted in diverse cultural traditions and adaptations over thousands of years. These diverse traditions are evidenced primarily by archaeological sites, oral and written histories, and ongoing contemporary use by Native Americans (BLM, 2020).

The Navy has conducted inventories of cultural resources at NAS Fallon to identify historic properties that are listed or potentially eligible for listing in the NRHP (Bowers, 2009; Estes, 2015; Jones & Dougherty, 2016).

NAS Fallon currently functions under the installation's Integrated Cultural Resources Management Plan (ICRMP), which was written and approved in 2013 (NAVFAC SW, 2013). Earlier management plans included a 1993 Cultural Resources Management Plan, a draft ICRMP written in 2000, and a 2007 ICRMP. There are 13 federally recognized tribal groups whose history and culture indicate that they are likely to be interested in the FRTC and Navy activities. Other interested parties include the Bureau of Reclamation, the Oregon-California Trails Association, the Lincoln Highway Association, and the Churchill County Museum.

Since 1996, NAS Fallon has had a PA in place. The PA streamlines the cultural resource process by allowing small projects that clearly have "no effect" or "no adverse effect" to proceed without further consultation with the Nevada SHPO. Because the majority of projects at NAS Fallon are very small maintenance projects, this document greatly facilitates day-to-day operations. The PA lists several types of exempt undertakings that do not require further SHPO consultation and concurrence. The document was revised in 2010 (NAVFAC SW, 2013).

3.2.2.1 Archaeological Resources

Currently about 93 percent of the Main Station has been surveyed for archaeological resources. To date, 87 sites have been recorded on the Main Station. NAS Fallon manages 20 archaeological sites that are eligible for inclusion to the NRHP. In addition to archaeological resources, the installation includes nearly 200 buildings and structures that date from World War II (1941–1945) through the Cold War (1946–1989).

Within the FRTC, 305 inventories have been conducted to date covering approximately 22,808 acres. The inventories include all known military structures and buildings as well as all known historic period ranches and farms. In total, the inventories have documented 639 cultural properties (Sites, Buildings, Structures, Objects and Districts).

3.2.2.2 Architectural Resources

Historic period activities involved mining, ranching, farming, railroad construction, and trail establishment. Historic-era archaeological/architectural sites include early exploration settlements and camps, mineral exploration and mining locales, mining camps, historic farms and ranches, railroad tracks and associated boom towns, and historic trail routes and associated towns (BLM, 2020).

Three historic building inventories have been completed at the Main Station including one in 1998, 2007, and 2011. The first studies determined that two buildings are eligible for inclusion to the NRHP: the Air Force Semi-Automatic Ground Environment and Back Up Interceptor Control System buildings. The study completed in 2011 suggested that seven additional buildings are eligible for listing on the NRHP. These buildings include: Building 4 (Hangar 7), Buildings 95 and 96 (World War II aircraft beacon and beacon vault), and the buildings that comprise the 800 complex (Buildings 800, 801, 804, and 806).

Within the FRTC, 305 Inventories have been conducted covering approximately 22,808 acres. The inventories include all known military structures and buildings as well as all known historic period ranches and farms. In total, the inventories have documented 639 cultural properties (Sites, Buildings, Structures, Objects and Districts).

3.2.2.3 Resources of Importance to Tribes

A total of 1,692 cultural properties have been documented on the Main Station and the FRTC. Cultural properties related to Native Americans include habitation and tool-manufacturing sites, caves, rock shelters, pictographs and petroglyphs, rock alignments, and tool stone-quarrying locations. Post-settlement historic sites include homesteads, farm settlements roads, irrigation features, military related buildings and structures, and mining related structures. One hundred eighteen of those cultural properties have been evaluated as eligible to the NRHP or are listed on the NRHP, 1,491 have been evaluated as not eligible for listing, and 83 remain unevaluated (Navy, 2022a).

There are several federally recognized tribes that would have potential interest in NAS Fallon activities and include the: Duckwater Shoshone Tribe, Fallon Paiute-Shoshone Tribe, Fort McDermitt Paiute and Shoshone Tribes, Lovelock Paiute Tribe, Pyramid Lake Paiute Tribe, Walker River Paiute Tribe, Washoe Tribe of Nevada and California, Winnemucca Indian Colony of Nevada, Yerington Paiute Tribe, Yomba Shoshone Tribe, Summit Lake Paiute Tribe, Te-Moak Tribe of Western Shoshone, and Reno Sparks Indian Colony. NAS Fallon conducts ongoing consultation with these tribes, including the Fallon Paiute-Shoshone Tribe, whose reservation is located approximately 3.5 miles north of the Main Station.

Tribal resources may involve a wide range of overlapping social, economic, traditional, and religious practices. Lands administered by the BLM within the APE continue to be used for subsistence, religious activities, and other cultural purposes with a range of overlapping regulations protecting these uses. Tribes may use these lands to access hunting and fishing, water rights, sacred places, and raw materials for uses such as basketry or tool manufacture. Plants were integral components of American Indian lifeways, and in most instances are still used in religious practices and economic enterprises. Gathering of plant materials remains an important activity within the APE. The APE is also likely to include locations of religious and spiritual interest, including ancestral village sites, graves, prayer sites, pictographs, petroglyphs, talus/cache pits, rock cairns and alignments, and other culturally significant sites and landscapes (BLM, 2020).

The identification and location of Tribal resources and Tribal interests in projects would be determined on a site- and project-specific basis through government-to-government consultation. This was initiated in 2021, when the Navy provided a draft copy of the WFMP to interested federally recognized tribes listed above. In response, comments were received from two tribes (as of August 2022): Fallon Paiute-Shoshone Tribe and Walker River Paiute Tribe.

Specific concerns identified by the Fallon Paiute-Shoshone Tribe include potential impacts of wildfires, as well as the impact of management and fire-suppression efforts on cultural resources such as pinyon

pine trees and native vegetation. The Walker River Paiute Tribe expressed concern that sensitive cultural resources may be impacted from both wildfires and management/suppression efforts. Refer to the analysis of potential impacts to Cultural Resources in Section 3.2.3.2, in addition to Public Health and Safety in Section 3.4.3.2, Water Resources in Section 3.5.3.2, Visual Resources in Section 3.6.3.2, and Geological Resources in Section 3.7.3.2, below.

3.2.3 Environmental Consequences

Analysis of potential impacts to cultural resources considers both direct and indirect impacts. Direct impacts may be the result of physically altering, damaging, or destroying all or part of a resource, altering characteristics of the surrounding environment that contribute to the importance of the resource, introducing visual, atmospheric, or audible elements that are out of character for the period the resource represents (thereby altering the setting), or neglecting the resource to the extent that it deteriorates or is destroyed. Indirect effects to historic properties are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and the potential for increased number and intensity of wildfires would continue. Tribally important pinyon trees would be at risk for fire impacts. Wildfire management actions described in the WFMP would not occur leading to the continued risk of impacts to sensitive cultural resources. Although implementation of the No Action Alternative would result in adverse impacts to cultural resources, impacts would be less than significant.

3.2.3.2 Implementation of the NAS Fallon WFMP (Preferred Alternative) Potential Impacts

Under the Proposed Action, implementation of the WFMP would include, but is not limited to vegetation fuels management including invasive weed control, fire breaks and/or fuel breaks, and post-fire restoration and maintenance. The BLM Final Programmatic EIS for Fuel Breaks in the Great Basin (BLM, 2020) contains a detailed analysis of wildland fire management treatment effects on cultural resources (BLM, 2020, Section 4.9.2). The descriptions for potential impacts from implementing the Proposed Action at the FRTC below are consistent with BLM's findings.

Use of Herbicide. Wildfire management activities could include herbicide application that has the potential to impact archaeological sites by altering or contaminating organic materials or by leaving traces on artifacts and features that might otherwise be used for scientific analyses. If mechanical means of invasive plant control is most appropriate, then that would be the first method used. The Navy would use herbicides in situations where their use is most appropriate. Herbicides would have less potential for impacts than mechanical or manual treatments. This is because the intended use of herbicides selected would target invasive annual grasses in archaeological sites without disturbing the ground. The Navy will comply with the NAS Fallon IPMP (Navy, 2020b) and herbicide label recommendations would be followed. Direct impacts to cultural resources from the use of herbicides would be avoided through implementation of Impact Avoidance and Minimization Measures listed in Section 3.9. Prior to herbicide application, an inventory of sensitive resource areas (including cultural resources) would be mapped

Cultural Resources Potential Impacts:

- Herbicide application has the potential to impact archaeological sites by altering or contaminating organic materials or by leaving traces on artifacts and features that might otherwise be used for scientific analyses.
- Less than significant impacts to cultural resources through managed vegetation and use of fuel/fire breaks.

using GIS available to the licensed herbicide applicators and pilots. Applicators would avoid contact with sensitive resources. Herbicide would not be applied during windy days or if there is rain, snow, or fog. Licensed applicators would carry a spill kit capable of containing and preventing release of chemical into sensitive resource areas.

Gathering of plant materials remains an important activity within the APE. Although herbicides have a low acute toxicity to humans because the physiology of plants is so different than that of humans (Penn State, 2009), any treated vegetation (such as pinyon nuts) should be rinsed before consumption. NAS Fallon would notify adjacent landowners prior to treatment. Signs would be installed in treatment areas during activities for public safety. Herbicide would be applied within the designated area only and would not be applied within 150 feet of sensitive resources (guzzlers, ponds, open water) or on food sources such as pinyon pines and junipers. Refer to the analysis of potential impacts to Public Health and Safety in Section 3.4.3.2., and Water Resources in Section 3.5.3.2.

Fire/Fuel Breaks. Fuel breaks and associated construction and maintenance activities could directly affect the physical integrity and visual setting of cultural resources. Indirect effects can result from erosion or increased visibility of archaeological resources, thus making them more susceptible to vandalism and illegal artifact collection. The potential for impacts would vary by fuel break type, width of disturbance, methods employed, and local environmental conditions like soil type. The proposed wildfire management actions are anticipated to result in long-term benefits on archaeological resources by reducing the frequency and intensity of fires that lead to loss of vegetation and soil erosion. The Proposed Action would comply with the Construction General Permit (refer to Section 3.5, *Water Resources*) and a project specific stormwater pollution prevention plan would be prepared and implemented along with associated BMPs to minimize erosion resulting from construction activities (and post-construction stormwater/erosion management) and prevent transport of sediment downstream. Exposed slopes and disturbed areas would be revegetated and/or engineered to minimize the potential for soil erosion. Revegetation of bare soil would reduce the potential for the loss of topsoil to erosion. Refer to the analysis of potential impacts to Visual Resources in Section 3.6.3.2., and Geological Resources in Section 3.7.3.2.

Post-Fire Restoration and Maintenance. The Navy would restore lands damaged by fire through seeding using vegetation known to be more fire-resistant. In this case, non-native species are identified because native species have not been shown to be effective in fire management. DoD installations within the Great Basin (e.g., Dugway Proving Grounds and Hill Air Force Base, both in Utah), utilize kochia and other non-natives and it has been documented that this type of vegetation can limit or stop fires, but also helps with natural restoration over time by out-competing cheat grass. Native ecosystems are important, and the Navy's intent is to first protect them via the use of beneficial non-native species and then restore them as much as possible.

The Preferred Alternative would reduce the potential for degradation to pinyon-juniper woodlands in and outside of the FRTC, resulting in a positive impact to these resources highly valued by Tribes. The WFMP would provide greater opportunities for protection and restoration of native plant communities and aiding in the protection of wildlife habitat. No adverse effects to cultural resources would occur. Therefore, implementation of the Preferred Alternative would not result in significant impacts to cultural resources.

3.3 Air Quality

This discussion of air quality includes criteria pollutants, standards, sources, permitting, and greenhouse gases (GHGs). Air quality in a given location is defined by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors, including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions.

Most air pollutants originate from human-made sources, including mobile sources (e.g., cars, trucks, buses) and stationary sources (e.g., factories, refineries, power plants), as well as indoor sources (e.g., some building materials and cleaning solvents). Air pollutants are also released from natural sources such as volcanic eruptions and forest fires.

3.3.1 Regulatory Setting

3.3.1.1 Criteria Pollutants and National Ambient Air Quality Standards

The CAA is the primary federal statute governing the control of air quality. The CAA designates six pollutants as "criteria pollutants" for which the U.S. Environmental Protection Agency (USEPA) has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. The criteria pollutants are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone, suspended particulate matter less than or equal to 10 microns in diameter (PM₁₀), fine particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}), and lead. CO, SO₂, NO₂, lead, and some particulates are emitted directly into the atmosphere from emissions sources. Ozone and some NO₂ and particulates are formed through atmospheric chemical reactions from other pollutant emissions (called precursors) that are influenced by weather, ultraviolet light, and other atmospheric processes.

Although several pollutants listed as criteria air pollutants can be found in smoke, particulate matter is typically of most concern from a health and visibility standpoint and is a primary pollutant resulting from the combustion of fuels during wildfires and prescribed fires. Studies indicate that about 90 percent of smoke particles emitted during wildland fires are less than 10 microns in diameter and about 90 percent of the particles emitted are less than 2.5 microns in diameter (National Wildlife Coordinating Group as cited in BLM, 2020).

NAAQS are classified as primary or secondary. Primary standards protect against adverse health effects; secondary standards are designed to protect public welfare, such as prevent damage to farm crops, vegetation, and buildings. Some pollutants have long-term and short-term standards. Short-term standards are designed to protect against acute, or short-term, health effects, while long-term standards were established to protect against chronic health effects.

States may also establish their own ambient air quality standards that are more stringent than those set by federal law. Nevada maintains its own ambient air quality standards. The Nevada Administrative Code Chapter 445B, Section 22097 provides details regarding the state ambient air pollution standards in consideration of public health, safety, and welfare.

Areas that are in compliance with the NAAQS are designated as attainment areas. Areas that do not meet NAAQS for criteria pollutants are designated "nonattainment areas" for that pollutant.

Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are also required to adhere to maintenance plans to ensure continued attainment.

The CAA requires states to develop a general plan to attain and maintain the NAAQS in all areas of the country and a specific plan for each non-attainment or maintenance pollutant (including the pollutant's precursor) to achieve (non-attainment) or maintain (maintenance) compliance with the appropriate NAAQS for that pollutant. These plans, known as State Implementation Plans, are developed by state and local air quality management agencies, and submitted to the USEPA for approval.

In addition to the NAAQS for criteria pollutants, national standards exist for hazardous air pollutants (HAPs), which are regulated under Section 112(b) of the 1990 CAA Amendments. The *National Emission Standards for Hazardous Air Pollutants* regulate HAP emissions from stationary sources (40 CFR part 61).

3.3.1.2 Mobile Sources

HAPs emitted from mobile sources are called Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and non-road equipment that are known or suspected to cause cancer or other serious health and environmental effects. In 2001, USEPA issued its first MSAT Rule, which identified 201 compounds as being HAPs that require regulation. A subset of six of the MSAT compounds was identified as having the greatest influence on health and included benzene, butadiene, formaldehyde, acrolein, acetaldehyde, and diesel particulate matter. More recently, USEPA issued a second MSAT Rule in February 2007, which generally supported the findings in the first rule and provided additional recommendations of compounds having the greatest impact on health. The rule also identified several engine emission certification standards that must be implemented (40 CFR parts 59, 80, 85, and 86; Federal Register Volume 72, No. 37, pp. 8427–8570, 2007). The final Tier 3 Motor Vehicle Emission Standards were published on April 28, 2014 (Federal Register Volume 79, No. 81, pp.23414-23886, 2014), and established both tailpipe and evaporative emission standards for on road vehicles to reduce a variety of pollutants, including the primary MSATs. Unlike the criteria pollutants, there are no NAAQS for benzene and other HAPs. The primary control methodologies for these pollutants for mobile sources involves reducing their content in fuel and altering the engine operating characteristics to reduce the volume of pollutant generated during combustion.

3.3.1.3 General Conformity

The USEPA General Conformity Rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. Because the Main Station and FRTC areas covered under the Proposed Action are located in an attainment area, the General Conformity Rule does not apply and is not carried forward for further analysis.

3.3.1.4 Permitting

New Source Review (Preconstruction Permit)

New major stationary sources and major modifications at existing major stationary sources are required by the CAA to obtain an air pollution permit before commencing construction. There are no new or modified stationary sources associated with the Proposed Action. As a result, stationary source permitting is not carried forward in the air quality analysis.

Fugitive Dust

Nevada Administrative Code 445B.22037 requires a permit when the surface area disturbance exceeds five acres.

3.3.1.5 Greenhouse Gases

GHGs are gas emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities. The climate change associated with this global warming is producing negative economic and social consequences across the globe.

On August 1, 2016, CEQ, published *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Reviews* (CEQ, 2016), which recommends that agencies consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change effects on a proposed action. The guidance counsels agencies to use the information developed during the NEPA review to consider alternatives that would make the actions and affected communities more resilient to the effects of a changing climate and outlines special considerations for agencies analyzing biogenic carbon dioxide sources and carbon stocks associated with land and resource management actions under NEPA.

EO 14008, *Tackling the Climate Crisis at Home and Abroad* (Federal Register Vol 86, No. 19, pp. 7619-7633, 2021) instructs agency heads to prepare Climate Action Plans for their agency operations. The Department of the Navy Climate Action Plan (Navy, 2022c) details the Navy goals to meet the requirements of EO 14008 and EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (Federal Register Vol. 86, No. 236 pp. 70935-70943, 2021). These goals include 65 percent reductions in GHG emissions by 2030, acquiring 100 percent zero-emission light-duty vehicles by 2027, achieving a 50 reduction in GHG emissions from buildings by 2032, diverting at least 50 percent of non-hazardous solid waste from landfills by 2025, instituting nature-based resilience to reduce GHG emissions, and establishing energy resilience to ensure mission accomplishment.

3.3.2 Affected Environment

The affected environment for the air quality analysis at NAS Fallon is Churchill County, which is located in the northwest portion of the state and extends over 4,930 square miles (National Association of Counties, 2013). NAS Fallon is located in the Lahontan Valley, which lies at an elevation of 3,934 feet above mean sea level (SkyVector, 2013). The area climate is warm during summer when the temperatures tend to be in excess of 90 degrees Fahrenheit (°F) and somewhat cold during the winter when temperatures tend to be in the 40s °F. Temperature variations between night and day tend to be relatively large due to low humidity. During summer the difference can reach 39 °F, being more moderate during winter with an average difference of 28 °F. The annual average precipitation in Fallon is 5.3 inches. Rainfall is fairly evenly distributed throughout the year. Fallon gets around 7-8 inches of snow annually. It also can experience heavy fog in winter, known as pogonip. For air quality planning purposes, Nevada has three jurisdictional entities. Washoe and Clark counties administer air quality programs within each of their perspective jurisdictions. The remaining 15 rural counties are administered by the Nevada Department of Environmental Protection (NDEP).

The Main Station and the FRTC are located in Churchill County, which is one of the 15 rural counties that fall under NDEP for air quality planning and compliance. Churchill County is in attainment for all of the criteria pollutants (40 CFR 81.329).

Current stationary sources at NAS Fallon include abrasive blasting units, air handling units, generators, and fuel storage (NAS Fallon, 2012).

NAS Fallon operates under a Class II Air Quality Operating Permit (Permit AP9711-0293.04) (NDEP, 2021) that includes air quality requirements for air handling units, fuel storage tanks, an abrasive media blast booth, fuel burning equipment, internal combustion engines (e.g., diesel emergency power generators), and concrete batch plant equipment. Class II permits typically are for facilities that emit less than 100 tons per year for any one regulated pollutant and emit less than 25 tons per year total HAP and emit less than 10 tons per year of any one HAP.

PM_{2.5} is the most significant of the criteria pollutants in relation to fire and the pollutant of most concern for fire managers (National Wildfire Coordinating Group as cited in BLM, 2020). PM_{2.5} poses the greater risk to human health because the small size of the particles can cause respiratory and heart problems, particularly in sensitive populations (EPA 2018b as cited in BLM, 2020). Notably, PM_{2.5} is directly emitted into the atmosphere from combustion sources such as wildfire. The larger particles in PM₁₀ are of less concern to human health, but they can be a localized source of reduced visibility in the form of windblown dust. In the region, wildfires are a significant contributor of particulate pollutants, especially from June through October, when smoke from wildfires is most abundant (BLM, 2020).

3.3.3 Environmental Consequences

The ROI for assessing air quality impacts is the County in which the project is located, Churchill County, Nevada, which is in attainment for all criteria pollutants.

Potential impacts to air quality are evaluated with respect to the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation.

Air Quality Potential Impacts:

- Risk of wildfires and short-term reduced air quality would continue unabated.
- No significant impacts to air quality identified with implementation of WFMP.

3.3.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to baseline air quality. Because the WFMP would not be implemented, the risk of wildfire occurrence would continue, and is presumed to increase. As a result, local and regional air quality could be negatively impacted for some period of time if a sizeable wildfire were to occur. This risk would continue for as long as no wildland fire management systems are in place, but any increased negative impacts would be temporary. Therefore, although implementation of the No Action Alternative would result in adverse impacts to air quality, impacts would be less than significant.

3.3.3.2 Implementation of the NAS Fallon Wildland Fire Management Plan (Preferred Alternative) Potential Impacts

Implementation of the WFMP would involve fire prevention/presuppression activities; invasive weed control, creation of fire breaks and fuel breaks; and post-fire restoration and maintenance at NAS Fallon and in the FRTC.

Wildland fires on the FRTC can be started by a range of military activities (e.g., flares, ordnance, pyrotechnics, missile simulators, generators, engine sparks, aircraft crashes) as well as by nonmilitary activities (e.g., camping, hiking, off-highway vehicles, target shooting, power lines, construction, vehicle accidents) and by naturally occurring ignition sources (i.e., lightning).

The identified wildland fire management activities would involve the use of nonroad equipment, such as bulldozers for the clearing of vegetation; trucks used for the application of herbicides or seed, for the

removal of culled vegetation from the area, and as wildland fire management personnel transportation to work areas in the FRTC; and aircraft, either fixed wing or helicopter, for the application of herbicide. All of these activities would result in the combustion of fossil fuels and generate criteria pollutant, HAP and GHG emissions. However, the activities are each limited in scope, discontinuous, and spread out over a very large area. Some activities, such as the establishment of fuel or firebreaks would involve more activity the first year than in subsequent years, when the maintenance of the breaks would involve comparatively minimal use of vehicles and equipment.

The creation of fuel and/or firebreaks would require that the Navy obtain a fugitive dust permit, in accordance with Nevada Administrative Code 445B.22037, which requires a permit when the surface area disturbance exceeds five acres.

In addition to herbicides being reviewed and approved by the NAVFAC SW Pest Management Consultant, the herbicides that would be applied by aircraft or vehicle would also be reviewed to ensure none are considered HAPs (USEPA, 2022a).

Although there would be short-term effects from the mechanical and chemical alteration of vegetation, implementation of the WFMP would result in long-term benefits to air quality. Wildfires are a major contributor to carbon dioxide (CO₂), fine particulate matter (PM₁₀, PM_{2.5}) and other harmful constituents. The proposed wildfire management measures would reduce the frequency and intensity of wildfires regionally. Therefore, implementation of the Preferred Alternative would not result in significant impacts to air quality.

Greenhouse Gases

Removal of vegetation would result in short-term GHG emissions from equipment and vehicle fuel combustion and loss of stored carbon, while in the long-term, the removal of vegetation may prevent larger losses of stored carbon that would result from wildfires. The introduction of fire-resistant vegetation could also create additional long-term stored carbon from the vegetation that would be removed. Emissions of GHGs from equipment and nonroad mobile sources from implementing the Proposed Action alone would not cause appreciable global warming that would lead to climate changes. However, these emissions would increase the atmosphere's concentration of GHGs, and in combination with past and future emissions from all other sources, contribute incrementally to the global warming that is producing the adverse effects of climate change.

3.4 Public Health and Safety

This discussion of public health and safety includes consideration for any activities, occurrences, or operations that have the potential to affect the safety, well-being, or health of members of the public. A safe environment is one in which there is no, or optimally reduced, potential for death, serious bodily injury or illness, or property damage. The primary goal is to identify and prevent potential accidents or impacts on the general public. Public health and safety concerns within this EA address information pertaining to community emergency services, construction activities, operations, and environmental health and safety risks to children.

Community emergency services are organizations which ensure public safety and health by addressing different emergencies. The three main emergency service functions include police, fire and rescue service, and emergency medical service.

Public health and safety during construction, demolition, and renovation activities is generally associated with construction traffic, as well as the safety of personnel within or adjacent to the construction zones.

Operational safety may refer to the actual use of the facility or built-out proposed project, or training or testing activities and potential risks to inhabitants or users of adjacent or nearby land and water parcels. Safety measures are often implemented through designated safety zones, warning areas, or other types of designations.

Environmental health and safety risks to children are defined as those that are attributable to products or substances a child is likely to come into contact with or ingest, such as air, food, water, soil, and products that children use or to which they are exposed.

3.4.1 Regulatory Setting

Aircraft safety is based on the physical risks associated with aircraft flight. Military aircraft fly in accordance with Federal Aviation Regulations Part 91, General Operating and Flight Rules, which govern such things as operating near other aircraft, right-of-way rules, aircraft speed, and minimum safe altitudes. These rules include the use of tactical training and maintenance test flight areas, arrival and departure routes, and airspace restrictions as appropriate to help control air operations. In addition, naval aviators must also adhere to the flight rules, Air Traffic Control, and safety procedures provided in Navy guidance.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to “make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children and shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.”

The Proposed Action would involve the aerial application of herbicides. Pesticide regulations include the following:

- Federal: 40 CFR Section E, 152-180: Pesticide Programs.
- DoD, Navy, and Marine Corps: DoDI 4150.07, DoD Pest Management Program; OPNAVINST 6250.4C, Navy Pest Management Programs; OPNAVINST 5090.1E, Environmental Readiness Program; MCO 5090.2, Environmental Compliance and Protection Program.
- Nevada Revised Statutes 555, Control of Insects, Pests and Noxious Weeds; Nevada Administrative Code 555, Control of Insects, Pests and Noxious Weeds.
- The primary source of pesticide regulations for the pesticide applicator can be found on the pesticide label in accordance with 40 CFR § 156. Nevada may add supplementary labels which are regulations that must be complied with in the state. It is a violation of federal and/or state law to use a pesticide in a manner inconsistent with the label. For more on pesticide labels, see the USEPA’s Pesticide Labels website (<https://www.epa.gov/pesticide-labels>).
- Endangered Species Protection Bulletins set forth geographically specific pesticide use limitations for the protection of endangered or threatened species and their designated critical habitat. Refer to USEPA Bulletins Live website (<http://epa.gov/espp/bulletins.htm>).

3.4.2 Affected Environment

The ROI for public health and safety concerns covers the fire management areas in the FRTC within Navy-controlled lands, and the immediately adjacent lands. Areas of heightened sensitivity to public health and safety concerns within the ROI include areas where large groups of people may gather, for example, in recreational areas.

3.4.3 Environmental Consequences

The safety and environmental health analysis contained in the respective sections addresses issues related to the health and well-being of military personnel and civilians living on or in the vicinity of the Main Station and the FRTC. Specifically, this section provides information on hazards associated with the Main Station and the FRTC. Additionally, this section addresses the environmental health and safety risks to children.

Public Health and Safety Potential Impacts:

- Indirect exposure to herbicide through ingestion of treated vegetation.
- Indirect exposure to herbicide through ingestion of game foraging on treated vegetation.

3.4.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to public health and safety. By not implementing the wildfire management actions described in the WFMP, public health and safety remains at risk from wildfire; however, this current/historical risk is relatively low-level. Accordingly, implementation of the No Action Alternative would not result in new adverse impacts to public health and safety, and therefore would not result in significant impacts.

3.4.3.2 Implementation of the NAS Fallon Wildland Fire Management Plan (Preferred Alternative) Potential Impacts

The ROI for wildfire management activities described in the WFMP includes the Main Station and the area on the FRTC where fire prevention and presuppression actions would be implemented as presented on Figures 2-1 through 2-4. The area for wildfire suppression activities radiates outward from the origin of wildfires started at the FRTC.

Potential Impacts to Public Health from Fire Suppression

All fires on the FRTC are reported first to FRTC Range Control. Units training in the FRTC are directed to suppress ground fires started due to training per the FRTC Ground Training Guide (NAWDC, 2019 as cited in Navy, 2014). Units are directed to use water to extinguish the fire or to smother fires with soil/shovels outside of the bombing ranges. Off-range fires (at FRTC outside of the bombing ranges, including the DVTA) are reported immediately to 911 emergency. Other methods are also available to training units for reporting off-range fires in case cell phone connections are not possible. All fire reports are entered by Fed Fire into the National Fire Incident Reporting System, which includes wildland and fire investigation (Navy, 2022a).

When a fire is being fought by air, there are established priorities for protection (see Section 4.3 of the WFMP). All fires that are being fought have an incident command which ranges from a lead engine chief to a larger response when coordinating with other agencies. In these instances, having a Resource Advisor position who can provide information about natural and cultural resources can be valuable (see the WFMP, Appendix H). Additionally, having information about locations of hazards such as utilities and resources such as water can be beneficial (Navy, 2022a).

For “Class A” fires (paper, wood, grass) Fire Departments use either water, or water with class A foam (soap), which breaks the tension of the water to allow it to penetrate into the Class A fuel. For “Class B” fires that may involve an aircraft fire with large volumes of fuel and oil, flame retardants are generally used (Federal Fire Fallon, personal communication, April 14, 2022).

Some flame retardants are known to contain harmful chemicals such as per- and poly-fluoroalkyl substances (PFAS) and perfluorooctane sulfonate (PFOS). These chemicals present a public health and environmental issue facing communities across the U.S. PFAS have been manufactured and used in a variety of industries in the U.S. and around the globe since the 1940s, and they are still being used today. Because of the duration and breadth of use, PFAS can be found in surface water, groundwater, soil, and air; from remote rural areas to densely populated urban centers. (USEPA, 2021).

The NAS Fallon Fire Department previously used Aircraft Rescue Fire Fighting Foam (ARFF) that contained PFAS/PFOS. The ARFF has been replaced with a new formula. All of the new ARFF apparatus no longer have any of the old ARFF in the tanks. Only new ARFF tanks are in use (Federal Fire Fallon, personal communication, April 14, 2022). Regardless, flame retardants are restricted by NAS Fallon, the BLM, and other firefighting agencies from being used on open bodies of water (BLM Interagency Aviation Officer, personal communication, April 18, 2022).

The NAS Fallon Fire Department implements Minimum Impact Suppression Tactics during wildfire suppression efforts. Fuel breaks would be placed in carefully targeted locations along existing roads where they can aid fire suppression efforts and have minimal effects on ecosystem processes. Flame retardants would not be used in population centers or on open bodies of water including streams, ponds, and wildlife guzzlers.

Water sources for fighting fires (e.g., filling trucks, and developing ponds for dipping helicopter water buckets) would not include areas known to contain sensitive resources (e.g., Dixie Valley toad or Dixie Valley tui chub). These areas would be protected and not identified as water sources for firefighting activities.

Fire suppression responsiveness would be improved through interagency coordination. As discussed in the Fire Management Guidelines in the WFMP, responses to wildland fire would be coordinated across levels of government regardless of the jurisdiction at the ignition source. Fire management planning would be intergovernmental in scope and developed on a landscape scale. NAS Fallon and other agencies such as BLM would continue to utilize predictive modeling to identify high-fire-hazard areas that surround Navy assets and sensitive cultural and wildlife resources to assess adaptive management needs. The Navy does not anticipate any new public health and safety risks from the continued implementation and improvement of wildfire suppression on the FRTC.

Potential Impacts to Public Health from Pre-Fire Suppression Actions

The implementation of wildfire management activities such as hand and mechanized removal of vegetation (fire breaks and brownstripping) and restoration of vegetation (greenstripping) would not result in impacts to public health and safety. The Navy has determined that the Proposed Action has the potential to cause the following indirect environmental health and safety risks associated with the aerial application of herbicides.

In general, herbicides have a low acute toxicity to humans because the physiology of plants is so different than that of humans. However, there are exceptions; many can be dermal irritants since they are often strong acids, amines, esters, and phenols. Inhalation of spray mist may cause coughing and a

burning sensation in the nasal passages and chest. Prolonged inhalation sometimes causes dizziness (Penn State, 2009).

Over the past several years there have been numerous class action lawsuits against the manufacturers of glyphosate containing herbicides over alleged links to non-Hodgkin lymphoma (Healthline, 2022). Glyphosate is a widely used herbicide that controls broadleaf weeds and grasses. It has been registered as a pesticide in the U.S. since 1974. Since glyphosate's first registration, the USEPA has reviewed and reassessed its safety and uses, including undergoing registration review, a program that re-evaluates each registered pesticide on a 15-year cycle. In January 2020, after receiving and considering public comments the USEPA released an interim decision for registration review. As part of this action, USEPA continues to find that there are no risks of concern to human health when glyphosate is used in accordance with its current label. USEPA also found that glyphosate is unlikely to be a human carcinogen (USEPA, 2022b).

Quantitative Human Health and Ecological Risk Assessments for herbicides used by the U.S. Department of Agriculture Forest Service for noxious weed control (SERA, 2004, 2011a, 2011b) generally conclude that exposure concerns for herbicide application workers is minimal, and for members of the general public, the only non-accidental exposure scenario of concern is for acute exposure involving the consumption of contaminated vegetation shortly after application.

It is unlikely humans would be directly exposed to aerial application of any herbicides chosen for use by the Navy's Pest Control Manager and the Pest Control Contractor. Wildfire Management activities to prevent wildfires would occur on the FRTC away from population centers. Access to recreational areas at FRTC such as Fairview Peak and Horse Creek and elsewhere on the FRTC are anticipated to be temporarily closed during implementation of wildland fire management activities, such as aerial application of herbicides. This would include a restriction on public access for hunting or gathering vegetation as food sources (such as pinyon nuts, juniper berries, etc.) following herbicide application. Closure or delays to accessing FRTC recreational areas are anticipated to be short-term, and intermittent as wildfire management measures are implemented. Herbicide would not be applied during windy days or if there is rain, snow, or fog. Licensed applicators would carry a spill kit capable of containing and preventing release of chemical into the surrounding environment.

NAS Fallon would notify adjacent landowners prior to treatment. Signs would be installed in treatment areas during activities for public safety. Herbicide would be applied within the designated area only and would not be applied within 150 feet of water sources (guzzlers, ponds, open water) or on food sources such as pinyon pines and junipers. NAS Fallon would follow proper herbicide handling, transport, storage, and disposal methods and precautions as defined by herbicide Safety Data Sheets. Refer to Section 3.9 for a list of all Impact Avoidance and Minimization Measures.

Indirect impacts to humans may occur through the ingestion of plants treated with herbicide or by consuming game that may have grazed on treated vegetation. Humans ingesting treated vegetation may experience adverse health effects such as nausea, vomiting, and diarrhea. Although herbicides have a low acute toxicity to humans because the physiology of plants is so different than that of human (Penn State, 2009), any treated vegetation (such as pinyon nuts) should be rinsed before consumption.

Humans ingesting game meat from animals directly exposed to herbicide, or indirectly exposed through foraging on vegetation treated with herbicide are not anticipated to experience adverse health effects. According to the Washington State Department of Transportation, studies show that herbicides are rapidly excreted in urine, the half-life for elimination from the blood of mammals are on the order of

several hours, and they do not bioaccumulate in tissues (Washington State Department of Transportation, 2017). Therefore, humans consuming game meat are not anticipated to experience adverse effect of bioaccumulation.

Implementation of avoidance measures such as restricting public access, posting signs, and notifying the public in advance of aerial application of herbicides would help to eliminate potential human exposure to herbicides. In addition, there would be long term benefits of reduced wildfires. Furthermore, the Navy has determined that there are no environmental health and safety risks associated with the Proposed Action that would disproportionately affect children. Therefore, implementation of the Preferred Alternative would not result in significant impacts to public health and safety.

3.5 Water Resources

This discussion of water resources includes groundwater, surface water, wetlands, and floodplains. This section also discusses the physical characteristics of wetlands, etc. Wetland and aquatic wildlife and vegetation are addressed in Section 3.1, Biological Resources.

Groundwater is water that flows or seeps downward and saturates soil or rock, supplying springs and wells. Groundwater is used for water consumption, agricultural irrigation, and industrial applications. Groundwater properties are often described in terms of depth to aquifer, aquifer or well capacity, water quality, and surrounding geologic composition. Sole source aquifer designation provides limited protection of groundwater resources which serve as drinking water supplies.

Surface water resources generally consist of wetlands, lakes, rivers, and streams. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale. A Total Maximum Daily Load is the maximum amount of a substance that can be assimilated by a water body without causing impairment. A water body can be deemed impaired if water quality analyses conclude that exceedances of water quality standards occur.

Wetlands are jointly defined by USEPA and U.S. Army Corps of Engineers (USACE) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands generally include “swamps, marshes, bogs and similar areas.”

Floodplains are areas of low-level ground present along rivers, stream channels, large wetlands, or coastal waters. Floodplain boundaries are most often defined in terms of frequency of inundation, that is, the 100-year and 500-year flood. Floodplain delineation maps are produced by the Federal Emergency Management Agency and provide a basis for comparing the locale of the Proposed Action to the floodplains. The analysis of floodplains considers if any new construction is proposed within a floodplain or may impede the functions of floodplains in conveying floodwaters. No new construction is proposed; therefore, floodplains are not further discussed in this analysis.

3.5.1 Regulatory Setting

The Safe Drinking Water Act is the federal law that protects public drinking water supplies throughout the nation. Under the Safe Drinking Water Act, the USEPA sets standards for drinking water quality. Groundwater quality and quantity are regulated under several statutes and regulations, including the Safe Drinking Water Act.

Through the National Pollutant Discharge Elimination System (NPDES) program, the CWA establishes federal limits on the amounts of specific pollutants that can be discharged into surface waters. The

NPDES program regulates the discharge of point (i.e., end of pipe) and nonpoint sources (i.e., stormwater) of water pollution.

The Nevada NPDES stormwater program requires construction site operators engaged in clearing, grading, and excavating activities that disturb one acre or more to obtain coverage under an NPDES Construction General Permit for stormwater discharges. Construction or demolition that necessitates an individual permit also requires preparation of a Notice of Intent to discharge stormwater and a Stormwater Pollution Prevention Plan that is implemented during construction. As part of the 2010 Final Rule for the CWA, titled *Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category*, activities covered by this permit must implement non-numeric erosion and sediment controls and pollution prevention measures.

The USACE regulates the discharge of dredge or fill material into wetlands under Section 404 of the CWA as a subset of all “Waters of the United States.” Waters of the United States is defined as (1) the territorial seas and traditional navigable waters, (2) tributaries, (3) certain lakes ponds, and impoundments, and (4) adjacent wetlands, and are regulated by USEPA and the USACE. The CWA requires that Nevada establish a Section 303(d) list to identify impaired waters and establish Total Maximum Daily Loads for the sources causing the impairment.

Section 404 of the CWA authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredge or fill material into wetlands and other Waters of the United States. Any discharge of dredge or fill material into Waters of the United States requires a permit from the USACE.

Section 438 of the Energy Independence and Security Act establishes storm water design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 feet² must “maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow.”

The National Wild and Scenic Rivers System was created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

EO 11990, *Protection of Wetlands*, requires that federal agencies adopt a policy to avoid, to the extent possible, long- and short-term adverse impacts associated with destruction and modification of wetlands and to avoid the direct and indirect support of new construction in wetlands whenever there is a practicable alternative.

EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, amends EO 11988 and establishes the Federal Flood Risk Management Standard to improve the nation’s resilience to current and future flood risks, which are anticipated to increase over time due to the effects of climate change and other threats.

3.5.2 Affected Environment

The following discussions provide a description of the existing conditions for each of the categories under water quality resources at the areas prioritized for wildfire management in the FRTC.

Water resources are a fundamental part of not only natural resources management but facility management generally at NAS Fallon due to the desert ecosystem and very limited water availability. Not only does that make the water resources essential to ecosystem services, protecting biodiversity and native species, but essential to the long-term sustainability of the military mission at NAS Fallon. Wetlands and aquatic habitats are some of the most productive habitats, and often provide important migration corridors for a variety of species. For a complete summary of water resources on NAS Fallon, including streams, ponds, and floodplains, refer to the INRMP, Section 3.6.7 (Navy, 2014).

3.5.2.1 Groundwater

Groundwater is water beneath the ground surface in soil pore spaces and in the fractures of rock formations. An unconsolidated rock deposit functions as an aquifer when it can yield a usable quantity of water. Lahontan Valley lies above three alluvial aquifers and a basalt aquifer beneath a volcanic feature called Rattlesnake Hill. Fallon Basalt Aquifer below Carson Desert is the sole source of potable well water for the City of Fallon, NAS Fallon, and the Fallon Paiute-Shoshone Tribe. The study area is located within the Basin and Range Province, aquifers are generally not continuous, or regional, because of the complex faulting in the region. Water quality can vary substantially among adjacent aquifers. Shallow groundwater resulting from percolation of irrigation water tends to be high in dissolved salts (Tetra Tech 1996 as cited in Navy, 2014) and also contributes to high salt concentrations in the soil.

3.5.2.2 Surface Water

NAS Fallon is located within two surface water basins, Carson (Hydrologic Unit Code [HUC] 1605) and Central Nevada Deserts Basins (HUC 1606), both in the Great Basin Region. The eastern portions of NAS Fallon occur in the Dixie Valley Sub-Basin (HUC 16060001). Only a small part of B-19 occurs in the Gabbs Valley Sub-Basin (HUC 16060002) (Navy, 2014).

Range B-16 is within the Carson Desert Hydrographic Basin. Several major ephemeral stream channels converge to the northwest of B-16 and cross the training range as they flow toward Carson Lake. The area contains additional alluvial fans, valley bottomlands, alkali flats, sand dunes, and segments of three main irrigation canals. This area contains no perennial springs or streams, and no wells have been drilled for water supply. The water table beneath the bottomlands is believed to be shallow. The B-16 area is also a flood control area for the U.S. Bureau of Reclamation's Newlands Project due to periodic flood events (Navy, 2014).

The watershed of Fairview Valley is separated from the Dixie Valley by a low topographic divide that extends to the northwest from near the northeast corner of B-17. There are no perennial water bodies at B-17; however, water has been recorded as ponding on the playa within the range boundary during wet years (Navy, 2014).

B-19 and surrounding Navy-withdrawn lands straddle the Blow Sand Mountains, which form the topographic divide between Rawhide Flats and the Carson Desert. Water has been recorded as ponding on the playa within the range boundary during wet years (Navy, 2014).

There are no identified perennial waters within B-20. The Carson Sink is the lowest area in the Carson River drainage, so it may be inundated depending on rainfall; it floods on average every five years (Azad, 2008).

The DVTA encompasses portions of Dixie Valley and extends north to near Lovelock, Nevada. Dixie Valley is a closed hydrographic basin, which receives surface water from ephemeral streams to the north

and south and subsurface water from all connected basins, including the Fairview Valley. There are approximately 20 wells in the Settlement Area, many of which are free flowing. Many of these wells supply water to artificial ponds. Free-flowing wells and overflow from ponds have created wet meadow areas. There are approximately 10 ponds in the Dixie Valley area, remnants of past occupation by farmers and ranchers. Some of the ponds contain nonnative fish, brought in by early settlers, and amphibian populations. In addition, some ponds have served as dipping ponds for fire fighters. Additionally, the 760-acre Dixie Meadows Parcel is located nine miles north of the Settlement Area. There are hot springs at the north end of the parcel and cold springs at the southern end. BLM placed warning signs near the hot springs since the water is over 160 °F (Navy, 2014).

Numerous water developments for wildlife (including guzzlers) have been installed within B-17 by the NDOW, in conjunction with the Navy and others, to support large and small game hunting. There are eight wildlife guzzlers within five miles of Horse Creek. There are six wildlife guzzlers at B-17 with several more guzzlers within five miles of B-17 (Navy, 2014).

3.5.2.3 Wetlands

Wetland inventories were conducted on NAS Fallon in 1996-1997 and 2007 (Tetra Tech, 1996; Tierra Data, Inc. 2008 as cited in Navy, 2014). The inventory did not delineate jurisdictional (i.e., qualifying as 'Waters of the U.S.') versus non-jurisdictional wetlands. Six general wetland habitats were identified on NAS Fallon during focused inventories, corresponding to about 75 different wetland subtypes in the Cowardin system (Cowardin et al., 1979). A general description of each community is presented on page 3-47 and Appendix I of the 2014 Final INRMP (Navy, 2014).

Wetland habitat on B-16 is primarily composed of playas. Patches of riparian wetland are fairly extensive in the northern part of the range. Wetland habitat on B-17 is limited to playas and drainage channels that flow into the playas. Wetland habitat is limited on B-19 to playas except in the northwestern corner, which contains marsh, meadow, and playa habitat in the outflow from Stinking Springs. Stinking Springs is a small natural pond, less than one acre, found in the northwest corner of B-19. Range B-20 consists of a playa that covers more than 40,900 acres.

Horse Creek provides a relatively small but high-quality area of riparian and freshwater marsh wetlands composed of woody and herbaceous wetland species. The Navy has installed rock gabions in the streambed of Horse Creek to help control spring high water flows.

There are several areas within Dixie Valley that have wetland habitat. Most of the area has limited habitat consisting of manmade ponds and ditches, normally dry drainage channels, and small areas of moist-saline meadows and flats. The Settlement Road area provides extensive areas of marsh and meadow and flat habitat, in close association with lesser areas of other potential wetland types. Dixie Meadows has large areas of marsh, as well as some saline meadows and flats. Additionally, as previously described, there are hot springs at the north end of the Dixie Meadows. North Dixie Valley supports a large area of moist-saline meadows and flats, in association with smaller areas of other potential wetland habitats.

Non-jurisdictional wetlands on NAS Fallon are primarily associated with streams, channels, and ponds. Wetlands provide essential breeding, spawning, nesting, and wintering ground for numerous wildlife species. Wetlands also enhance the quality of surface waters by impeding erosive forces moving water and trapping waterborne sediment and associated pollutants. Per EO 11990, *Protection of Wetlands*, federal agencies are required to: "take action to minimize the destruction, loss or degradation of

wetlands, and to preserve and enhance the natural and beneficial values of wetlands.” It is also Navy policy to avoid adverse impacts on existing aquatic resources and to offset those adverse impacts that are unavoidable (OPNAVINST, 5090.1E). The INRMP incorporates the wetland management practices outlined in NAS Fallon’s INRMP.

3.5.3 Environmental Consequences

In this EA, the analysis of water resources looks at the potential impacts on groundwater, surface water, and wetlands from implementing the WFMP. Groundwater analysis focuses on the potential for impacts to the quality, quantity, and accessibility of the water. The analysis of surface water quality considers the potential for impacts that may change the water quality, including both improvements and degradation of current water quality. The impact assessment of wetlands considers the potential for impacts that may change the local hydrology, soils, or vegetation that support a wetland.

Water Resources Potential Impacts:

- Increased turbidity from erosion.
- Potential direct and indirect impacts to open water bodies.

3.5.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to baseline water resources. Wildfires could lead to loss of vegetation, and increased erosion, especially during stormwater events which could lead to turbidity and reduced water quality; however, the current/historical risk is relatively low-level. Accordingly, although implementation of the No Action Alternative would result in adverse impacts to water resources, such impacts would be less than significant.

3.5.3.2 Implementation of the NAS Fallon Wildland Fire Management Plan (Preferred Alternative) Potential Impacts

Groundwater

The proposed implementation of wildfire management actions described in the WFMP would not result in an increase of the current consumption of ground water supply. There is a potential for indirect impact to groundwater quality through improper use or disposal of herbicides. In order to avoid potential contamination of groundwater, herbicides would not be stored or disposed of in the treatment areas and would be applied by licensed applicators only. Herbicides would be used in a manner consistent with the label instructions. Only herbicides approved by the USEPA, the state of Nevada, and the NAS Fallon Authorized Use List in the IPMP would be used, and only according to manufacturer’s label directions. All label instructions pertaining to disposal would be followed. Impact avoidance and minimization measures in the NAS Fallon IPMP and the WFMP would be followed to avoid potential for indirect impacts to groundwater quality. Impact avoidance and minimization measures in Section 3.9 of this EA would also be followed.

Surface Water

As discussed in the Public Health and Safety section, fire suppression may involve the use of fire retardants on Class B fires involving the burning of petroleum-based fuel sources. The NAS Fallon Fire Department previously used ARFF that contained PFAS/PFOS. The ARFF has been replaced with a new formula. All of the ARFF apparatus no longer have any of the old ARFF containing PFAS/PFOS (Federal Fire Fallon, personal communication, April 14, 2022). Regardless, flame retardants are restricted by NAS

Fallon, the BLM, and other firefighting agencies from being used on open bodies of water (BLM Interagency Aviation Officer, personal communication, April 18, 2022).

During presuppression fire management activities, there is a potential for earth moving associated with fire breaks, brownstripping and greenstripping to result in soil erosion, especially in areas where vegetation has been removed to mineral soil. No grading or earthwork is proposed in or near open sources of surface water including creeks, ponds, and wildlife guzzlers. Most of the firebreaks would occur in upland areas away from open water bodies and riparian areas. BMPs would be followed to avoid erosion from stormwater runoff.

There is also a potential for open bodies of water to be impacted by aerial application of herbicides should the mist from the herbicide drift away from targeted vegetation. Direct effects to water quality from herbicides inadvertently contacting water during the application of the herbicide could include adverse effects to aquatic plants, invertebrates, fish, and amphibians, depending on the herbicide used, the amount of the herbicide coming into contact with the water, and how quickly it dilutes in water. The effects on aquatic organisms from the Proposed Action are anticipated to be minimal due to the low concentrations of any herbicides reaching the water, the relatively low toxicity and application rates of herbicides in use. There would be no application of herbicides directly to aquatic habitats.

Following the Impact Avoidance and Minimization Measures in Section 3.9, such as using lowest effective rates, applying application buffers, and preventing drift, would minimize or prevent potential contact with open water bodies.

Indirect effects to water quality (herbicide treated vegetation coming into contact with water or herbicide washing into the water source during a stormwater event) may include minor impacts to fish and aquatic insects, as identified in the previous paragraph. Surface waters that are indirectly contaminated are likely to contain herbicides at significantly lower concentrations than surface waters that may be inadvertently contaminated through direct application of herbicides.

Direct and indirect impacts to water quality would be avoided through implementation of Impact Avoidance and Minimization Measures listed in Section 3.9. Prior to herbicide application, an inventory of areas with surface water would be mapped using GIS available to the licensed herbicide applicator and pilots. Applicators would avoid contact with open water including wildlife guzzlers. Herbicide would not be applied within 150 feet of water sources (guzzlers, ponds, open water). Herbicide would not be applied during windy days or if there is rain, snow, or fog. Licensed applicators would carry a spill kit capable of containing and preventing release of chemical into adjacent water sources.

Wetlands

No grading or earthwork is proposed in or near potentially jurisdictional waters and wetlands. Application of herbicides would avoid potentially jurisdictional waters and wetlands as well as open water. Measures are indicated in the WFMP that enable fire managers to avoid damaging sensitive wetland habitats in both the process of fighting fires and in the process of planning fire response. Water sources used for fire suppression would not include the ponds in the Settlement Areas where the Dixie Valley tui chub occurs. Ponds and streams in the Northern Dixie Valley where the Dixie Valley toad occur would also be avoided. Areas identified as water sources for extinguishing fires would exclude sensitive wetland habitat areas where the Dixie Valley toad and Dixie Valley tui chub are known to occur. Measures are indicated in the WFMP that enable fire managers to avoid damaging these wetland habitats in both the process of fighting fires and in the process of planning fire response.

The proposed wildfire management actions would result in long-term benefits to water quality by reducing the frequency and intensity of fires that lead to loss of vegetation and soil erosion. Therefore, implementation of the Preferred Alternative would not result in significant impacts to water resources.

3.6 Visual Resources

This discussion of visual resources includes the natural and built features of the landscape visible from public views that contribute to an area's visual quality. Visual perception is an important component of environmental quality that can be impacted through changes created by various projects. Visual impacts occur as a result of the relationship between people and the physical environment.

3.6.1 Affected Environment

Visual resources consist of natural lands, both restricted and open to the public, including desert landscape, military lay down areas (including military equipment and container express [CONEX] boxes), mountainous areas, and sand dunes. The areas have a vast range in topography.

The road to B-17 and the DVTA is Historic U.S. Route 50 (also known as the "Lincoln Highway" and "The Loneliest Road in America," which traverses the U.S. from West Sacramento, California to Ocean City, Maryland, passing through numerous tourist attractions in Nevada such as, Carson City, Lake Tahoe, Great Basin National Park, and various ghost towns. B-17 also borders Nevada State Route 839 (also known as Nevada Scheelite Mine Road).

Horse Creek and the DVTA is located north of U.S. Route 50 and includes the Dixie Valley, the western slope of the Clan Alpine Mountains, and the eastern portion of the Stillwater Mountain Range. A significant portion of the DVTA is composed of remnant livestock and agricultural farmland with abandoned outbuildings, as well as training locations such as Centroid electronic warfare sites, and other training sites.

Portions of B-16 and B-19 are accessible along U.S. Route 95, also known as the Veteran's Memorial Highway south of the town of Fallon. Views along Route 95 include wide expanses of ranch and farmlands surrounding Carson Lake with Black Mountain, Pilot Cone, and Squaw Peak to the south. Large sand dunes are accessible at the south end of Pit Road off Route 50 on B-19.

3.6.2 Environmental Consequences

The evaluation of visual resources in the context of environmental analysis typically addresses the contrast between visible landscape elements. Collectively, these elements comprise the aesthetic environment, or landscape character. The landscape character is compared to the Proposed Action's visual qualities to determine the compatibility or contrast resulting from the buildout and demolition activities associated with the Proposed Action.

3.6.2.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would continue to be the possibility of fires and smoke presenting visual impacts; however, any such impacts would be short-term. Therefore, although implementation of the No Action Alternative would result in adverse impacts to visual resources, impacts would be less than significant.

Visual Resources Potential Impacts:

- Temporary impacts caused by the presence of earth moving equipment and dust.
- Long-term visual impacts from the addition of firebreaks/ or fuel breaks.
- Brownstripping and greenstripping may be visible from public viewing places such as highways.

3.6.2.2 Implementation of the NAS Fallon Wildland Fire Management Plan (Preferred Alternative) Potential Impacts

The site proposed for the Proposed Action and adjacent lands define the study area for visual resources analyses. Implementation of wildland fire management actions such as fire breaks, brownstripping and greenstripping may be visible from public viewing locations. Although, FRTC is an active military installation closed to the public, portions of the Ranges are visible to the public. Exposed soil at fire breaks, and changes to the color continuity in vegetation from brownstripping and greenstripping may be most visible near Fairview Peak from Highway 50, and Nevada State Route 839. Although the continuity of the high desert scrub habitat near Fairview Peak may be interrupted by the alteration of vegetation, impacted views would be short-term from a passing vehicle at prevailing speeds.

Although vegetation treatments may result in a short-term reduction of visual quality to those enjoying recreational opportunities in the area (off-road vehicles, hiking, etc.), the region would benefit in the long-term through the reduction of wildfires.

Visual impacts from brownstripping and greenstripping would be temporary. Sharp contrasts between treated and untreated areas would fade as vegetation takes root. To minimize visual impacts from more heavily traveled corridors, vegetation cuts would align with the slopes away from line of sight to the extent possible.

There is potential for temporary impacts caused by implementation of the Proposed Action which would include the presence of earth moving equipment and dust created from construction of firebreaks/or fuel breaks (greenstripping and brownstripping). Fire breaks are narrow strips, 10 to 30 feet wide, where vegetation is completely removed down to the soil. Fuel breaks typically consist of strips of area consisting of reduced vegetation. Fuel breaks typically are substantially wider than fire breaks. There is also a potential for long-term visual impacts caused by implementation of the Proposed Action which would be due to the addition of firebreaks/or fuel breaks.

The impacts from the construction of the firebreaks/or fuel breaks would be temporary and limited to viewers from adjacent roadways, agricultural parcels, and surrounding residents. The proposed firebreaks/or fuel breaks would represent a visible change in the high desert landscape. The addition of the fire breaks/or fuel breaks would be a miniscule visual change compared to the vast surrounding desert landscapes. The proposed wildfire management actions are anticipated to result in long-term benefits to visual resources by reducing the frequency smoke from fires and by improving to overall ecology and visual quality of the region. Therefore, implementation of the Preferred Alternative would not result in significant impacts to visual resources.

3.7 Topography, Geology, and Soils

This section discusses the existing conditions related to topography, geology, soils, and seismicity within the fire management area. Topography is typically described with respect to the elevation, slope, and surface features found within a given area. The geology of an area may include bedrock materials, mineral deposits, and fossil remains. The principal geological factors influencing the stability of structures are soil stability and seismic properties. Soil refers to unconsolidated earthen materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, and erodibility determine the ability for the ground to support structures and facilities. Soils are typically described in terms of their type, slope, physical characteristics, and relative compatibility or limitations.

3.7.1 Regulatory Setting

Laws and regulations applicable to geological resources include:

- Farmland Protection and Policy Act of 1981 (7 U.S.C. section 4201 et seq.)
- Earthquake Hazards Reduction Act of 1977 (42 U.S.C. section 7701 et seq.)
- Federal Cave Resources Protection Act of 1988 (16 U.S.C. section 4301 et seq.)
- Paleontological Resources Preservation Act of 2009 (16 U.S.C. section 470aaa et seq.)
- Unified Facilities Criteria (UFC) (e.g., section UFC 3-220-01 [Geotechnical Engineering], section UFC 3-310-04 [Seismic Design of Buildings], and section UFC 3-220-10N [Soil Mechanics])

3.7.2 Affected Environment

The following discussions provide a description of the existing geological conditions at the FRTC fire management area.

3.7.2.1 Topography

The Main Station is situated in the central portion of the Carson Desert commonly referred to as the Lahontan Valley and is bordered by gently sloping alluvial foothills bordering adjacent mountains. The topography at Main Station is generally flat, with elevations ranging from 3,917 to 3,949 feet (1,192 to 1,204 meters) above mean sea level. The FRTC Ranges surrounding the Main Station are located generally on the valley floor in the Carson Sink, Carson Desert and Dixie Valley (Navy, 2014). Nearby mountain ranges include the West Humboldt Range, Stillwater Range, and the Clan Alpine Mountains. Elevation ranges from 4,000 to 9,800 feet (1,200 to 3,000 meters) on Fairview Peak on B-17.

Geological Resources Potential Impacts:

- Temporary disturbance of soils.
- Potential for increase in erosion.

3.7.2.2 Geology

The fire management areas in the FRTC are located within the Great Basin physiographic province distinguished by its fault-block controlled basin-and-range structure, interspersed with interior playas. There are more than 300 isolated mountain ranges within the Great Basin, mostly oriented north-south, with narrow, intervening valleys and playas. The rocks of the Basin and Range Province are largely igneous (volcanic) metamorphic (mostly from uplift) and sedimentary associated with mass erosion (Stewart et al, 1978 as cited in Navy, 2020a).

3.7.2.3 Soils

Soils at NAS Fallon and the surrounding area are salt-affected, resulting in saline, sodic, alkali, alkaline, saline-alkali, and saline-sodic conditions. The NAS Fallon area includes the lake-bed sediments of Pleistocene Lake Lahontan. As an internally drained basin, the Lahontan Basin receives the dissolved solids that are the result of leaching in the watershed. As surface water from spring floods evaporates on the broad, nearly level, alluvium-filled valley floors, salts are left behind to accumulate in the soil profile. Since streams do not drain from the valleys and evaporation exceeds precipitation, the salts are not leached by natural drainage. The pH of these soils is high due to accumulation of calcium, magnesium, potassium, and especially sodium in the soil profile due to insufficient leaching (Navy, 2014). None of the soils found within the fire management areas are associated with prime or unique farmland.

For a detailed description of soil types located on the Main Station and the FRTC, refer to the INRMP, Appendix G (Navy, 2014).

3.7.2.4 Geologic Hazards

NAS Fallon is within seismic hazard Zone 4, which indicates the highest level of seismic activity. Visible fault scarps are located in Dixie and Fairview valleys, east of the Stillwater Range. The Proposed Action does not involve construction of any new structures that may be impacted by seismic activity; therefore, geologic hazards are not discussed further in this EA.

3.7.3 Environmental Consequences

Geological resources are analyzed in terms of topography, soils, drainage, and erosion. The analysis of topography and soils focuses on the area of soils that would be disturbed, the potential for erosion of soils from construction areas, and the potential for eroded soils to become pollutants in downstream surface water during storm events. BMPs are identified (in Section 3.9) to minimize soil impacts and prevent or control pollutant releases into stormwater.

3.7.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to baseline geology, topography, or soils. Wildfires could lead to loss of vegetation, and increased erosion, especially during stormwater events which could lead to turbidity and reduced water quality and loss of slope stability; however, the risk of any such impacts would be consistent with current/historic levels, and any such impacts should be relatively low-level. Accordingly, although implementation of the No Action Alternative would result in adverse impacts to topography, geology, and soils, impacts would be less than significant.

3.7.3.2 Implementation of the NAS Fallon WFMP (Preferred Alternative) Potential Impacts

Under the Proposed Action, the Navy would implement wildfire management actions that would include the removal of targeted nonnative vegetation such as cheatgrass that increase the spread of wildfire. Native vegetation would also be removed to create fire breaks and brownstripping. The loss of vegetation could lead to the soil erosion, potentially affecting the stability of slopes, as well as the productivity of the soil itself thereby impairing revegetation efforts. To minimize the potential impact to soils and topography, the final project design would include engineered measures to stabilize the cut slopes, protect and revegetate exposed surfaces, and reduce/convey stormwater in a controlled manner. Alteration of topography would be minimal using existing roads and disturbed areas to the extent possible. This would avoid altering existing drainage patterns.

The Proposed Action would comply with the Construction General Permit (refer to Section 3.5, *Water Resources*) and a project specific stormwater pollution prevention plan would be prepared and implemented along with associated BMPs to minimize erosion resulting from construction activities (and post-construction stormwater/erosion management) and prevent transport of sediment downstream.

Exposed slopes and disturbed areas would be revegetated and/or engineered to minimize the potential for soil erosion. Revegetation of bare soil would reduce the potential for the loss of topsoil to erosion. The proposed wildfire management actions are anticipated to result in long-term benefits to geological resources by reducing the frequency and intensity of fires which lead to the loss of vegetation and

increased soil erosion. Therefore, implementation of the Preferred Alternative would not result in significant impacts to topography, geology, or soils.

3.8 Environmental Justice

USEPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (USEPA, 2022c).

3.8.1 Regulatory Setting

Consistent with EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), the Navy's policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations. In addition, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, enacted in 1997, directs federal agencies to identify and assess environmental health and safety risks to children, coordinate research priorities on children's health and ensure that their standards take into account special risks to children.

3.8.2 Affected Environment

EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, was issued in 1994. It stipulates that each federal agency is to make achieving environmental justice a part of its mission by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. DoD's Strategy on Environmental Justice (DoD, 1995) also established actions for addressing environmental justice in NEPA documents.

For the purpose of this evaluation, minority refers to people who identified themselves in the census as Black or African American, Asian, Hawaiian or Pacific Islander, American Indian or Alaskan Native, other non-White races, or as being of Hispanic or Latino origin. Persons of Hispanic and Latino origin may be of any race (CEQ, 1997b). The CEQ identifies these groups as minority populations when either (1) the minority population of the affected area exceeds 50 percent or (2) the minority population percentage in the affected area is meaningfully greater than the minority population percentage in the general population or the geographic region of comparison (most often the State in which the affected area is part of). The geographical unit for comparison in this analysis is the State of Nevada.

U.S. Census Bureau data on the racial and ethnic composition of the area in 2020 is summarized in Table 3-2. Overall, the majority of the area is white. The City of Fallon has a higher percentage of minority populations than Churchill County. Both the City of Fallon and Churchill County have a lower percentage of minority populations and Hispanics than the State of Nevada.

Native American tribes living closest to NAS Fallon include the Fallon Paiute-Shoshone Tribe of the Fallon Reservation and Colony, which is located 2 miles northeast of the City of Fallon. In addition, the Walker River Paiute Tribe is located within southwestern Churchill County (Navy, 2018).

Table 3-2 Percent Race and Ethnicity

<i>Jurisdiction</i>	<i>White</i>	<i>Black/African American</i>	<i>American Indian/Alaska Native</i>	<i>Asian</i>	<i>Native Hawaiian/Other Pacific Islander</i>	<i>Hispanic or Latino Origin*</i>
City of Fallon	81.2%	4.9%	1.8%	3.9%	0.0%	8.5%
Churchill County	78.6%	2.6%	4.9%	2.8%	0.1%	14.4%
Nevada	62.1%	9.3%	1.2%	8.3%	0.7%	28.9%

Notes: Data presented reflects most reported race and ethnicity categories; percentages may not add to 100 percent due to rounding.

*Hispanic origin may be of any race.

Source: U.S. Census Bureau, 2020b.

Table 3-3 presents data on low-income families and individuals in the area. The percentage of low-income families in the City of Fallon with incomes below poverty level (based on family size and composition) is greater than for Churchill County and the State of Nevada. The percentage of individuals with incomes below the poverty level in the City of Fallon is greater than for Churchill County. Both the City of Fallon and Churchill County have percentages of low-income families and individuals below that for the state.

Table 3-3 Percent Low-Income

<i>Jurisdiction</i>	<i>Families Below Poverty Level</i>	<i>Total Households Below Poverty Level</i>
City of Fallon	11.4%	11.6%
Churchill County	10.0%	10.9%
Nevada	6.0%	8.5%

Source: U.S. Census Bureau, 2020a.

Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was issued in 1997 to identify and address issues that affect the protection of children. Children may suffer disproportionately more environmental health and safety risks than adults because of various factors such as: children’s neurological, digestive, immunological, and other bodily systems are still developing; children eat more food, drink more fluids, and breath more air in proportion to their body weight than adults; children’s behavior patterns may make them more susceptible to accidents because they are less able to protect themselves; and children’s size and weight may diminish their protection from standard safety features.

The percentage of children under the age of 18 is less in the City of Fallon than for Churchill County and the State of Nevada (Table 3-4). Churchill County has an equal percentage of children as the State of Nevada.

Table 3-4 Percent under the Age of 18

<i>Jurisdiction</i>	<i><Age 18</i>
City of Fallon	22.6%
Churchill County	22.7%
Nevada	22.7%

Source: U.S. Census Bureau, 2020a.

NAS Fallon is located within the Churchill County School District. The school district provides K-12 education, and all of the schools are located in the City of Fallon, approximately 6 miles northwest of NAS Fallon. The school district includes six schools, as well as a distance learning program that operates through an online-based curriculum and a homeschooling program (Churchill County School District, 2022). Children are present in the housing and personnel support areas of NAS Fallon.

3.8.3 Environmental Consequences

This analysis focuses on the potential for a disproportionate and adverse exposure of specific off-base population groups from the potential consequences discussed in the previous sections of this chapter.

3.8.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no affect to environmental justice. By not implementing the wildfire management actions described in the WFMP, the affected community would remain at risk from wildfire; however, the risk of any such impacts would be consistent with current/historic levels, and any such impacts should be relatively low-level. Accordingly, although implementation of the No Action Alternative would result in adverse impacts to environmental justice, impacts would be less than significant.

3.8.3.2 Implementation of the NAS Fallon WFMP (Preferred Alternative) Potential Impacts

The study area for environmental justice analysis for the Proposed Action includes the Main Station, the FRTC and adjacent lands.

Under the Proposed Action, the implementation of the WFMP would take place either on base property or on Navy-controlled withdrawn lands. The percentage of minorities is less than 50 percent in both the census tract encompassing NAS Fallon and throughout the City of Fallon and surrounding areas. Both the City of Fallon and Churchill County have a lower percentage of Hispanics and minority populations generally than the State of Nevada, but higher percentages of American Indians.

Implementation of the Proposed Action would not cause disproportionately high and adverse human health or environmental effects on any minority, low-income populations, or the safety of children. Despite this finding the Navy has embarked on robust community outreach and tribal engagement programs as part of the EA process and would continue to engage with affected communities. Therefore, implementation of the Preferred Alternative would not result in significant impacts to environmental justice.

3.9 Summary of Potential Impacts to Resources and Impact Avoidance and Minimization

A summary of the potential impacts associated with each of the alternatives and impact avoidance and minimization measures are presented in Tables 3-5 and 3-6, respectively.

Environmental Justice Potential Impacts:

- Implementation of the Preferred Alternative would not cause disproportionately high effects on any minority, low-income populations, or the safety of children.
- Beneficial impact to local populations from wildfire risk reduction.

Table 3-5 Summary of Potential Impacts to Resource Areas

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action</i>
Biological Resources	Less Than Significant Impact. Continued establishment of nonnative, invasive vegetation such as cheatgrass thereby increasing the risk of more frequent and intense wildfires.	Less Than Significant Impact. Temporary, direct impacts to vegetation from fire breaks, brownstripping and greenstripping. Temporary, direct impacts to wildlife from loss of habitat. Indirect impacts to wildlife ingesting herbicide treated vegetation. Long-term benefits to biological resources from reduced frequency and intensity of wildfires. The only federally listed endangered species with a potential to occur within the FRTC is the Dixie Valley toad (<i>Anaxyrus williamsi</i>). Dixie Valley toads are confined to the isolated spring complexes and adjacent marsh areas within the Dixie Meadows parcel. Dixie Meadows is considered a low fire risk area and is not prioritized for any fire prevention activities; therefore, the WFMP proposed actions do not have the potential to affect the Dixie Valley toad. If an action is proposed that has the potential to affect the Dixie Valley toad, the Navy will enter into consultation with the USFWS pursuant to Section 7 of ESA. Avoidance and minimization measures would restrict herbicide and other wildfire management activities in Dixie Meadows. Because no herbicide application and no wildfire management activities would occur in Dixie Meadows, the Navy currently assumes there would be no adverse effect to Dixie Valley toad. In the event that an unanticipated wildfire affects the Dixie Valley toad and/or Dixie Valley toad habitat, or if it is reasonably foreseeable that such a fire will do so, the Navy would initiate emergency consultation with USFWS concerning such effects on the species in accordance with 50 CFR 402.05. An assessment of any potential to impact Dixie Valley toad will be updated following the completion of consultation with the USFWS.
Cultural Resources	Less Than Significant Impact. Unmanaged vegetation and insufficient fuel/fire breaks would increase the potential for spread of fire and pose threats to cultural resources such as pinyon trees and native grasses.	Less Than Significant Impact. Management actions would not affect cultural resources. Within the FRTC, 305 Inventories have been conducted covering approximately 22,808 acres. In total, the inventories have documented 639 cultural properties. Avoid known cultural resources. Long-term benefits to regional cultural resources from reduced frequency and intensity of wildfires.

<i>Resource Area</i>	<i>No Action Alternative</i>	<i>Proposed Action</i>
Air Quality	Less Than Significant Impact. Continuation of existing conditions would have potential to cause minor negative impacts to air quality.	Less Than Significant Impact. Management actions would generate temporary and negligible emissions in the area prioritized for fire management. No significant impacts to air quality identified with implementation of WFMP. Long-term benefits to air quality resources from reduced frequency and intensity of wildfires.
Public Health and Safety	Less Than Significant Impact. Continuation of existing conditions would retain the existing fire-related threats to people and property.	Less Than Significant Impact. As part of management actions, the Navy would restrict public access, post signs, and notify the public in advance of aerial application of herbicides to eliminate potential human exposure to herbicides. Long-term benefits to public health and safety from reduced frequency and intensity of wildfires that escape the FRTC.
Water Resources	Less Than Significant Impact. Continuation of existing conditions would continue to contribute to the loss of vegetation from wildfire potentially leading to erosion, stormwater runoff and negative impacts to water quality.	Less Than Significant Impact. Management actions would result in localized erosion and dispersants of chemicals, which could lead to temporary and negligible water resource impacts by following proper application protocols. Long-term benefits to water resources from reduced frequency and intensity of wildfires which lead to vegetation loss, erosion, and stormwater impacts.
Visual Resources	Less Than Significant Impact. Continuation of existing conditions would retain the existing risk of smoke with the potential to negatively impact visual conditions.	Less Than Significant Impact. Temporary and localized impacts caused by the presence of earth moving equipment and dust. Long-term visual impacts from the addition of firebreaks/ or fuel breaks. Brownstripping and greenstripping may be visible from public viewing places such as highways. Long-term benefits to visual resources from reduced frequency and intensity of wildfires.
Topography, geology, and soils	Less Than Significant Impact. Continuation of existing conditions would retain the existing level of fire-related contributions to loss of vegetation, erosion, stormwater runoff and impact to geologic resources.	Less Than Significant Impact. Temporary and minor disturbance of soils during management actions. Long-term benefits to geological resources from reduced frequency and intensity of wildfires that lead to vegetation loss, erosion, and slope instability.
Environmental Justice	Less Than Significant Impact. Continuation of existing conditions would retain the existing level of fire-related risks to environmental justice communities.	Less Than Significant Impact. There would be a beneficial impact to local populations from implementation of the WFMP as it would reduce risk of wildfires and potential loss to the community. Long-term benefits to effected communities from reduced frequency and intensity of wildfires.

Notes: ESA = Endangered Species Act; FRTC = Fallon Range Training Complex; USFWS = U.S. Fish and Wildlife Service; WFMP = Wildland Fire Management Plan

Table 3-6 Impact Avoidance and Minimization Measures

The following avoidance and minimization measures apply to various and multiple resource areas as noted in column 2.

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Implementation of the NAS Fallon Wildland Fire Management Plan (Preferred Alternative)				
Comply with the Objectives, Guidelines and Requirements of the WFMP.	Protection of biological, cultural, water and geological resources; public health and safety and range safety. Reduction of wildfire and overall improvement of ecology. Minimize impacts to these resources. Compliance with the WFMP.	Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor and Navy	Completion of implementation and monitoring activities
Comply with the requirements of the NAS Fallon 2020 IPMP with particular emphasis on Pest Management Objectives and Program Requirements (Ch 1), Qualifications, Training and Reporting (Ch 2), Regulatory Requirements (Ch 3 & App F), Health and Safety Requirements (Ch 4), Environmental Consideration (Ch 5), and Emergency Resources (Ch 6).	Protection of biological, cultural, water and geological resources; public health and safety and range safety. Compliance with IPMP and applicable regulations.	Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor and Navy	Completion of implementation activities
Comply with all applicable Federal, State, and local regulations for vegetation control measures. Apply the most stringent interpretation of specification, law, regulation, or label direction if a contradiction among them is found concerning application of the proposed chemicals.	Protection of biological, cultural, water and geological resources; public health and safety and range safety. Compliance with WFMP, IPMP, and applicable regulations.	Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor and Navy	Completion of implementation activities
The contractor would hold a current Nevada Commercial Applicator License.	Protection of biological, cultural, water and geological resources; public health and safety and range safety. Compliance with IPMP and applicable regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Pilots would meet certification requirements of the Federal Aviation Administration Regulations aerial application of pesticides.	Protection of public health and safety and range safety. Compliance with Federal Aviation Administration, IPMP, FRTC Regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Avoid spilling or leakage of oil or fuel, from sources such as portable pumps, into water sources or soils.	Protection of biological, cultural, water and geological resources; public health and safety and range safety. Compliance with CWA, ESA, Toxic Substances Control Act (TSCA), EO 13148, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Use caution when operating pumps or engines with foaming agents to avoid contamination of water sources.	Protection of biological, cultural, water and geological resources; public health and safety and range safety. Compliance with CWA, ESA, TSCA, EO 13148, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Herbicide would be applied within the designated area only.	Prevent stormwater pollution, runoff sedimentation. Protection of biological, cultural, water and geological resources, public health and safety and range safety. Compliance with WFMP, CWA, ESA, MBTA, TSCA, EO 13148, FRTC regulations.	Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor	Completion of implementation activities
Avoid treating nontargeted vegetation.	Protection of biological resources, public health and safety. Compliance with WFMP, ESA, MBTA, EO 13045.	Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor and Navy	Completion of implementation activities
Aerial application of herbicide would not occur during migratory bird breeding season from March 1 through August 31.	Protection of biological resources. Compliance with WFMP, ESA, MBTA.	From March 1 through July 31.	Wildfire control contractor	Completion of implementation activities
Herbicides would be applied by licensed applicators only, and only according to manufacturer's label directions.	Protection of biological, water and geological resources; public health and safety and range safety. Compliance with WFMP, CAA, CWA, ESA, EO 13148, EO 13045, IPMP, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Herbicides would not be stored or disposed of in the treatment areas	Protection of biological, water and geological resources; public health and safety and range safety. Avoid potential contamination of groundwater, and all label instructions pertaining to disposal would be followed to avoid potential for indirect impacts to groundwater quality. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, NHPA, TSCA.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
All proposed herbicides must be on the NAS Fallon Authorized Use List. The types of herbicides used must be approved by the DoD, by the Navy, and by the State of Nevada for the intended purpose and project site.	Protection of biological, water and geological resources; public health and safety and range safety. Compliance with IPMP and applicable regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Prior to herbicide application, an inventory of areas with surface water would be mapped using GIS available to the licensed herbicide applicator and pilots.	Protection of biological, water and geological resources; public health and safety and range safety. Compliance with IPMP, WFMP, CWA, ESA.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Herbicides or other wildfire management activities described in the WFMP would not be used in Dixie Meadows	Protection of Dixie Valley toad, and other biological resources, water and geological resources; public health and safety and range safety. Compliance with IPMP, WFMP, CWA, ESA.	During wildfire management activities.	Wildfire control contractor and Navy	
Herbicide would not be applied during windy days or if there is rain, snow, or fog.	Protection of biological, water and geological resources; public health and safety and range safety. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Licensed applicators would carry a spill kit capable of containing and preventing release of chemical into adjacent water sources. Prepare a spill contingency plan in advance of treatment. Have it readily available during mixing and loading operations.	Protection of biological, water and geological resources; public health and safety and range safety. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Each location where aerial application of herbicide is proposed would be scheduled by Range Control.	Protection of public health and safety and range safety. Compliance with IPMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Follow approved procedures for cleanup of accidental spills as defined by herbicide Safety Data Sheets.	Protection of biological, water and geological resources; public health and safety and range safety. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Ensure proper exposure control and personal protection is provided as defined by herbicide Safety Data Sheets.	Protection of public health and safety and range safety. Compliance with EO 13148, EO 13045, IPMP, MBTA, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Apply restrictions and design features in applicable land use plans and land use plan amendments.	Protection of public health and safety and range safety/WFMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Develop resource-specific buffer distances and apply seasonal restrictions based on site-specific conditions, best available science, applicable land use plan guidance, and professional judgement.	Protection of biological, water and geological resources, public health and safety and range safety. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
If any design features in this EA conflict with state or local BLM guidance, defer to state or local guidance.	Protection of biological, water and geological resources, public health and safety and range safety. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Fuel breaks would be constructed in locations to best meet the goals of the WFMP and can be effectively monitored and maintained. They would be placed in a way that is strategically appropriate for fire suppression, while minimizing short- and long-term impacts on other resources.	Protection of biological, water and geological resources, public health and safety and range safety. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, TSCA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
During fuel break design and implementation, the location, such as topography for project screening, minimal disturbance, and consideration of visual contrasts with the surrounding landscapes, would be considered. For example, vegetation may be drill seeded in a serpentine pattern or using drill modifications, such as minimum-or-no-till drills, slick discs, and drag chains, so that drill rows are not apparent.	Protection of visual and biological resources. Compliance with WFMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Use best available science when designing and implementing fuel breaks.	Protection of visual and biological resources. Compliance with WFMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Where feasible, fuel breaks would be constructed where vegetation disturbance by wildland fire or surface-disturbing activities has already occurred.	Protection of visual and biological resources. Compliance with WFMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
If special status plant or animal populations and their habitats occur in a proposed treatment area, assess the area for habitat quality and base the need for treatment on special status species present. Conduct appropriately timed surveys within suitable or potential habitats for federally listed, proposed, and BLM special status species prior to treatment.	Protection of biological resources. Compliance with ESA, MBTA, BGEPA, INRMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Implement restrictions and conservation strategies for special status species, including federally listed, proposed, candidate, and BLM sensitive species, as contained in approved recovery and conservation plans, cooperative agreements, and other instruments in whose development the BLM has participated. If none are available, coordinate with the USFWS and/or state wildlife agencies to develop appropriate restrictions.	Protection of biological resources. Compliance with ESA, MBTA, BGEPA, INRMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Avoid creating new barriers to big game movement in migratory corridors.	Protection of biological resources. Compliance with INRMP.		Wildfire control contractor	Completion of implementation activities
Prohibit fuel break construction and maintenance in sage-grouse breeding habitat during the breeding season.	Protection of biological resources. Compliance with INRMP, MBTA.		Wildfire control contractor	Completion of implementation activities
Restrict activities in big game habitat during the following periods, unless short-term exemption is granted by the BLM field office manager, in coordination with the appropriate state wildlife agency (dates may be determined based on local conditions): big game wintering; elk/deer calving/fawning; pronghorn calving/fawning; and bighorn sheep lambing. No activities would occur in Desert bighorn sheep critical habitat during lambing periods (April – July).	Protection of biological resources. Compliance with INRMP.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Complete surveys for migratory bird and raptor nesting activity and establish a seasonal buffer around raptor nests. Avoid fuel break construction and maintenance during the peak of the local nesting season in the study area for priority migratory land bird species (e.g., Birds of Conservation Concern, BLM sensitive species). Specific dates and buffer distances for the seasonal restrictions may be determined in coordination with the USFWS Migratory Bird Division and/or state wildlife management agency, and should be based on species, variations in nesting chronology of particular species locally, topographic considerations, such as an intervening ridge between the treatment activities and a nest, or other factors that are biologically reasonable.	Protection of biological resources. Compliance with ESA, MBTA, BGEPA.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Aerial seeding treatments and aerial application of herbicides would be avoided within one mile of active American bald and ½ mile of active golden eagle nests during the nesting season. Avoidance distances would be determined by the amount of screening provided by vegetation or topographic features.	Protection of biological resources. Compliance with ESA, MBTA, BGEPA.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Avoid removal or disturbance to old growth trees, such as old growth pinyon-juniper.	Protection of biological resources. Compliance with WFMP.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Power wash all vehicles and equipment prior to allowing them to enter the study area and between sites where invasive and noxious weed species are different to minimize the introduction and spread of invasive plant species.	Protection of biological resources. Compliance with ESA, MBTA, INRMP.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Pick up and properly dispose of trash.	Protection of biological resources. Compliance with ESA, MBTA, INRMP.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Aerial herbicide treatments would be designed to avoid chemical drift into the riparian exclusion area or other aquatic species-specific buffers.	Protection of biological and water resources. Compliance with WFMP, ESA, MBTA, BGEPA, IPMP, CWA.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Applicators would avoid contact with open water including wildlife guzzlers.	Protection of biological and water resources. Compliance with ESA, MBTA, IPMP, CWA.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Herbicide would not be applied within 150 feet of water sources (guzzlers, ponds, open water).	Protection of biological and water resources. Compliance with ESA, MBTA, IPMP, CWA.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Notify adjacent landowners prior to aerial application of herbicide.	Protection of public health and safety. Compliance with CAA, CWA, EO 13148, EO 13045, IPMP, TSCA.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Public access would be restricted during aerial application of herbicides.	Protection of public health and safety. Compliance with CAA, CWA, EO 13148, EO 13045, IPMP, TSCA.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Signs would be installed in treatment areas during activities for public safety.	Protection of public health and safety. Compliance with CAA, CWA, EO 13148, EO 13045, IPMP, TSCA.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Minimize Soil Loss: The final project design would include engineering controls to stabilize cut slopes and exposed surfaces to minimize soil loss and impacts to surface water quality. Runoff would not be directed to adjacent wetlands.	Prevent stormwater pollution, runoff sedimentation, and erosion/ No indirect impacts to resources from erosion. Compliance with CWA, UFC 3- 210-10, Low LID, and EISA, FRTC regulations.	During wildfire management activities. Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
BMPs such as use of straw wattles and silt fencing would be used to minimize potential erosion on cut slopes.	Protection of biological, geological and water resources. Prevent stormwater pollution, runoff sedimentation, and erosion. No indirect impacts to resources from erosion. Compliance with CWA, UFC 3- 210-10, Low LID, and EISA, FRTC regulations.	During wildfire management activities. Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor	Completion of implementation activities
The contractor would comply with the Construction General Permit and would develop and implement site-specific stormwater BMPs. The BMPs would include the type, placement, and maintenance of erosion control features to be used during and following demolition and construction activities to ensure no impacts to nearby wetlands.	Protection of biological, geological and water resources Prevent runoff, sedimentation, and erosion / BMPs work as designed. Compliance with CWA, UFC 3- 210-10, Low LID, and EISA, FRTC regulations.	During wildfire management activities. Include controls in project design plans. Periodically maintain and monitor.	Wildfire control contractor	Completion of implementation activities
Minimize ground-disturbing treatments in areas with highly erosive soil.	Protection of visual impacts, and biological, geological and water resources. BMPs work as designed. Compliance with CWA, UFC 3- 210-10, Low LID, and EISA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Use BMPs and soil conservation practices during project design and implementation to minimize sediment discharge into streams, lands, and wetlands from such treatments as mowing, disking, and seeding. This is to protect designated beneficial uses.	Protection of visual impacts, and biological, geological and water resources. Compliance with WFMP, UFC 3- 210-10, Low LID CWA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Soils, site factors, and timing of application must be suitable for any ground- based equipment used for creating a fuel break. This is to avoid excessive compaction, rutting, or damage to the soil surface layer. Equipment would be used on the contour, where feasible.	Protection of biological, geological and water resources, and range safety. Compliance with WFMP, CWA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
For safety and to protect site resources, treatment methods involving equipment generally would not be applied on slopes exceeding 35 percent.	Protection of biological, geological and water resources, and range safety. BMPs work as designed; Compliance with WFMP, CWA, UFC 3- 210-10, Low LID, and EISA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Bare soil portions of fuel breaks adjacent to roadways would not exceed 25 feet on either side of the roadway.	Protection of biological, geological and water resources. BMPs work as designed. Compliance with WFMP, CWA, UFC 3- 210-10, Low LID, and EISA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Implement Minimum Impact Suppression Tactics during wildfire suppression efforts.	Protection of biological, cultural, water and geological resources, public health and safety and range safety. Compliance with WFMP, CWA, ESA, EO 13148, FRTC regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities
Fuel breaks would be placed in carefully targeted locations along existing roads where they can aid fire suppression efforts and have minimal effects on ecosystem processes.	Protection of biological, cultural, water and geological resources, public health and safety and range safety. Compliance with WFMP, CWA, ESA, MBTA, TSCA, EO 13148, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
Consider the maintenance or rehabilitation of existing fuel breaks before new fuel breaks are constructed.	Protection of biological, water and geological resources; public health and safety and range safety. Compliance with WFMP, CWA, ESA, MBTA, NHPA, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
During times of high fire danger, all equipment would be equipped with a functional spark arrestor. Operators would be required to have, at a minimum, a shovel and a working fire extinguisher on hand.	Public health and safety and range safety. Compliance with WFMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor and Navy	Completion of implementation activities

<i>Measure</i>	<i>Anticipated Benefit / Evaluating Effectiveness</i>	<i>Implementing and Monitoring</i>	<i>Responsibility</i>	<i>Estimated Completion Date</i>
Do not drop retardant or other suppressants near surface waters.	Protection of biological, water and geological resources; public health and safety and range safety. Avoid potential contamination of surface and groundwater. Compliance with CAA, CWA, ESA, EO 13148, EO 13045, IPMP, MBTA, NHPA, TSCA.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities
All project personnel would be required to attend an environmental training prior to initiating Project construction. The training would address environmental concerns and stipulations and requirements for compliance with the project.	Protection of biological, cultural, water and geological resources; public health and safety and range safety. Compliance with WFMP, FRTC regulations.	During wildfire management activities.	Wildfire control contractor	Completion of implementation activities

Notes: BGEPA = Bald and Golden Eagle Protection Act; BLM = Bureau of Land Management; BMPs = Best Management Practices; CAA = Clean Air Act; CWA = Clean Water Act; DoD = Department of Defense; EISA = Energy Independence and Security; ESA = Endangered Species Act; EO 13045, Executive Order, Protection of Children from Environmental Health Risks and Safety Risks; EO 13148 = Executive Order, Greening the Government Through Leadership in Environmental Management; FRTC Regulations = Applicable Fallon Range Training Complex Regulations; GIS = Geographic Information Systems; INRMP = Integrated Natural Resource Management Plan; IPMP = Integrated Pest Management Plan; LID = Low Impact Development; MBTA = Migratory Bird Treaty Act; NAS = Naval Air Station; NHPA = National Historic Preservation Act; TSCA = Toxic Substances Control Act; UFC = Unified Facilities Criteria; U.S. = United States; USFWS = U.S. Fish and Wildlife Service; WFMP = Wildland Fire Management Plan

4 Cumulative Impacts

This section (1) defines cumulative impacts, (2) describes past, present, and reasonably foreseeable future actions relevant to cumulative impacts, (3) analyzes the incremental interaction the Proposed Action may have with other actions, and (4) evaluates cumulative impacts potentially resulting from these interactions.

4.1 Definition of Cumulative Impacts

The approach taken in the analysis of cumulative impacts follows the objectives of NEPA, CEQ regulations, and CEQ guidance. Cumulative impacts are defined in the 2022 NEPA updates, under 40 CFR section 1508.1(g)(3) as “effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.”

To determine the scope of environmental impact analyses, agencies shall consider cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact analysis document.

In addition, CEQ and USEPA have published guidance addressing implementation of cumulative impact analyses—*Guidance on the Consideration of Past Actions in Cumulative Effects Analysis* (CEQ, 2005) and *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (USEPA, 1999). CEQ guidance entitled *Considering Cumulative Impacts Under NEPA* (1997a) states that cumulative impact analyses should

“...determine the magnitude and significance of the environmental consequences of the Proposed Action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts...[and]...focus on truly meaningful impacts.”

Cumulative impacts are most likely to arise when a relationship or synergism exists between a Proposed Action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions.

- Does a relationship exist such that affected resource areas of the Proposed Action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the Proposed Action and another action could be expected to interact, would the Proposed Action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

4.2 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this EA, the fire management area

delimits the geographic extent of the cumulative impacts analysis. In general, the fire management area includes those areas previously identified in Chapter 3 for the respective resource areas. The time frame for cumulative impacts centers on the timing of the Proposed Action.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the Proposed Action, the analysis employs the measure of “reasonably foreseeable” to include or exclude other actions. For the purposes of this analysis, public documents prepared by federal, state, and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions include notices of intent for EISs and EAs, management plans, land use plans, and other planning related studies.

4.3 Past, Present, and Reasonably Foreseeable Actions

This section focuses on past, present, and reasonably foreseeable future projects at and near the Proposed Action locale. In determining which projects to include in the cumulative impacts analysis, a preliminary determination was made regarding the past, present, or reasonably foreseeable action. Specifically, using the first fundamental question included in Section 4.1, it was determined if a relationship exists such that the affected resource areas of the Proposed Action (included in this EA) might interact with the affected resource area of a past, present, or reasonably foreseeable action. If no such potential relationship exists, the project was not carried forward into the cumulative impacts analysis. In accordance with CEQ guidance (CEQ, 2005), these actions considered but excluded from further cumulative effects analysis are not catalogued here as the intent is to focus the analysis on the meaningful actions relevant to informed decision-making. Projects included in this cumulative impacts analysis are listed in Table 4-1 and briefly described in the following subsections.

Table 4-1 Cumulative Action Evaluation

<i>Action</i>	<i>Level of NEPA Analysis Completed/Project Status</i>
<i>Past Actions</i>	
Fallon Range Training Complex Modernization	EIS completed Jan. 2020
BLM Final Programmatic EIS for Fuel Breaks in the Great Basin	EIS completed in Mar. 2020
BLM Final Programmatic EIS for Fuels Reduction and Rangeland Restoration in the Great Basin	EIS completed in Nov. 2020
<i>Present and Reasonably Foreseeable Future Actions</i>	
Fallon Range Training Complex Modernization	The land expansion component was approved by congress in December 2022.
Implementation of the INRMP	Ongoing

Notes: BLM = Bureau of Land Management; EIS = Environmental Impact Statement; INRMP = Integrated Natural Resource Management Plan

4.3.1 Past Actions

BLM Final Programmatic EIS for Fuels Reduction and Rangeland Restoration in the Great Basin. In 2020, BLM completed a Programmatic EIS which analyzed several options for carrying out fuel reduction

and rangeland restoration projects on public land within portions of California, Idaho, Nevada, Oregon, Utah and Washington (BLM, 2020). This Programmatic EIS functions in tandem with the BLM's Fuel Breaks Programmatic EIS to protect intact rangelands and restoration investments.

The purpose of this project is to enhance the long-term function, viability, resistance, and resilience of sagebrush communities through vegetation treatments to protect, conserve, and restore sagebrush communities in the project area. Functioning and viable sagebrush communities provide multiple-use opportunities for all user groups as well as habitat for sagebrush-dependent species.

Intact sagebrush communities are disappearing within the Great Basin due to the interactions of increased wildfires, the spread of invasive annual grasses, and the encroachment of pinyon-juniper. Restoration treatments such as fuels reduction and revegetation are needed to retain and increase intact sagebrush communities and improve their ability to resist annual grass invasion and recover from disturbance such as wildfire.

The Fuels Reduction Programmatic EIS is used by individual BLM offices to review local data and develop projects that adhere to the guidance of the Programmatic EIS or whether new NEPA analysis is needed.

BLM Final Programmatic EIS for Fuel Breaks in the Great Basin. In 2020, BLM also completed a Programmatic EIS for Fuel Breaks in the Great Basin (BLM, 2020). The Programmatic EIS analyzed the proposed use of manual, mechanical, and chemical treatments, targeted grazing, and prescribed fire to construct and maintain fuel breaks on BLM-administered lands in the Great Basin. The study area boundary includes portions of California, Idaho, Nevada, Oregon, Utah, and Washington. It includes all surface management and covers approximately 223 million acres; of these acres, BLM-administered lands cover approximately 90 million acres.

4.3.2 Present and Reasonably Foreseeable Actions

Fallon Range Training Complex Modernization. This project is both a past project and a reasonably foreseeable project. In 2020, NAS Fallon completed an EIS for the renewal and expansion of the Fallon Range Training Complex Modernization (Navy, 2020a). The EIS analyzed the environmental impacts of modernization to include: 1) renewal of the Navy's current public land withdrawal, 2) land range expansion through the additional withdrawal of public lands and the acquisition of non-federal land, 3) airspace expansion and modifications, and 4) upgrades to range infrastructure. Aviation and ground training would not increase from the types and tempos currently conducted. The Navy signed a Record of Decision on March 12, 2020. The selected alternative involved the renewal of 201,762 acres of the current federal land withdrawal, withdrawal of an additional 600,564 acres of federal land, and the purchase of 66,551 acres of non-federal lands to retain and expand the range complex. Implementation requires Congressional approval. Congress approved renewal of the previous FRTC public land withdrawals in Fiscal Year 2021 National Defense Authorization Act, but did not initially authorize expansion of the FRTC. However, Congress approved expansion of the FRTC in the Fiscal Year 2023 NDAA in December 2022. Congress' approval authorizes full operational use of the modernized ranges, but only after relevant land acquisition, airspace modifications, and follow-on relocations of Nevada Route 361 and the Great Basin Pipeline Company's natural gas pipeline have been completed, which would ideally occur by 2027. Initial operational use of individual modernized ranges would occur as land acquisition, and road and pipeline relocation make it possible to use these areas. The existing Bravo ranges and FRTC airspace would remain operational throughout the expansion.

Ongoing Implementation of the INRMP. The most recent update to the INRMP for NAS Fallon was completed in 2014 (Navy, 2014). The plan fulfills the requirements for the INRMP in accordance with the Sikes Act (16 U.S.C. sections 670a *et seq.*), as amended, DoD Instruction 4715.03, and OPNAVINST 5090.1D. The INRMP was prepared and reviewed in coordination with U.S. Department of Interior, USFWS, and NDOW. The purpose of the INRMP is to provide NAS Fallon with a viable framework for future management of natural resources on lands it owns or controls.

4.4 Cumulative Impact Analysis

Where feasible, the cumulative impacts were assessed using quantifiable data; however, for many of the resources included for analysis, quantifiable data is not available, and a qualitative analysis was undertaken. In addition, where an analysis of potential environmental effects for future actions has not been completed, assumptions were made regarding cumulative impacts related to this EA where possible. The analytical methodology presented in Chapter 3, which was used to determine potential impacts to the various resources analyzed in this document, was also used to determine cumulative impacts.

4.4.1 Biological Resources

4.4.1.1 Description of Geographic Study Area

The ROI for cumulative impact analysis for biological resources includes the Main Station and FRTC and adjacent lands containing similar habitats and species.

4.4.1.2 Relevant Past, Present, and Future Actions

The past, present, and reasonably foreseeable actions include military training (e.g., air-to-ground munitions training, ground training, and military overflights), construction projects, road development, vegetation management, fire suppression, livestock grazing, mining, and recreation. The FRTC Modernization would involve construction and training activities that have the potential to impact wildlife and their habitat both directly and indirectly. The NAS Fallon INRMP would not include activities that adversely impact wildlife and their habitat, but rather manages NAS Fallon lands to balance the military mission with conservation. The fuel management on lands managed by BLM would involve the removal of vegetation to install fuel breaks as well as chemical control of vegetation to reduce the threat of wildland fire.

4.4.1.3 Cumulative Impact Analysis

Cumulative biological resource impacts from past, present, and future actions within the ROI may include ground disturbance, the removal of native vegetation and habitat resulting in the loss of sensitive plants and displacement of wildlife species. Construction associated with the FRTC Modernization could result in direct and indirect impacts to wildlife and their habitat from vegetation removal and noise. Training including bombing exercises and low-level flight exercises would also result in potential impacts to wildlife and their habitat. As part of the mitigation for FRTC Modernization, the management of proposed expansion areas would require extensive updates to wildlife management plans, including the NAS Fallon INRMP, which would be revised to include management practices for special-status species, and other future actions pertaining to the expansion areas as identified in the Record of Decision for the FRTC Modernization. To the maximum extent possible and if compatible with mission training requirements, the Navy would avoid placing targets in “Biologically Sensitive Areas” as

identified by NDOW. Low level flight exercises would include seasonal timing restrictions to avoid impacts to bighorn sheep during lambing season and greater sage grouse during breeding and nesting season, among other restrictions presented in the FRTC Modernization EIS. The proposed WFMP plan would further reduce wildlife impacts by reducing the spread of wildfire from training exercises.

The implementation of NAS Fallon's INRMP including updates required by the FRTC Modernization would benefit habitat and wildlife management lands held and used by NAS Fallon. The creation of fuel reduction and fuel breaks on adjacent BLM lands may result in short term impacts to wildlife and their habitat; however, these actions would have long-term benefits to wildlife by reducing the frequency and intensity of wildfires. Additional indirect and direct impacts to wildlife could occur from BLM's aerial application of herbicides. These impacts are anticipated to be temporary and less than significant because BLM would comply with impact avoidance and minimization measures similar to those described in Table 3-6. Implementing the NAS Fallon WFMP would improve the Navy's opportunities to respond to wildfires throughout the FRTC and would improve overall ecology in the region by reducing fire frequency and intensity. It would also help prevent fires from adversely impacting vegetation and wildlife on lands outside of the FRTC. The NAS Fallon WFMP in tandem with the BLM fuel reduction and fire breaks programs would result in a net benefit to wildlife and their habitat by reducing the frequency and intensity of wildfires within the ROI including potential future impacts in the FRTC expansion areas.

In summary, less than significant cumulative impacts to biological resources would occur when considering past, present, and future actions with the Proposed Action.

4.4.2 Cultural Resources

4.4.2.1 Description of Geographic Study Area

The APE for cultural resources includes the Main Station and FRTC.

4.4.2.2 Relevant Past, Present, and Future Actions

The past, present, and reasonably foreseeable actions include military training, fire suppression, fuel break construction, vegetation management, roads and right of ways, livestock grazing, mining, and recreation. These actions have the potential for ground disturbance, the removal or damage of cultural resources, access restrictions for Tribal uses, access leading to illegal collection and vandalism, and the potential for increasing erosion. Archaeological resources have been directly affected by such actions through the modification, displacement, and loss of archaeological materials in some cases, and thus the loss of valuable information regarding site function, dates of use, subsistence, and past environments.

4.4.2.3 Cumulative Impact Analysis

Cultural resources that may be directly or indirectly affected occur throughout the APE in a variety of environments. Because some types of cultural resources are nonrenewable, the effects on these resources may be permanent in some cases, to include any impacts due to military training activities (as analyzed in the FRTC Modernization EIS). Navy-authorized actions that could affect cultural resources would be subject to Section 106 compliance review, though effects to cultural resources cannot always be eliminated through mitigation or design features.

Over time, impacts on cultural resources from natural processes, such as wildfire, erosion, drought effects, and weathering, would continue to affect the integrity of cultural resources. Such processes would continue to a greater or lesser extent regardless of the Navy's wildland fire management

strategies, though by implementing the WFMP could limit their effects. Implementing the WFMP would improve the Navy's opportunities to respond to wildfires throughout the APE and would thus cumulatively protect cultural resources across the landscape from wildfire and suppression activities. For instance, fuels reduction and vegetation restoration efforts would lower the intensity and movement of wildfires across the landscape and enhancing soil stability through vegetation restoration. Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to cultural resources within the ROI.

4.4.3 Air Quality

4.4.3.1 Description of Geographic Study Area

In the state of Nevada, Air Quality Control Regions and air basins are not defined; therefore, for the purpose of this analysis, the ROI for air quality is Churchill County, Nevada, which is included in the Carson Desert Basin Hydrographic Area. Churchill County is classified by USEPA as unclassified/attainment for all criteria pollutants.

4.4.3.2 Relevant Past, Present, and Future Actions

The FRTC Modernization would involve construction activities that would generate air pollutants on an intermittent and temporary basis. The NAS Fallon INRMP would not include activities that generate air pollution. The construction of fuel breaks on lands managed by BLM would involve the use of fossil-fuel burning equipment to clear the areas where fuel breaks would be located.

4.4.3.3 Cumulative Impact Analysis

Construction associated with the FRTC Modernization would create temporary air quality impacts. The implementation of NAS Fallon's INRMP would benefit air quality in the long-term by utilizing fugitive dust controls and fire safety practices on the lands held and used by NAS Fallon. The creation of fuel breaks on adjacent BLM lands would generate short term air emissions from clearing equipment but would help to further reduce the chance of wildfires in the long-term, and a corollary benefit is the reduction in the incidence of reduced air quality that accompanies wildfires.

Implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts within the ROI. Air quality impacts from equipment operations implementing the Proposed Action are expected to be minimal, and the overall long-term impact is beneficial because wildfires would be reduced in the region.

Removal of vegetation would result in short-term GHG emissions from equipment and vehicle fuel combustion and loss of stored carbon, while in the long-term, the removal of vegetation may prevent larger losses of stored carbon that would result from wildfires. The introduction of fire-resistant vegetation could also create additional long-term stored carbon. The Proposed Action would be complementary and consistent with other regional fire management plans and activities (e.g., BLM 2020), resulting in a beneficial impact to air quality and fire management within the ROI. Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to air quality within the ROI.

4.4.4 Public Health and Safety

4.4.4.1 Description of Geographic Study Area

The ROI for public health and safety concerns covers the fire management areas in the FRTC within Navy-controlled lands, and the immediately adjacent lands. Areas of heightened sensitivity to public health and safety concerns within the ROI include areas where large groups of people may gather, for example, in recreational areas.

4.4.4.2 Relevant Past, Present, and Future Actions

The past, present, and reasonably foreseeable actions include military training, construction projects, road development, vegetation management, fire suppression, livestock grazing, mining, and recreation. The FRTC Modernization would involve construction activities that have the potential to impact public health and safety from potential training related wildfires. The NAS Fallon INRMP would not include activities that would adversely impact public health and safety. The construction of fuel breaks on lands managed by BLM would involve the removal of vegetation and herbicide application to install fuel breaks.

4.4.4.3 Cumulative Impact Analysis

Cumulative public health and safety impacts from past, present, and future actions within the ROI may include an increased use of aircraft and herbicides to combat the spread of noxious invasive weeds such as cheatgrass, as discussed in Section 3.4. The FRTC Modernization could result in training related wildfires; however, the proposed WFMP and BLM fuel management programs would minimize risk of wildfire spreading off Navy lands, thereby reducing risks to public health and safety.

Implementing the proposed WFMP would improve the Navy's opportunities to respond to wildfires throughout the FRTC and would improve public health and safety in the region by reducing fire frequency and intensity. It would also help prevent fires from adversely impacting population centers on lands outside of the FRTC.

Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to public health and safety within the ROI. The Navy has also determined that there would be no cumulative environmental health and safety risks when considering past, present, and future actions with the Proposed Action that would disproportionately affect children directly.

4.4.5 Water Resources

4.4.5.1 Description of Geographic Study Area

The ROI for cumulative effects on water resources includes the Main Station and FRTC and adjacent lands in the Lahontan Valley Basin.

4.4.5.2 Relevant Past, Present, and Future Actions

The past, present, and reasonably foreseeable actions include military training, construction projects, road development, vegetation management, fire suppression, livestock grazing, mining, and recreation. The FRTC Modernization would involve construction activities that have the potential to directly and indirectly impact both groundwater and surface water resources. The NAS Fallon INRMP does not include activities that adversely impact water resources but rather would manage NAS Fallon lands to

balance the military mission with conservation. The construction of fuel breaks on lands managed by BLM would involve the removal of vegetation to install fuel breaks that has the potential to impact water resources.

4.4.5.3 Cumulative Impact Analysis

Cumulative water resource impacts from past, present, and future actions within the ROI may involve vegetation removal and earthmoving which could lead to soil erosion from stormwater runoff, especially in areas where vegetation has been removed to mineral soil. Construction associated with the FRTC Modernization could result in an increased demand on groundwater. Construction and training operations could also result in direct and indirect impacts to surface and groundwater. The Navy would ensure that incidental spills that could contaminate surface or groundwater are avoided and minimized. Navy personnel receive initial and periodic refresher training in the proper storage, handling, and management of hazardous materials. The Navy would continue to avoid streams, ponds, and USACEs' jurisdictional wetlands during ground training. While the Navy conducts activities (foot traffic, use of off-road and on road vehicles) in the vicinity of these wetland resources, the Navy's guidance is that sensitive habitat should be avoided during training activities. It is standard best practice incorporated into the Range Management Plan at NAS Fallon that training activities should not disturb the fish and wildlife or alter the flow of water in the FRTC, including in the DVTA. The implementation of NAS Fallon's INRMP including updates required by the FRTC Modernization would ensure water resources, including jurisdictional waters, are protected.

Wildfire management activities including fuel reduction and firebreaks in the region proposed by BLM could contribute to additional runoff and erosion from fire breaks during stormwater events. Aerial application of herbicide in the region could lead to accidental contamination of surface water. These impacts are anticipated to be less than significant because each of these BLM actions would comply with impact avoidance and minimization measures similar to those described in Table 3-6. The NAS Fallon WFMP in tandem with the BLM fuel reduction and fire breaks programs would result in a net benefit to protecting water resources by reducing the frequency and intensity of wildfires within the ROI including potential future impacts in the FRTC expansion areas. Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to water resources within the ROI.

4.4.6 Visual Resources

4.4.6.1 Description of Geographic Study Area

The sites proposed for the Proposed Action and adjacent lands define the study area for visual resources. The study area consists of natural lands, both restricted and open to the public, including desert landscape, military lay down areas (including military equipment and CONEX boxes), mountainous areas, and sand dunes. The areas have a vast range in topography.

4.4.6.2 Relevant Past, Present, and Future Actions

The past, present, and reasonably foreseeable actions include military training, fire suppression, fuel break construction, vegetation management, roads and right of ways, livestock grazing, mining, and recreation. These actions have the potential for ground disturbance, which could include the use of earth moving equipment which creates dust, that could affect the visual quality of the surrounding area. These effects would likely be temporary.

4.4.6.3 Cumulative Impact Analysis

Visual resources that may be directly or indirectly affected occur throughout the study area. These effects would likely be low and temporary. Implementation of the Proposed Action would alter the visual environment from native vegetation and dunes to greenstrips and brownstips in some areas but would be temporary. The Proposed Action would only have minimal impacts to visual resources since contrasts between treated and untreated areas would fade as vegetation takes root and would not have the potential to meaningfully contribute to any cumulative impacts, significant or otherwise.

Construction related to the FRTC Modernization could result in minor potential impacts to visual resources from vegetation removal. Wildlife management activities including fuel reduction and firebreaks in the region proposed by BLM could result in minor potential impacts to visual resources from vegetation removal. The NAS Fallon WFMP, in tandem with the BLM fuel reduction and fire breaks program, would result in a net benefit to visual resources by reducing the frequency and intensity of wildfires within the study area. Reducing fires would decrease unsightly burnt sections in the area. Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to visual resources within the ROI.

4.4.7 Topography, Geology, and Soils

4.4.7.1 Description of Geographic Study Area

The geographic area of study for topography, geology and soils includes the Main Station, the FRTC and adjacent lands.

4.4.7.2 Relevant Past, Present, and Future Actions

The past, present, and reasonably foreseeable actions include military training, construction projects, road development, vegetation management, fire suppression, livestock grazing, mining, and recreation. The FRTC Modernization would involve construction activities that have the potential to impact geological resources. The NAS Fallon INRMP would not include activities that adversely impact geological resources, but rather manages NAS Fallon lands to balance the military mission with conservation. The construction of fuel breaks on lands managed by BLM would involve grading and earthwork to install fuel breaks which could result in impacts to geological resources, namely soil erosion.

4.4.7.3 Cumulative Impact Analysis

Cumulative impacts to topography, geology and soils from past, present, and future actions within the ROI may include new construction, development of roads, mining, and wildfire management activities involving earthmoving and the loss of vegetation. Construction and training exercises proposed in the FRTC Modernization could lead to soil erosion, potentially affecting the stability of slopes. These impacts are anticipated to be less than significant because each of these federal actions would comply with impact avoidance and minimization measures such as similar to those described in Table 3-6.

Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to topography, geology and soils within the ROI.

4.4.8 Environmental Justice

4.4.8.1 Description of Geographic Study Area

The geographic area of study for environmental justice is Churchill County, Nevada.

4.4.8.2 Relevant Past, Present, and Future Actions

The past, present, and reasonably foreseeable actions include military training, fire suppression, fuel break construction, vegetation management, roads and right of ways, livestock grazing, mining, and recreation. These actions have the potential for ground disturbance, which could include the use of earth moving equipment which creates dust, that could temporarily affect environmental justice. Construction and expansion as a result of the FRTC Modernization would involve construction activities that have the potential to impact environmental justice. These effects would be temporary.

4.4.8.3 Cumulative Impact Analysis

Direct or indirect environmental justice impacts may occur within the area and the surrounding communities. These effects would likely be low and temporary. Due to the very minor impacts to environmental justice associated with the implementation of the NAS Fallon WFMP, this Proposed Action would not likely have meaningful potential to contribute to cumulative environmental justice impacts. Therefore, implementation of the Proposed Action combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to environmental justice within the ROI.

5 Other Considerations Required by NEPA

5.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations

In accordance with 40 CFR section 1502.16(c), analysis of environmental consequences shall include discussion of possible conflicts between the Proposed Action and the objectives of federal, regional, state, and local land use plans, policies, and controls. Table 5-1 identifies the principal federal and state laws and regulations that are applicable to the Proposed Action and describes briefly how compliance with these laws and regulations would be accomplished.

Table 5-1 Principal Federal and State Laws Applicable to the Proposed Action

<i>Federal, State, Local, and Regional Land Use Plans, Policies, and Controls</i>	<i>Status of Compliance</i>
NEPA; CEQ NEPA implementing regulations; Navy procedures for Implementing NEPA	This EA has been prepared in accordance with NEPA, CEQ regulations, and Navy Procedures for Implementing NEPA (32 CFR. section 775).
CAA	The air quality analysis in this EA concludes that under the Proposed Action no significant impacts to air quality would occur. The ROI is in attainment of all criteria pollutants. As such, a Record of Non-Applicability for CAA conformity is not required for this project.
CWA	A NPDES construction permit would be obtained and remain in effect throughout the life of proposed wildfire management activities. Implementation of these activities would follow BMPs to limit potential water quality impacts.
NHPA	No archaeological sites within the fire management area are eligible for listing under the NRHP. The Navy is consulting under Section 106.
ESA	If an action is proposed that has the potential to affect the federally listed Dixie Valley toad, the Navy will enter into consultation with the USFWS pursuant to Section 7 of ESA.
MBTA	The Proposed Action would be in compliance with the MBTA. The wildland fire management actions such as aerial application of herbicides would occur outside of migratory bird nesting seasons (March 1- Jun 25). Areas dominated by non-native vegetation such as cheatgrass targeted for herbicide treatment do not provide nesting habitat for migratory birds. Preconstruction bird nest surveys would be conducted prior to removal of native habitat.

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
BGEPA	The Proposed Action would be in compliance with the BGEPA. The wildland fire management actions such as aerial application of herbicides would occur outside of raptor nesting seasons (March 1- Jun 25). Preconstruction surveys would be conducted prior to removal of native habitat.
Comprehensive Environmental Response, Compensation, and Liability Act	The Proposed Action would be in compliance with Comprehensive Environmental Response, Compensation, and Liability Act and report any spill or release of hazardous substance of a quantity equal to or greater than the reportable quantity.
Emergency Planning and Community Right-to-Know Act	The Proposed Action would be in compliance with the Emergency Planning and Community Right-to-Know Act (Also known as Title III of the Superfund Amendments and Reauthorization Act). The Navy would maintain Safety Data Sheets and inform Local Emergency Planning Committees of the Proposed Action as required to assist them in their planning efforts.
Federal Insecticide, Fungicide, and Rodenticide Act	The Proposed Action would be in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.). Herbicides would be used to control the spread of unwanted vegetation (cheatgrass). Only herbicides approved by the USEPA, the state of Nevada, and the NAS Fallon Authorized Use List in the IPMP would be used, and only according to manufacturer’s label directions. All label instructions pertaining to disposal would be followed. Herbicides would not be stored on the treatment area and would be applied by licensed applicators only.
Resource Conservation and Recovery Act	The Proposed Action would be in compliance with Resource Conservation and Recovery Act. The Navy would treat, store, transport, and dispose of all wastes in accordance with federal, state, and local regulations throughout the implementation of the Proposed Action.

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
Toxic Substances Control Act	The Proposed Action would be in compliance with the Toxic Substances Control Act. All regulated chemicals would be used in accordance with instructions and operational constraints.
EO 11988, Floodplain Management	The Proposed Action would avoid impacts to the 100-year floodplain. No structures are proposed; therefore, no impacts to the 100-year floodplain are anticipated.
EO 11990, Protection of Wetlands	The Proposed Action would avoid impacts to wetlands. The INRMP incorporates the wetland management practices outline in NAS Fallon’s Wetlands Management Plan.
EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations	The Proposed Action would not cause disproportionately high and adverse health or environmental effects on any minority or low-income populations.
EO 13045, Protection of Children from Environmental Health Risks and Safety Risks	The Proposed Action would not disproportionately expose children to environmental health risks or safety risks.
EO 13148, Greening the Government Through Leadership in Environmental Management (revoked EO 12088, Federal Compliance with Pollution Control Standards)13807	The Proposed Action would not exceed NAAQS established by the USEPA under the CAA.
EO 13175, Consultation and Coordination with Indian Tribal Governments	The Navy would complete consultation with Tribal Governments via the Nevada SHPO.
EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds	The Proposed Action would be in compliance with EO 13186 as described above under MBTA and application of herbicide would occur outside of migratory bird nesting seasons.
EO 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input	The Proposed Action would be in compliance with EO 13690 as NAS Fallon would continue to manage potential flood risk as appropriate.
EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis	The Proposed Action would be in compliance with EO 13990 by implementing procedures to limit public exposure to pesticides.
EO 14008, Tackling the Climate Crisis at Home and Abroad	The Proposed Action would be in compliance with EO 14008 as it would not cause appreciable global warming that would lead to climate changes.

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	Status of Compliance
EO 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability	The Proposed Action would be in compliance with EO 14057 by using fuel efficient vehicles where available/appropriate, limiting emissions where appropriate, and not including any construction of facilities.
Fugitive Dust Permit Nevada Administrative Code 445B.22037	A Fugitive Dust Permit is needed when the surface area disturbance exceeds five acres.

Notes: BGEPA = Bald and Golden Eagle Protection Act ; BMP(s) = Best Management Practice(s); CAA = Clean Air Act; CEQ = Council on Environmental Quality; CFR = Code of Federal Regulations; CWA = Clean Water Act; EA = Environmental Assessment; EO = Executive Order; ESA = Endangered Species Act; IPMP = Integrated Pest Management Plan; NAAQS = National Ambient Air Quality Standards; NAS = Naval Air Station; MBTA = Migratory Bird Treaty Act; NEPA = National Environmental Policy Act; NHPA = National Historic Preservation Act; NPDES = National Pollutant Discharge Elimination System; NRHP = National Register of Historic Places; ROI = Region of Influence; SHPO = State Historic Preservation Officer; U.S.C. = United States Code; USEPA = U.S. Environmental Protection Agency.

5.2 Irreversible or Irrecoverable Commitments of Resources

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and natural or cultural resources. These resources are irretrievable in that they would be used for this project when they could have been used for other purposes. Human labor is also considered an irretrievable resource. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Implementation of the Proposed Action would involve human labor and the consumption of fuel, oil, and lubricants for vehicles and aircraft used. The use of electricity, natural gas, water, and fuel consumption and demand for services would increase negligibly as a result of implementation of the Proposed Action. Implementing the Proposed Action would not result in significant irreversible or irretrievable commitment of resources.

5.3 Unavoidable Adverse Impacts

This EA has determined that the Proposed Action would not result in any significant impacts. No resource area would be subject to significant adverse impacts that would require mitigation. Table 3-6 presents the resource area impact avoidance and minimization measures.

5.4 Relationship between Short-Term Use of the Environment and Long-Term Productivity

NEPA requires an analysis of the relationship between a project’s short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one development site reduces future flexibility in pursuing other options, or that using a parcel of land or other resources often eliminates the possibility of other uses at that site.

In the short-term, effects to the human environment with implementation of the Proposed Action would primarily relate to the implementation of vegetation modification. Biological resources would be

impacted in the short-term. In the long-term, biological resources would benefit from the reduction of wildfire frequency and intensity, thereby improving existing ecological conditions. The Proposed Action would also reduce risks from wildfire to Navy assets, and personnel as well as reduce wildfire risks to the public and personal property. Implementation of the WFMP would not significantly impact the long-term natural resource productivity of the area. The Proposed Action would not result in any impacts that would significantly reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.

6 References

- Agai Dicutta Yadooan Program. (2006). Native Plants & Paiute Names, Prepared by the Agai Dicutta Yadooan Program, Department of Cultural Affairs.
- Azad, G. (2008). *Carson River Watershed Regional Floodplain Management Plan*. Carson City, NV: Carson Water Subconservancy District.
- Bowers. (2009). A Class III Cultural Resource Survey for the Kent Property ELMR, NAS Fallon, Churchill County, Nevada.
- Bureau of Land Management. (2020). Programmatic Environmental Impact Statement for Fuel Breaks in the Great Basin. Washington, D.C. February.
- Council on Environmental Quality (CEQ). (1997a). Considering Cumulative Effects under the National Environmental Policy Act. January.
- CEQ. (1997b). Environmental Justice, Guidance under the National Environmental Policy Act. December.
- CEQ. (2005). The Council on Environmental Quality Guidance Memorandum on Consideration of Past Actions in Cumulative Effects Analysis. June.
- CEQ. (2016). Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Reviews. Retrieved from https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.html. August 16, 2022.
- Churchill County School District. (2022). Our Schools. Retrieved from <https://www.churchillcsd.com/schools>. August 26, 2022.
- Cowardin, L.M., Carter, V., Golet, F. C., and LaRoe, E. T. (1979). Classification of Wetlands and Deepwater Habitats of the United States; FWS/OBS 79/31; December 1979.
- Davies, K. W., Boyd, C. S., Beck, J. L., Bates, J. D., Svejcar T. J., and Gregg, M. A. (2011). Saving the sagebrush sea: an ecosystem conservation plan for big sagebrush plant communities. *Biological Conservation* 144(2011):2573-2584.
- Dunn, J. L. and Alderfer, J. (2011). *National Geographic Field Guide to the Birds of North America*. Sixth Edition. 574 Pages.
- Estes. (2015). Draft A Class III Cultural Resources Inventory of 3,008.2 Acres on Main Station, Naval Air Station Fallon, Churchill County, Nevada.
- Finger, A.J. and May, B. (2015). Conservation genetics of a desert fish species: the Lahontan tui chub (*Siphateles bicolor* ssp.). *Conserv Genet* 16: 743-758.
- Halstead, B. J., Kleeman, P. M., Rose, J., & Fouts, K. J. (2021). Water Temperature and Availability Shape the Spatial Ecology of a Hot Springs Endemic Toad (*Anaxyrus williamsi*). *Herpetologica*. Retrieved from <https://doi.org/10.1655/herpetologica-d-20-00047>.
- Healthline. (2022). Does the Weed Killer Roundup Cause Non-Hodgkin's Lymphoma. Retrieved from <https://www.healthline.com/health/cancer/lymphoma-roundup>. August 31, 2022.
- Jones, R., and Dougherty, J. (2016). A Class III Cultural Resources Inventory in Support of Construction and Operation of a Solar Photovoltaic System at Naval Air Station Fallon, Nevada.

- NAS Fallon. (2012). Calendar Year 2011 Actual Production/Emissions Reporting Form, Nevada Division of Environmental Protection – Bureau of Air Pollution Control. February 22.
- National Association of Counties. (2013). Churchill County, NV. Retrieved from <http://www.naco.org/Counties/Pages/FindACounty.aspx>. February 21.
- NAVFAC SW. (2013). Integrated Cultural Resources Management Plan for Naval Air Station Fallon, Nevada.
- Nevada Department of Wildlife (NDOW). (2006). Revised Nevada Bat Conservation Plan. Nevada Department of Wildlife. Retrieved from http://www.ndow.org/Nevada_Wildlife/Conservation/Nevada_Bat_Conservation_Plan/.
- NDOW. (2022). Species Information website, Retrieved from <https://www.ndow.org/species-information/>. April 15, 2022.
- Nevada Division of Environmental Protection. (2021). Class II Air Quality Operating Permit AP9711-0293.04, FIN A0026, 27 July. Retrieved from <https://ecms.nv.gov/ndep/>. August 16, 2022.
- Nevada Natural Heritage Program (NNHP). (1999). Exploring Species Information, Greater Sage-Grouse. Exploring Species Information. Retrieved from <http://species.heritage.nv.gov/>. April 25, 2022.
- NNHP. (2018). Exploring Species Information, Dixie Valley Toad. Exploring Species Information. Retrieved from <http://species.heritage.nv.gov/>. April 25, 2022.
- Penn State, College of Agricultural Sciences. (2009). Pesticide Safety Fact Sheet. Potential Health Effects of Pesticides.
- Personal Communication with William (Willie) Youles, Fire Chief, Federal Fire Fallon via email on April 14, 2022.
- Personal Communication with Shane Charley, Bureau of Land Management Nevada, interagency Aviation Officer via email on April 18, 2022.
- Reid, Fiona A. (2006). Peterson Field Guides: Mammals of North America. 579 Pages.
- SkyVector.com. (2013). Retrieved from <http://skyvector.com/airport/NFL/Fallon-NAS-Van-Voorhis-Field-Airport>. March 13, 2023.
- Syracuse Environmental Research Associates, Inc. (SERA). (2004). Imazapic – Human Health and Ecological Risk Assessment – Final Report. Prepared for USDA, Forest Service. SERA TR 04-43-17-04b. December 23, 2022.
- SERA. (2011a). Glyphosate Human Health and Ecological Risk Assessment, Final Report. Prepared for USDA, Forest Service. SERA TR 052-22-03b. March 25.
- SERA. (2011b). Imazapyr Human Health and Ecological Risk Assessment, Final Report. Prepared for USDA, Forest Service. SERA TR 052-29-03a. December 16.
- University of California, Davis (UC Davis). (1999). Genetic Purity and Subspecific Status of the Dixie Valley Tui Chub. May 1999.
- U.S. Census Bureau. (2020a). 2016–2020 American Community Survey 5-Year Estimates, Table DP03, Selected Economic Characteristics. Retrieved from <https://data.census.gov/cedsci/>. August 25, 2022.

- U.S. Census Bureau. (2020b). American Community Survey Demographic and Housing Estimates. Retrieved from <https://data.census.gov/cedsci/>. August 25, 2022.
- U.S. Department of Defense (DoD). (1995). Strategy on Environmental Justice. March. Retrieved from <https://denix.osd.mil/references/dod/strategy/dod-environmental-justice-strategy/>. September 1, 2022.
- U.S. Department of Navy (Navy). Chief of Naval Operations Instruction (OPNAVINST) 5090.1D. Environmental Readiness Program Manual. January 10, 2014.
- U.S. Department of the Navy. (2014). Final Integrated Natural Resources Management Plan, Naval Air Station Fallon.
- U.S. Department of the Navy. (2018). Department of the Navy Environmental Restoration Program Manual.
- U.S. Department of the Navy. (2020a). Final Environmental Impact Statement for the Fallon Range Training Complex Modernization. Retrieved from: <https://frcmodernization.com/Documents/2020-Final-Fallon-Range-Training-Complex-Modernization-EIS/Final-EIS>. December 10, 2021.
- U.S. Department of the Navy. (2020b). Integrated Pest Management Plan, Naval Air Station, Nevada.
- U.S. Department of the Navy. (2022a). Final Wildland Fire Management Plan for Naval Air Station Fallon, Nevada.
- U.S. Department of the Navy. (2022b). Biological Survey Report, for Naval Air Station Fallon / Fallon Range Training Center, Fallon Nevada.
- U.S. Department of the Navy (2022c). Climate Action 2030. Retrieved from <https://www.navy.mil/Portals/1/Documents/Department%20of%20the%20Navy%20Climate%20Action%202030.pdf>. August 16, 2022.
- U.S. Environmental Protection Agency (USEPA). (1999). Consideration of Cumulative Impacts in EPA Review of NEPA Documents. May.
- USEPA. (2021). *PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024*.
- USEPA. (2022a). Initial List of Hazardous Air Pollutants with Modifications. Retrieved from <https://www.epa.gov/haps/initial-list-hazardous-air-pollutants-modifications>. August 17, 2022.
- USEPA. (2022b). USEPA website regarding glyphosate. Retrieved from <https://www.epa.gov/ingredients-used-pesticide-products/glyphosate>. August 31, 2022.
- USEPA. (2022c). Environmental Justice. Retrieved from <https://www.epa.gov/environmentaljustice>. September 1, 2022.
- U.S. Fish and Wildlife Service (USFWS). (1991). Status of Tui Chub and Other Fishes on Navy Lands in Dixie Valley. Final Report. Rissler, P. H., S. Byers, G. G. Scoppettone, and D. Withers. 1991 U.S. Fish and Wildlife Service, Reno, NV.
- USFWS (1998). Endangered Species Consultation Handbook. Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act. Retrieved from <https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf>. March 6, 2023.

USFWS (2022) Federal Register Final Rule on the Endangered Species Status for the Dixie Valley Toad. Retrieved from <https://www.govinfo.gov/content/pkg/FR-2022-12-02/pdf/2022-26237.pdf#page=1>. March 6, 2023.

USFWS (2023) Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rules to List the Bi-State Distinct Population Segment of Greater Sage-Grouse With Section 4(d) Rule and To Designate Critical Habitat. Retrieved from <https://www.fws.gov/species-publication-action/endangered-and-threatened-wildlife-and-plants-withdrawal-proposed-rules>. March 6, 2023.

Washington State Department of Transportation. (2017). Glyphosate Roadside Vegetation Management Herbicide Fact Sheet. July.

This page intentionally left blank.

7 List of Preparers

This EA was prepared collaboratively between the following Navy and contractor preparers.

Naval Air Station Fallon

Ann Schofield, NAS Fallon, Natural Resource Specialist

Zack Bowers, NAS Fallon, Natural Resource Specialist

Michael Baskerville, NAS Fallon, Archaeologist

Kish Lapierre, NAVFAC SW, Tribal Liaison

Nathan Arcoraci, NAS Fallon Installation Environmental Program Director

James Upham, NAS Fallon, Public Affairs Officer

Jerry Patrick Burns "Pipper," NAS Fallon, Range Division Program Manager

Larry Richardson, NAS Fallon, Range Manager

Naval Facilities Engineering Command Systems Southwest

Amanda Peyton, NAVFAC SW, NEPA Project Manager

Hiphil Clemente, NAVFAC SW, Environmental Planning and Natural Resources

Vanessa Shoblock, NAVFAC SW, Natural Resource Specialist

Michael Waters, NAVFAC SW, Counsel

Grace Weevie, NAVFAC SW, NEPA Coordinator

Contractors

Terry Powers, Adanta, Inc., B.A., Geography, 23 years' experience, Project Manager/Quality Control Reviewer/Biological Resources

Melanie Hernandez, JD, CEP, Scout Environmental, Inc., J.D., specializing in Environmental Law, 22 years' experience, Deputy Project Manager/Senior NEPA Planner

Gabrielle Friedman, Adanta, Inc., M.S., Geographic Information Science, 12 years' experience, Senior GIS Analyst

Ryan Pingree, AICP, CEP, PMP, Scout Environmental, Inc., M.S., Environmental Science and Management, 22 years' experience, Senior NEPA Planner

Marissa Pacheco, Adanta, Inc., B.S., Wildlife, 5 years' experience, Biological Resources

Joe Schwennesen, Adanta, Inc., B.S., Wildlife Biology, 12 years' experience, Biological Resources

Kathy Rose, Scout Environmental, M.S., Natural Resources, Senior NEPA Analyst, 25 years' experience

Lesley Hamilton, Scout Environmental, B.A., Chemistry, Senior NEPA/Air Quality Analyst, 30 years' experience

Kari McCollum, Scout Environmental, Inc., B.A., Environmental Sustainability, 3 years' experience, Junior NEPA Planner

Roxanne Beasley, Scout Environmental, Inc., B.S., Business, 14 years' experience, Technical Editor

Bob Wardwell, Scout Environmental, Inc., M.S., Environmental Science, 42 years' experience, Quality Assurance

Kathryn Zamora, Scout Environmental, Inc., B.A., Journalism, Junior Technical Editor

Appendix A
Wildlife Species Observed at Fallon Range Training Center
12 Surveys Conducted from May 12, 2022 Through June 25, 2022

Survey Results

Twelve wildlife surveys were conducted at the FRTC Between May 1 and June 25, 2022. The total combined area for all avian, mammal, and herpetological surveys covered more than 2,200 acres. This calculation is based on the linear distance of each observer’s track log multiplied by the width of each observer’s transect (length times width). Each observer was responsible for surveying approximately 30 feet to their left and right, although many species sightings occurred hundreds of feet away. The length of each transect included distances traveled in vehicle or on foot within or near each survey area on each Range. Table A-1 presents the survey schedule.

Table A-1 Survey Schedule

<i>Survey Event Number and Dates</i>	<i>Avian Survey Locations and Dates</i>	<i>Mammal Survey Locations</i>	<i>Herpetological Survey Locations</i>
Survey Event 1 May 1-3, 2022	B-16: May 1, 2022 B-17: May 2, 2022 HC: May 3, 2022 B-19: May 3, 2022	B-16: May 1, 2022 B-17: May 2, 2022 HC: May 3, 2022 B-19: May 3, 2022	B-16: May 1, 2022 B-17: May 2, 2022 HC: May 3, 2022 B-19: May 3, 2022
Survey Event 2 May 15- 18, 2022	HC: May 16, 2022 B-19: May 16, 2022 B-17: May 17, 2022 B-16: May 18, 2022	HC: May 16, 2022 B-19: May 16, 2022 B-17: May 17, 2022 B-16: May 18, 2022	HC: May 16, 2022 B-19: May 16, 2022 B-17: May 17, 2022 B-16: May 18, 2022
Survey Event 3 June 20- 25, 2022	B-19: June 22, 2022 HC: June 23, 2022 B-16: June 23, 2022 B-17: June 25, 2022	B-19: June 22, 2022 HC: June 23, 2022 B-16: June 23, 2022 B-17: June 25, 2022	B-19: June 22, 2022 HC: June 23, 2022 B-16: June 23, 2022 B-17: June 25, 2022

Notes: B = Bravo; HC = Horse Creek in the Dixie Valley Training Area (DVTA)

A.1 Avian Survey Results

A total of 59 different birds (including 7 raptors) were visually observed and or detected by sound in the FRTC study areas. Table A-2 presents the names and conservation status of each species detected in each of the four FRTC study areas.

Table A-2 Avian Species Observed/Detected in the FRTC Study Areas

Common Name	Scientific Name	Conservation Status: Federal/BLM/NV	FRTC Survey Area				Obs. Type
			B-16	B-17	B-19	Horse Creek	
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	- /- / S4	X	X		X	O,H
Barn swallow	<i>Hirundo rustica</i>	- /- / S4B	X				O
Bewick’s wren	<i>Thryomanes bewickii</i>	- /- / S4	X			X	O,H CT
Black-billed magpie	<i>Pica hudsonia</i>	- /- / S4	X				O
Black-chinned hummingbird	<i>Archilochus alexandri</i>	- /- / S4, S5B		X		X	O,H
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>	- /- / S4B				X	H
Black-throated Sparrow	<i>Amphispiza bilineata</i>	- /- / S4B	X	X	X	X	O,H
Blue-gray Gnatcatcher	<i>Poliptila caerulea</i>	- /- / S4	X				O,H
Brewer’s sparrow	<i>Spizella breweri</i>	BCC /S/S3B				X	O,S
Broad-tailed hummingbird	<i>Selasphorus platycercus</i>	- /- / S3M				X	H
Bullock’s oriole	<i>Icterus bullockii</i>	- /- / S4B	X			X	O,H
California quail	<i>Callipepla californica</i>	- /- / S5	X	X		X	O,H
Canvasback	<i>Aythya valisineria</i>	- /- / S3B, S4 N				X	O
Cassin’s finch	<i>Haemorhous cassinii</i>	- /- / S3				X	H
Cassin’s vireo	<i>Vireo cassinii</i>	- /- / S4B	X				H
Cedar waxwing	<i>Bombycilla cedrorum</i>	- /- / S3B, S4N				X	H
Chipping Sparrow	<i>Spizella 3asserine</i>	- /- / S4B	X			X	H
Common poorwill	<i>Phalaenoptilus nuttallii</i>	- /- / S4B				X	H
Common Raven	<i>Corvus corax</i>	- /- / S5	X	X	X	X	O,S
Dusky grouse	<i>Dendragapus obscurus</i>	- /- / S3		X		X	O,H
Eurasian Collard Dove	<i>Streptopelia decaocto</i>	- /- / S N/A	X	X		X	O,H
Gray flycatcher	<i>Empidonax wrightii</i>	- /- / S5B		X		X	O,H
Gull Species	<i>Larus sp.</i>	- /- /	X				O
Hammond’s flycatcher	<i>Empidonax hammondii</i>	- /- / S3B				X	H
Horned lark	<i>Eremophila alpestris</i>	- /- / S4		X	X		O,H
House finch	<i>Haemorhous mexicanus</i>	- /- / S5	X			X	O,H
House sparrow	<i>Passer domesticus</i>	- /- / N/A	X				O,H
Hummingbird species	<i>Archilochus sp.</i>	- /- /				X	O,H
Lark sparrow	<i>Chondestes grammacus</i>	- /- / S4B	X	X			O,H
Lazuli bunting	<i>Passerina amoena</i>	- /- / S4B				X	O,H
Loggerhead shrike	<i>Lanius ludovicianus</i>	- /S/S3	X	X	X	X	O
Warbler species	<i>Setophaga spp.</i>	- /- /	X			X	H
Mallard	<i>Anas platyrhynchos</i>	- /- / S4B, S4N				X	O
Mourning dove	<i>Zenaida macroura</i>	- /- / S5	X	X		X	O,H
Northern mockingbird	<i>Mimus polyglottos</i>	- /- / S5	X				O,H

Common Name	Scientific Name	Conservation Status: Federal/BLM/NV	FRTC Survey Area				Obs. Type
			B-16	B-17	B-19	Horse Creek	
Orange crowned warbler	<i>Leiothlypis celata</i>	- /- / S3B, S4M				X	
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>	- /S / S3, S4	X	X			O,H
Rock wren	<i>Salpinctes obsoletus</i>	- /- / S4	X	X		X	O,H
Sage thrasher	<i>Oreoscoptes montanus</i>	- /S /S4B				X	O
Song sparrow	<i>Melospiza melodia</i>	- /- / S4				X	O,H
Spotted towhee	<i>Pipilo maculatus</i>	- /- / S5				X	O,H
Townsend's warbler	<i>Setophaga townsendi</i>	- /- / S3M				X	O,H
Red-winged blackbird	<i>Agelaius phoeniceus</i>	- /- / S4	X				
Western bluebird	<i>Sialia mexicana</i>	- /- / S3				X	O,H
Western kingbird	<i>Tyrannus verticalis</i>	- /- / S5B		X		X	O
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	- /- / S3B, S5N	X				O
Wilson's warbler	<i>Cardellina pusilla</i>	- /- / S2B, S3M	X				O,H
Woodhouse's scrub-jay	<i>Aphelocoma woodhouseii</i>	- /- / S4		X		X	H
Yellow-rumped warbler	<i>Setophaga coronata</i>	- /- / S3B, S5N	X			X	O,H
Yellow warbler	<i>Setophaga petechia</i>	- /- / S3				X	O,H
Yellow-breasted chat	<i>Icteria virens</i>	- /- / S3B		X		X	O
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	- /- / S4B	X				O,H
Raptors							
Unknown Raptor species		- /- /-	X				
Cooper's hawk	<i>Accipiter cooperii</i>	- /- / S5				X	O,H
Northern saw-whet owl	<i>Aegolius acadicus</i>	- /- / S4		X			H
Prairie falcon	<i>Falco mexicanus</i>	- /- / S4		X			O,H S
Red-tailed hawk	<i>Buteo jamaicensis</i>	BCC /- / S5	X				O,H
Swainson's hawk	<i>Buteo swainsoni</i>	- / S /S3B	X				O
Turkey vulture	<i>Cathartes aura</i>	- /- / S5B	X	X		X	O

Notes: Per the Migratory Bird Treaty Act (MBTA) all avian species native to the U.S. or its territories, which are those occur as a result of natural biological or ecological processes. The MBTA does not protect non-native avian species whose occurrences in the US are solely the result of intentional or unintentional human-assisted introduction (U.S. Code, 2022).

From this list, house sparrow is not protected by the MBTA.

O = visually observed; H = heard; S = sign; - /- / = No listing; BCC = Birds of Conservation Concern; BLM = Bureau of Land Management; NNHP = Nevada Natural Heritage Program.

BLM Conservation Status: S = Sensitive

NNHP State Rank

S1 = Critically imperiled due to extreme rarity, imminent threats, and/or biological factors

S2 = Imperiled due to rarity and/or other demonstrable factors

S3 = Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction

S4 = Apparently secure, though frequently quite rare in parts of its range, especially at its periphery

S5 = Demonstrably secure, though frequently quite rare in parts of its range, especially at its periphery

B = Breeding status within the state, rank for breeding occurrences only

M = Migrant species

N = Non-breeding

A.2 Mammal Survey Results

A total of 20 unique mammal species were detected (12 small mammal species and 8 large mammal species). The most biodiversity in mammal populations was found at B-16.

Table A-3 presents the names and conservation status of each species observed in the FRTC study areas.

Table A-3 Mammal Species Observed/Detected in the FRTC Study Areas

Common Name	Scientific Name	Conservation Status: Federal/BLM/NV	FRTC Survey Area				Obs. Type
			B-16	B-17	B-19	Horse Creek	
<i>Small Mammals</i>							
Bat species	<i>Vespertilionidae sp.</i>			X			S, CT
Black-tailed jackrabbit	<i>Lepus californicus</i>	-/-/ S5	X	X	X	X	S, O
Least chipmunk	<i>Neotamias minimus</i>	-/-/ S5	X				O
Deermouse	<i>Peromyscus sp.</i>	-/-/ S5		X			CT
Desert cottontail	<i>Sylvilagus audubonii</i>	-/-/ S5	X			X	
Desert Kangaroo Rat	<i>Dipodomys deserti</i>	-/-/ S2, S3				X	O, CT
Desert woodrat	<i>Neotoma lepida</i>	-/-/ S5	X	X		X	S
Fox species	<i>Vulpes sp.</i>	-/-/ S3	X				S
Kangaroo rat species	<i>Dipodomys sp.</i>		X	X	X		S
Northern pocket gopher	<i>Thomomys talpoides</i>	-/-/ S5	X	X			S
Rat species						X	S
White-tailed Antelope Squirrel	<i>Ammospermophilus leucurus</i>	-/-/ S5		X			O, CT
<i>Large Mammals</i>							
Bobcat	<i>Lynx rufus</i>	-/-/ S5	X				S
Cattle	<i>Bos taurus</i>	-/-/	X	X		X	O, S
Coyote	<i>Canis latrans</i>	-/-/ S5	X	X			S, CT
Desert Bighorn Sheep	<i>Ovis canadensis nelsoni</i>	-/-/ S S4		X			O, S CT,
Horses	<i>Equus caballus</i>	-/-/	X			X	O, S
Mountain lion	<i>Puma concolor</i>	-/-/ S5		X			S, CT
Mule Deer	<i>Odocoileus hemionus</i>	-/-/ S5	X	X	X		S
Pronghorn	<i>Antilocapra americana</i>	-/-/ S5		X	X	X	S, O

Notes: O = visually observed; H = heard; S = sign; CT = camera trap; N/A = not applicable; -/-/ = No listing; BLM = Bureau of Land Management; NNHP = Nevada Natural Heritage Program
 Federal Status: None Listed
 BLM Conservation Status: None Listed
 S = Nevada Special Status Species
 NNHP State Rank:
 S3 = Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction
 S4 = Apparently secure, though frequently quite rare in parts of its range, especially at its periphery
 S5 = Demonstrably secure, though frequently quite rare in parts of its range, especially at its periphery

A.3 Herpetological Survey Results

Twelve unique herpetological species were detected (two amphibians, nine lizards, and one snake). One unidentified amphibian species in Horse Creek may be a salamander, although no salamanders had previously been documented at Horse Creek.

The most biodiversity in herpetological populations was found at Horse Creek. Table A-4 presents the names and conservation status of each herpetological species observed in each of the four FRTC study areas.

Table A-4 Herpetological Species Observed in the FRTC Study Areas

Common Name	Scientific Name	Conservation Status: Federal/BLM/NV	FRTC Survey Area				Obs. Type
			B-16	B-17	B-19	Horse Creek	
Amphibians							
Bullfrog tadpole	<i>Lithobates catesbeianus</i>	-/-/-				X	O
Leopard frog tadpoles	<i>Lithobates pipiens</i>	-/-/S2, S3				X	O
Unidentified amphibian species		-/-/-				X	O
Lizards							
Zebra-tailed lizard	<i>Callisaurus draconoides</i>	-/-/S5	X		X		O
Desert Horned Lizard	<i>Phrynosoma platyrhinos</i>	-/S/S4	X	X	X	X	O
Great Basin Collared Lizard	<i>Crotaphytus bicinctores</i>	-/S/S4	X	X		X	O
Great Basin Fence Lizard	<i>Sceloporus occidentalis longipes</i>	-/-/S5	X	X		X	O
Great Basin Whiptail	<i>Aspidoscelis tigris</i>	-/-/-	X	X	X	X	O
Long-nosed Leopard Lizard	<i>Gambelia wislizenii</i>	-/S/S4	X	X	X	X	O
Nevada side blotched lizard	<i>Uta stansburiana nevadensis</i>	-/-/S5	X	X		X	O
Northern Sagebrush Lizard	<i>Sceloporus g. graciosus</i>	-/-/S4	X			X	O
Yellow-backed Spiny Lizard	<i>Sceloporus uniformis</i>	-/-/-	X				O
Snakes							
Great Basin Rattlesnake	<i>Crotalus oregonus lutosus</i>	-/-/S5				X	O

Notes: O = visually observed; H = heard; S = sign; N/A = not applicable; BLM = Bureau of Land Management; NNHP = Nevada Natural Heritage Program;
 S = BLM Nevada Special Status Species
 NNHP State Rank:
 S2 = Imperiled due to rarity and/or other demonstrable factors
 S3 = Rare and local throughout its range, or with very restricted range, or otherwise vulnerable to extinction
 S4 = Apparently secure, though frequently quite rare in parts of its range, especially at its periphery
 S5 = Demonstrably secure, though frequently quite rare in parts of its range, especially at its periphery