Final

Environmental Assessment for Proposed Royal Saudi Air Force F-15SA Beddown, Mountain Home AFB

United States Air Force
Air Combat Command

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LIST OF ACRONYMS AND ABBREVIATIONS

366 FW	366th Fighter Wing
366 WG	366th Wing
ACC	Air Combat Command
ACM	asbestos-containing materials
ADT	average daily traffic
AFB	Air Force Base
AFCEE	Air Force Center for Engineering and the Environment
AFI	Air Force Instruction
AFSC	Air Force Safety Center
AGE	Aerospace Ground Equipment
AGL	above ground level
AGS	Air Guard Station
AICUZ	Air Installation Compatible Use Zone
AQCR	Air Quality Control Region
ATCAA	Air Traffic Control Assigned Airspace
APZ	Accident Potential Zone
BASH	Bird/Wildlife-Aircraft Strike Hazard
BDU	bomb dummy unit
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure Commission
CDNL	C-weighted DNL
CEQ	Council of Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
CMTF	Consolidated Maintenance and Training Facility
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
CONUS	Continental United States
CSAF	Chief of Staff of the Air Force
CWA	Clean Water Act
CZ	Clear Zone
dB	decibel
dBA	A-weighted decibel
dBC	C-weighted decibel
DEQ	Department of Environmental Quality
DERP	Defense Environmental Restoration Program
DNL	Day-Night Average Sound Level
DoD	Department of Defense
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ERP	Environmental Restoration Program
EWL	Enterprise Wide Look
FAA	Federal Aviation Administration
FICUN	Federal Interagency Committee on Urban Noise
FONSI	Finding of No Significant Impact
FTU	Formal Training Unit
FY	Fiscal Year
GHG	greenhouse gas
GWP	global warming potential
HAZMART	Hazardous Materials Pharmacy Program
Hz	hertz
IFR	Instrument Flight Rule
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
IR	Instrument Route
IRP	Installation Restoration Program
ITD	Idaho Transportation Department
JP	jet propellant
LBP	lead-based paint
L_{dnmr}	Onset Rate-Adjusted Monthly Day-Night Average Sound Level
L_{eq}	equivalent noise level
L_{max}	maximum sound level
LOS	Level of Service
mgd	million gallons per day
MHRC	Mountain Home Range Complex
MHSD	Mountain Home School District
MMRP	Military Munitions Response Program
MOA	Military Operations Area
MSL	mean sea level
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
N_2O	nitrous oxide
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NRHP	National Register of Historic Places
O_3	ozone
OSHA	Occupational Safety and Health Administration
PCBs	polychlorinated biphenyls
Pb	lead
PHL	Potential for Hearing Loss
PM_{10}	particulate matter less than or equal to 10
$PM_{2.5}$	particulate matter less than or equal to 2.5
PMEL	Precision Measuring Equipment Laboratory
POL	petroleum, oils, and lubricants
ppm	parts per million
Q-D	Quantity Distance
RCRA	Resource Conservation and Recovery Act
RPA	remotely piloted aircraft
RSAF	Royal Saudi Air Force
SECAF	Secretary of the Air Force
SEL	Sound Exposure Level
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SR	state route
SUA	Special Use Airspace
TSCA	Toxic Substances Control Act
U.S.	United States
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
USGS	United States Geological Service
VFR	Visual Flight Rule
VOC	volatile organic compound
WSA	Wilderness Study Area
WSO	weapon systems officer

FINDING OF NO SIGNIFICANT IMPACT

1.0 NAME OF THE PROPOSED ACTION

Environmental Assessment (EA) for the Proposed Royal Saudi Air Force (RSAF) F-15SA Beddown, Mountain Home Air Force Base (AFB).

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This EA, prepared in accordance with the National Environmental Policy Act (NEPA) (42 United States Code 4321-4347), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR § 989, is hereby incorporated by reference.

The proposed action analyzed in this EA consists of a single action establishing a United States Air Force (USAF)-lead RSAF training squadron of F-15SA aircraft at Mountain Home AFB with four component parts:

1) basing and operating up to 18 RSAF F-15SA aircraft tentatively beginning in 2014;
2) using the airfield and associated airspace for training;
3) increasing personnel; and
4) constructing, modifying, and equipping facilities to support the beddown.

The RSAF squadron would be an Air Force-lead squadron operating as a separate, but integrated, fighter squadron under the command of an Air Force squadron commander and under the operational control of the 366 Fighter Wing (FW) Commander. Operating as a Formal Training Unit (FTU) for at least 5 years, the squadron would conduct core flight training and operate an aircraft maintenance training center. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home AFB. The new F-15SA squadron would be a multi-role squadron and fly missions similar to USAF F-15E FTU squadrons.

In addition to the proposed action, the NEPA of 1969 requires the USAF to analyze the no-action alternative. Under the no-action alternative, the basing of the RSAF F-15SA squadron would not occur in the Continental U.S., nor would any other component of the proposed action be implemented at Mountain Home AFB.

3.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

The EA focused analysis on the following environmental resources: airspace management and safety, noise, land use, recreation, and visual, socioeconomics and environmental justice/protection of children, transportation, community and infrastructure, air quality, soils and water, hazardous materials and waste, biological resources, and cultural resources. Details of the environmental consequences are in the EA and, according to the analysis, implementing the proposed action would have a negligible to minimal effect on existing conditions at Mountain Home AFB or in its associated training airspace.

4.0 CONCLUSION

Based on the analysis provided in the EA, which has been conducted in accordance with the NEPA, the CEQ regulations, and 32 CFR § 989, implementing the proposed action would not result in significant impacts to human health or the natural environment. Therefore, issuance of a Finding of No Significant Impact is warranted, and an Environmental Impact Statement is not required.

8/16/2012

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Deputy Director, Installations & Mission Support

Final

Environmental Assessment for Proposed Royal Saudi Air Force F-15SA Beddown, Mountain Home AFB

United States Air Force
Air Combat Command

August 2012

EXECUTIVE SUMMARY

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This Environmental Assessment (EA) analyzes the potential environmental consequences resulting from a United States (U.S.) Air Force (USAF) proposal to beddown a USAF-lead Royal Saudi Air Force (RSAF) squadron of F-15SA aircraft and associated personnel working under the 366th Fighter Wing (366 FW) at Mountain Home Air Force Base (AFB) in Idaho. The RSAF would purchase up to 18 F-15SA aircraft, provide RSAF military personnel and fund U.S. contractor personnel, fund the construction and modification of facilities, and provide equipment to operate the squadron and maintenance training function for at least five years. This EA has been prepared by the USAF in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA), Council of Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] §§ 1500-1508), and the USAF's implementing regulations (32 CFR § 989).

PURPOSE AND NEED FOR THE ACTION

The purpose of this action is to establish a USAF-lead RSAF F-15SA training squadron (i.e., Formal Training Unit [FTU]) and maintenance training center within the Continental U.S. (CONUS) at a location that would maximize training and minimize cost and environmental impacts. Saudi Arabia has submitted a Letter of Request for the need to establish an USAF-led F-15SA training squadron based in the CONUS. The Secretary of the Air Force (SECAF) and the Chief of Staff of the Air Force (CSAF) agreed to offer the RSAF a CONUS basing option with the completion of a signed Letter of Agreement identifying details of the RSAF basing proposal. In light of the RSAF request, the Air Force, following the tenets of the strategic basing process, assessed the ability of Mountain Home AFB to satisfy RSAF requirements. As other bases would not adequately meet the purpose and need for this action, they were determined to not be reasonable alternatives and were not carried forward for analysis, leaving the alternatives for this analysis as bedding down the Saudi aircraft at Mountain Home AFB or taking no action.

Following World War II, the U.S. Government established a policy of providing training to military personnel from countries allied with the U.S. Such training has been conducted throughout the post-World War II era. As part of this policy, the Republic of Singapore Air Force based a squadron of F-15SGs aircraft at Mountain Home AFB in 2009 (USAF 2007a). The provision of such training has proven effective in maintaining combat readiness of allied forces and ensuring that allied forces can perform effectively in a multinational force structure when needed to fight as a team. The success of the allied forces in conflicts throughout the world over the last 15 years is, in part, a result of the close and effective working relationships developed through such training experience. Therefore, the beddown and operation of up to 18 RSAF F-15SA aircraft at Mountain Home AFB would help to meet the requirements of maintaining combat readiness with the RSAF to ensure that allied forces can perform as a team when needed.

PROPOSED ACTION AND ALTERNATIVES

The proposed action analyzed in this EA consists of a single action establishing a USAF-lead RSAF training squadron of F-15SA aircraft at Mountain Home AFB with four component parts: 1) basing and operating up to 18 RSAF F-15SA aircraft tentatively beginning in 2014; 2) using the airfield and associated airspace for training; 3) increasing personnel; and 4) constructing, modifying, and equipping facilities to support the beddown.

Proposed Action

Mountain Home AFB-based aircraft consist of 42 USAF F-15Es and 14 F-15SGs belonging to the Republic of Singapore Air Force. Under the proposed action, the USAF-lead RSAF would beddown and operate up to 18 F-15SA aircraft, as well as add a total of 487 military and civilian contractor personnel to operate and maintain the squadron, and to provide necessary support services.

The RSAF squadron would be a USAF-lead squadron operating as a separate, but integrated, fighter squadron under the command of a USAF squadron commander and under the operational control of the 366 FW Commander. Operating as a Formal Training Unit for at least 5 years, the squadron would conduct core flight training and operate an aircraft maintenance training center. A number of pilots, weapon system officers, and maintenance personnel would be trained to establish initial setup of the RSAF squadron. Pilots would arrive at Mountain Home AFB already qualified to fly high performance aircraft but would need syllabus instruction specific to flying the F-15SA.

The F-15SAs would employ the same departure and landing procedures as currently used by the F-15E/F-15SGs at Mountain Home AFB. The F-15SA operations would adhere to existing restrictions, avoidance procedures, and the quiet-hours program at Mountain Home AFB. Overall, total airfield operations conducted at Mountain Home AFB would increase by 34 percent.

Sortie-operations within the Mountain Home Range Complex (MHRC) and associated airspace would increase by about 32 percent. No aspect of the proposed action would alter the structure or overall nature or use of the local or remote airspace units. Rather, changes to the aircraft inventory at Mountain Home AFB would only result in minor modifications to the amount of activity in the airspace.

Basing the RSAF squadron at Mountain Home AFB would add an estimated total of 487 personnel to operate and maintain the squadron, and to provide necessary support services. The total RSAF contingent is expected to number 200, with the majority (163) of these being temporary maintenance trainees and 37 officers associated with pilot training. Eight USAF military personnel would also provide support to pilot training and maintenance training. Projected civilian manpower, composed of U.S. contractors, would total 279. Overall, base personnel would increase 10 percent as a result of the beddown. Most of the additional personnel would be U.S. civilian contractors associated with the maintenance training facility. In addition, Mountain Home AFB would increase base operating support personnel by 49 (10 percent of the total additional personnel under the proposed action).

Several facility projects at Mountain Home AFB are required to support the beddown of the RSAF squadron. A total of 22 construction, modification, or infrastructure improvement projects directly related to the beddown would be implemented from 2012 to 2014 under the proposed action. In total, the construction, modifications, and infrastructure improvements would affect about 474,315 square feet of building space, potentially disturb 14.08 acres of land (all previously disturbed), and add 3.85 acres of new impervious surface. Such surface would be limited because much of the construction would occur on already developed areas. Total estimated cost of construction is $124 million. All construction and repair associated with the Saudi F-15SA beddown would be reimbursed by the government of Saudi Arabia.

No-Action Alternative

Under the no-action alternative, no beddown of the USAF lead RSAF F-15SA FTU squadron would occur. All airfield, airspace, and range use, as well as munitions training, would reflect conditions applicable to the F-15E and F-15SG operations should the proposed action not occur. No changes in personnel would occur and no construction or building renovations would be necessary. However, the no-action alternative would not meet the purpose and need.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

This EA provides an analysis of the potential environmental consequences resulting from implementing the proposed action and no-action alternative, and the cumulative environmental consequences of the proposed action and alternative relative to pertinent past, current, and foreseeable future actions. Eleven resource categories and cumulative effects received a thorough interdisciplinary analysis to identify potential impacts. According to the analysis in this EA, implementing the proposed action would have a negligible to minimal effect on existing conditions at Mountain Home AFB or in its associated training airspace. The following (Table ES-1) summarizes and highlights the results of the analysis by resource category. Basing and operating the F-15SA aircraft at Mountain Home AFB in combination with other actions proposed for the MHRC airspace could have an adverse, but not significant, cumulative effect due to increased noise in the lands beneath the Jarbidge North and Owyhee North MOAs. Under the scenario of the cumulative basing of the F-35A at Mountain Home AFB and the F-35A training squadron at the Boise Air Terminal AGS, cumulative impacts would be significantly adverse, but these impacts would be primarily due to the proposed operations conducted by over 140 F-35A aircraft in the MHRC and associated airspace. However, this result is speculative given the fact that Luke AFB and Hill AFB are the preferred alternatives for the actions, each based on a number of relevant factors, and the fact that several other alternatives are also being considered for the F-35A training and operational beddowns.

Table ES-1. Comparison of Environmental Consequences		
Resource Area	***Proposed Action***	***No Action***
	Environmental Consequences	*Environmental Consequences*
Airspace Management and Safety	**Mountain Home AFB and Vicinity:** • No adverse impacts to airspace management and use within the local air traffic environment. • 34 percent increase in total annual airfield operations under proposed action. • Slight increase in mishap potential. **MHRC and Associated Airspace:** • No change to current configuration of airspace under proposed action. • 32 percent increase in total operations under proposed action. • No change in airspace use and management**.** • Minimal increase to bird/wildlife-aircraft strike hazards or aircraft mishaps above baseline levels.	**Mountain Home AFB and Vicinity:** • No change to airspace management and use within the local air traffic environment. **MHRC and Associated Airspace:** • No change to current configuration of airspace under no action.
Noise	**Mountain Home AFB and Vicinity:** • **Affected by 65 dB DNL or greater:** Acres: Increase of 3,407 acres in agricultural lands and on base Population: no change (3 people affected) Households: no change (1 household affected) Representative Receptors: increase in 1 dB primarily on base; 9 representative receptors (8 on base) **MHRC and Associated Airspace:** • **Subsonic:** No perceptible increase in any airspace unit (1 dB). • **Supersonic:** Sonic booms would increase an average of less than one per day; Supersonic noise would increase by 1 dB; Increases would not adversely affect populations, communities, special land uses, or other resources.	**Mountain Home AFB and Vicinity:** • Noise levels would remain unchanged and consistent with the current noise contours. • Population: 3 • Households: 1 • 8 representative receptors (7 on base) **MHRC and Associated Airspace:** • Subsonic and supersonic noise would remain at current low levels.
Land Use/Recreation/ Visual	**Mountain Home AFB and Vicinity:** • No change to the existing airfield-related APZs and Clear Zones. • 3,197 acres or a 23 percent increase of off-base land area affected by noise levels equal to or greater than 65 dB DNL. Lands are in agricultural areas. **MHRC and Associated Airspace:** • No change to general land use patterns, land ownership. • No change to management of lands or special use land areas beneath the airspace. • No impact to community land uses.	**Mountain Home AFB and Vicinity:** • Operations and noise levels would remain unchanged and consistent with current land use planning documents and practices. **MHRC and Associated Airspace:** • No change to current land use patterns or management.
Air Quality	**Mountain Home AFB and Vicinity:** • Proposed annual construction emissions would not exceed 250 tons-per-year for any criteria pollutant. • Emissions due to operations activities would incrementally increase regional emissions of CO2. **MHRC and Associated Airspace:** • Criteria pollutant and CO_2 emissions would increase but the increase would be limited by the transitory nature of the operations and the large operational area	**Mountain Home AFB and Vicinity:** • No change to local air quality. **MHRC and Associated Airspace:** • No change to regional air quality.

Table ES-1. Comparison of Environmental Consequences (con't)		
Resource Area	***Proposed Action***	***No Action***
	Environmental Consequences	*Environmental Consequences*
Soils and Water Resources	**Mountain Home AFB and Vicinity:** • Increase of 14.08 acres surface disturbance and 3.85 acres increase in impervious surface. • Construction would take place internally within existing facilities and geology, topography, soils, surface water, groundwater, and floodplains would not be adversely impacted. **MHRC and Associated Airspace:** • Not applicable.	**Mountain Home AFB and Vicinity:** • No change to existing conditions. **MHRC and Associated Airspace:** • Not applicable.
Hazardous Materials and Waste	**Mountain Home AFB and Vicinity:** • Quantities and types of hazardous materials and hazardous waste needed for maintenance of the F-15SA would be similar to those currently used for maintenance of based aircraft. • Any structures proposed for upgrade or retrofit would be inspected for ACM and LBP according to established procedures. • Neither upgrades to existing facilities nor future operations are expected to affect known ERP locations. **MHRC and Associated Airspace:** • Not applicable.	**Mountain Home AFB and Vicinity:** • There would be no change to existing conditions. **MHRC and Associated Airspace:** • Not applicable.
Socioeconomics and Environmental Justice/Protection of Children	**Mountain Home AFB and Vicinity:** • Increase of 487 military/civilian/contractor personnel; annual increase in salaries of approximately $10 million. • Use of existing housing plus construction of dormitories would accommodate increase in personnel • Approximately $123 million in 2012 through 2014 expenditures for proposed construction and modification. • No disproportionate impacts to low income or minority populations or children **MHRC and Associated Airspace:** • No disproportionate impacts to low income or minority populations or children	**Mountain Home AFB and Vicinity:** • No change in number of military/civilian/contractor personnel. • No new expenditures for proposed construction and modification. **MHRC and Associated Airspace:** • Few low income and minority populations under airspace.
Transportation	**Mountain Home AFB and Vicinity:** • Construction traffic could result in negligible short term increases in the use of on-base roadways. • Increase in peak period travel demand by 10.7 percent under proposed action. • This increase would not exceed any significance thresholds for roadway capacity. **MHRC and Associated Airspace:** • Not applicable.	**Mountain Home AFB and Vicinity:** • Traffic in the vicinity of Mountain Home AFB would remain unchanged from current conditions. **MHRC and Associated Airspace:** • Not applicable.

Table ES-1. Comparison of Environmental Consequences (con't)		
Resource Area	***Proposed Action***	***No Action***
	Environmental Consequences	*Environmental Consequences*
Community and Infrastructure	**Mountain Home AFB and Vicinity:** • An increase in demand of 197,285 gallons per day of potable water is expected due to the increase in personnel and their dependents. • Mission related water consumption (primarily washing aircraft) would be expected to increase by approximately 34 percent, corresponding to the increase in operations. • The City of Mountain Home's wastewater treatment system has the capacity to handle the additional wastewater due to the increase in personnel and their dependents. • Additional facilities would incorporate energy efficient and sustainable designs to reduce energy consumption. • The Simco Road Regional Landfill has the capacity to handle the solid waste generated by the construction associated with the proposed action. **MHRC and Associated Airspace:** • Not applicable.	**Mountain Home AFB and Vicinity:** • No change to existing conditions. **MHRC and Associated Airspace:** • Not applicable.
Biological Resources	**Mountain Home AFB and Vicinity:** • No loss of vegetation or terrestrial habitat under proposed action. • No impacts to potential threatened and endangered species; negligible impacts to special status species due to construction activity. Existing conservation measures relating to burrowing owls would limit impacts from construction. **MHRC and Associated Airspace:** • Impacts to wildlife or threatened or endangered species or special status species from changes in airspace operations or range use would be minimal under the proposed action.	**Mountain Home AFB and Vicinity:** • No change to existing conditions. **MHRC and Associated Airspace:** • No change to existing conditions.
Cultural Resources	**Mountain Home AFB and Vicinity:** • No impacts to archaeological, architectural, or traditional historic properties under the proposed action. **MHRC and Associated Airspace:** • No adverse impacts would result to NRHP-eligible or listed archaeological, architectural, or traditional historic properties. The Oregon and Nevada SHPOs concurred that no historic properties (i.e., eligible for or listed on the NRHP) would be affected. For this proposal, consultation with the Idaho SHPO is covered under the Programmatic Agreement they have with Mountain Home AFB; therefore, the Section 106 consultations are complete. • Letters and copies of the draft EA sent to federally recognized American Indian Tribes initiating government-to-government consultation and requesting comments. Six Government-to-Government consultation meetings were held between the Air Force and the Shoshone-Paiute Tribes. No formal opposition to the proposed action has been received by any of the other tribes.	**Mountain Home AFB and Vicinity:** • No change to existing conditions. **MHRC and Associated Airspace:** • No change to existing conditions.

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CHAPTER 1

PURPOSE AND NEED FOR THE PROPOSED ACTION

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The United States (U.S.) Air Force (USAF) Air Combat Command (ACC) and Mountain Home Air Force Base (AFB) are preparing this Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Beddown at Mountain Home AFB (Figure 1-1).

The USAF is supporting the RSAF request to establish a Continental U.S. (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include basing and operating of up to 18 aircraft. Working with the USAF, the RSAF requested a CONUS beddown location co-located with a USAF F-15E unit to make use of common facilities and take advantage of joint training opportunities. Under the proposed action, the RSAF squadron would operate as a USAF-lead fighter squadron under the operational control of the 366th Fighter Wing (366 FW) at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex (MHRC) and associated airspace in Idaho, Nevada, and Oregon. The squadron, under the direction of the 366 FW, would operate as a Formal Training Unit (FTU) and a maintenance training center for at least five years. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home AFB, but no change in the mission for the 366 FW would occur. The new F-15SA squadron would be a multi-role squadron and fly missions similar to USAF F-15E FTU squadrons.

The beddown of the USAF-lead RSAF squadron at Mountain Home AFB would include:

- Addition of up to 18 operational F-15SA aircraft to the inventory tentatively beginning in 2014;
- Increased airfield operations and sortie-operations in nearby Restricted Areas, Military Operations Areas (MOAs), and Military Training Routes (MTRs);
- Basing of 487 RSAF and USAF military personnel and U.S. civilian contractors; and
- Construction, modification, and demolition of facilities.

The USAF prepared this EA to determine the potential environmental consequences of implementing the proposed beddown. Specifically, the proposed action at Mountain Home AFB would involve all of the components mentioned above including constructing, modifying, equipping, and improving facilities for squadron operations, maintenance training, and aircraft support.

In addition to the proposed action, the National Environmental Policy Act (NEPA) of 1969 requires the USAF to analyze the no-action alternative. Under the no-action alternative, the basing of the RSAF F-15SA squadron would not occur in the CONUS, nor would any other component of the proposed action be implemented at Mountain Home AFB.

This EA has been prepared in accordance with the requirements of the NEPA, Council of Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] §§ 1500-1508), and the USAF's implementing regulations (32 CFR § 989).

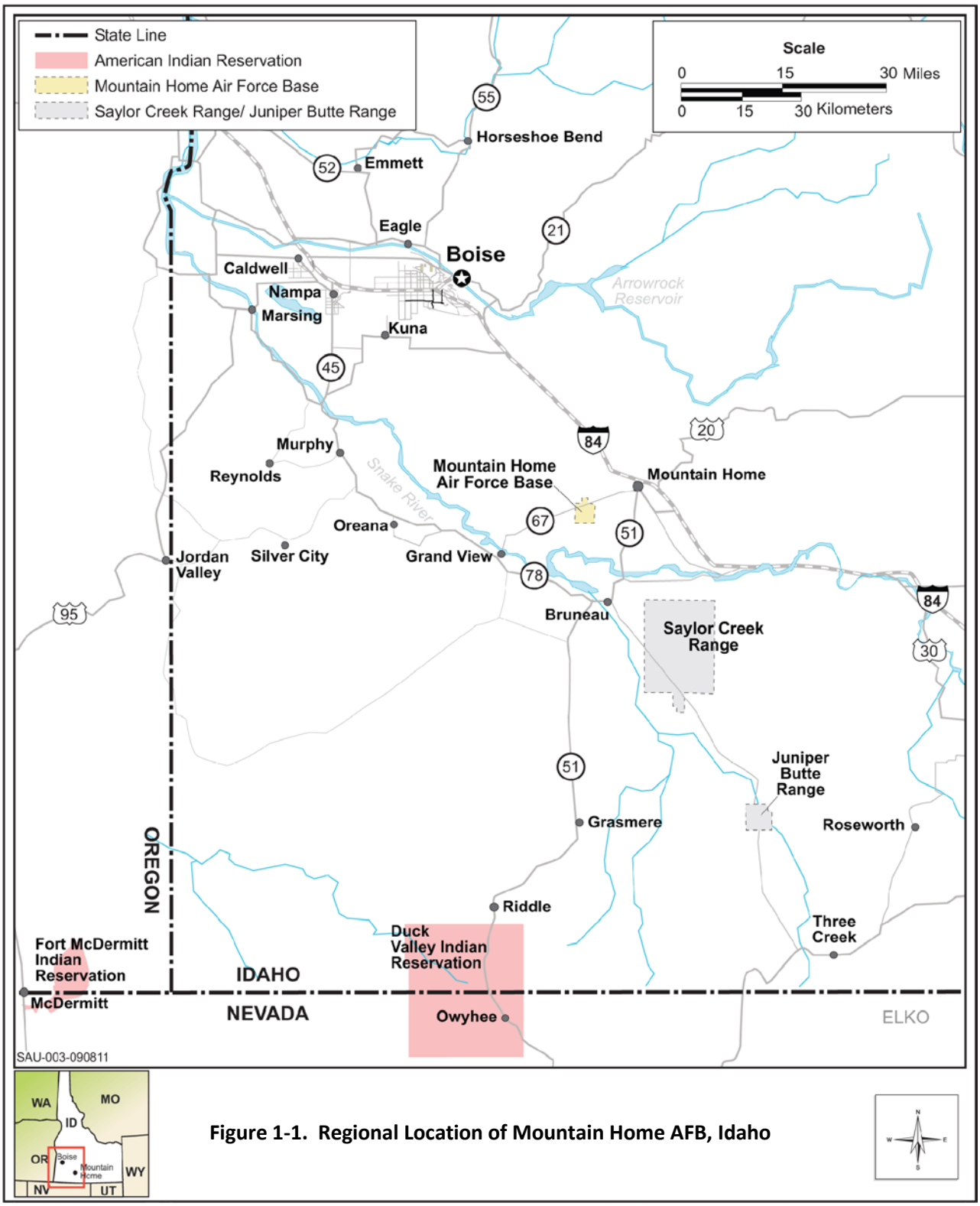

Figure 1-1. Regional Location of Mountain Home AFB, Idaho

1.2 MOUNTAIN HOME AFB

Mountain Home AFB, located in southwestern Idaho, approximately 50 miles southeast of Boise and 8 miles southwest of Mountain Home (refer to Figure 1-1), supports the 366 FW. Occupying 6,844 acres, on-base buildings, roads, runways, and other facilities cover approximately 25 percent of the land (Figure 1-2). The most intensively developed areas are located in the central and northeastern portions of the base. Landscaped and disturbed areas account for another 25 percent of Mountain Home AFB, with the remainder of the lands ranging from open, undeveloped fields to partially disturbed areas separating buildings and facilities. The periphery of the base contains the least development.

At present, Mountain Home AFB has three fighter squadrons—two USAF squadrons of F-15Es and one squadron of USAF F-15SGs from the Republic of Singapore Air Force (Table 1-1).

Table 1-1. Composition of the 366 FW in 2011

Aircraft Type	*Aircraft*	*Squadron Designation*
F-15E	18	389th Fighter Squadron
F-15E	24	391st Fighter Squadron
F-15SG (Singapore)	14	428th Fighter Squadron
Total	**56**	

The base has a 68 year history of adapting to the effects of changing USAF missions, from the World War II heavy long range bombers (B-24s, B-29s, and B-47s), to modern fighters (F-16, F-15C) and bombers (B-1B) to the current F-15E/F-15SG squadrons. Mountain Home AFB has expanded, constricted, closed, and re-opened several times. Since 1990, the number of aircraft based at Mountain Home AFB has varied from a high of 76 to its present number of 56. There are currently two primary missions at Mountain Home AFB - to rapidly deploy to conflicts and trouble spots around the world, and to be the foreign military pilot training location for the Republic of Singapore F-15SGs.

Mountain Home AFB controls and operates the MHRC airspace. The MHRC airspace is comprised of six MOAs and associated Air Traffic Control Assigned Airspace (ATCAA) up to 50,000 feet mean sea level (MSL). The MHRC incorporates two air-to-ground weapons ranges, Saylor Creek and Juniper Butte. Saylor Creek and Juniper Butte air-to-ground weapons ranges comprise tactical ranges with an associated electronic warfare capability. In addition, Mountain Home AFB uses the Saddle MOA, an adjunct airspace used for training but which is not part of the MHRC.

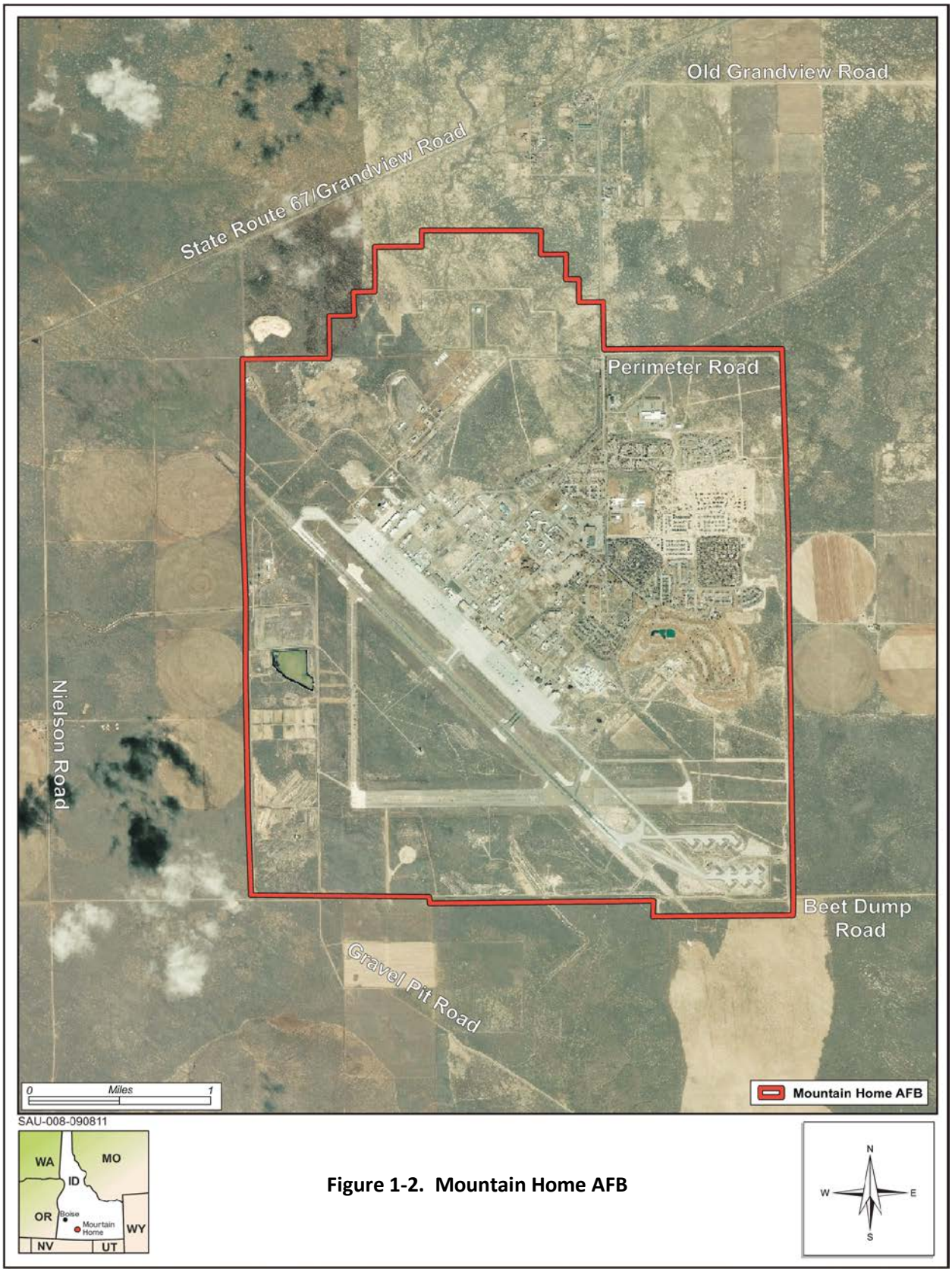

Figure 1-2. Mountain Home AFB

1.3 PURPOSE AND NEED

The purpose of this action is to establish a USAF-lead RSAF F-15SA training squadron (i.e., FTU) and maintenance training center within the CONUS at a location that would maximize training and minimize cost and environmental impacts. Saudi Arabia has submitted a Letter of Request for the need to establish an USAF-led F-15SA training squadron based in the CONUS. The Secretary of the Air Force (SECAF) and the Chief of Staff of the Air Force (CSAF) have agreed to offer the RSAF a CONUS basing option with the completion of a signed Letter of Agreement identifying details of the RSAF basing proposal. In light of the RSAF request, the Air Force, following the tenets of the strategic basing process, assessed the ability of Mountain Home AFB to satisfy RSAF requirements. As other bases would not adequately meet the purpose and need for this action, they were determined to not be reasonable alternatives and were not carried forward for analysis, leaving the alternatives for this analysis as bedding down the Saudi aircraft at Mountain Home AFB or taking no action.

Under the proposed action, the RSAF would purchase up to 18 F-15SA aircraft, provide RSAF military personnel and fund U.S. civilian contractor personnel, fund the construction and modification of facilities, and provide equipment to operate the squadron and maintenance training function for at least five years.

Following World War II, the U.S. Government established a policy of providing training to military personnel from countries allied with the U.S. As part of this policy, the Republic of Singapore Air Force based a squadron of F-15SGs aircraft at Mountain Home AFB in 2009 (USAF 2007a). The provision of such training has proven effective in maintaining combat readiness of allied forces and ensuring that allied forces can perform effectively in a multinational force structure when needed to fight as a team. The success of the allied forces in conflicts throughout the world over the last 15 years is, in part, a result of the close and effective working relationships developed through such training experience. Therefore, the beddown and operation of up to 18 RSAF F-15SA aircraft at Mountain Home AFB would help to meet the requirements of maintaining combat readiness with the RSAF to ensure that allied forces can perform as a team when needed.

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CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter describes the proposed Royal Saudi Air Force (RSAF) beddown at Mountain Home Air Force Base (AFB), Idaho. The proposed action analyzed in this Environmental Assessment (EA) consists of a single action establishing a United States (U.S.) Air Force (USAF)-lead RSAF training squadron of F-15SA aircraft at Mountain Home AFB with four component parts: 1) basing and operating up to 18 RSAF F-15SA aircraft beginning in 2014; 2) using the airfield and associated airspace for training; 3) increasing personnel; and 4) constructing, modifying, and equipping facilities to support the beddown. As required under National Environmental Policy Act (NEPA) and Council of Environmental Quality (CEQ) regulations, the no-action alternative reflects conditions at Mountain Home AFB should the proposed action not be implemented.

The RSAF squadron would operate as a separate, but integrated, USAF fighter squadron under the operational control of the 366th Fighter Wing (366 FW) Commander. Operating as a Formal Training Unit (FTU) for at least 5 years, the squadron would conduct core flight training and operate an aircraft maintenance training center. A number of pilots and weapon system officers, and maintenance personnel would be trained in the process. Pilots would be qualified to fly aircraft (usually F-15Cs) and most would have substantial flight experience; however, they would need additional instruction in flying F-15SAs.

This training mission is consistent with the FTU training mission at Mountain Home AFB implemented for the Republic of Singapore Air Force, as well as meeting the need for collocation with a U.S. operational F-15 mission. The new F-15SA squadron would be a multi-role squadron and fly missions similar to USAF F-15E FTU squadrons. The manpower at Mountain Home AFB would increase slightly (487 authorizations) due to the beddown of the RSAF. The initial commitment proposed by the RSAF is a 5-year presence at the base from 2014 through 2019, although a commitment beyond this 5-year period is possible.

2.1 ALTERNATIVE IDENTIFICATION PROCESS

Alternatives form the core of the NEPA process. In compliance with NEPA, 32 CFR § 989, which implements the Air Force's Environmental Impact Analysis process, and CEQ regulations, the Air Force must consider reasonable alternatives to the proposed action. Only those alternatives determined as reasonable relative to their ability to fulfill the need for a proposed action warrant detailed analysis. To be considered reasonable, an alternative must not only fulfill the purpose and need for the action, it must be technically and fiscally feasible. It must also involve an action that is reasonably foreseeable. Through rigorous evaluation, an agency needs to examine a range of alternatives, determining those deemed reasonable and those not carried forward for detailed analysis.

The Royal Saudi Air Force (RSAF) requested a training location within the continental United States (CONUS) similar to Mountain Home AFB. The Secretary of the Air Force (SECAF) and the Chief of Staff of the Air Force (CSAF) directed ACC review opportunities for beddown of up to 18 F-15SA aircraft and associated personnel. To guide this process, the Air Force determined the following to be necessary

salient characteristics: a CONUS fighter base collocated near an existing F-15E wing; a cadre of USAF operations and maintenance instructors; minimized beddown cost; a desert landscape; and opportunity to routinely train with U.S. ground and air forces.

In light of the RSAF request, the Air Force, following the tenets of the strategic basing process, assessed the ability of Mountain Home AFB to satisfy RSAF requirements. As other bases would not adequately meet the purpose and need for this action, they were determined to not be reasonable alternatives and were not carried forward for analysis, leaving the alternatives for this analysis as bedding down the Saudi aircraft at Mountain Home AFB or taking no action.

2.2 PROPOSED ACTION AND ALTERNATIVES

The proposed action consists of four related elements that could affect the environment: an aircraft beddown; airfield and training flight operations; personnel increases; and construction and remodeling. Under the proposed action, RSAF facilities would be integrated near the northern portion of the flightline.

2.2.1 Aircraft Inventory Changes

The inventory of based aircraft at Mountain Home consists of 42 F-15Es operated by 366 FW personnel and 14 F-15SGs operated by the USAF and the Republic of Singapore Air Force. Under the proposed action, the RSAF would beddown and operate up to 18 F-15SA aircraft. Tentative arrival dates for the first four aircraft delivered to Mountain Home AFB is September 2014. Additional deliveries are expected at the rate of four per month, with up to 18 total aircraft being delivered by January 2015 (Table 2-1).

Table 2-1. Aircraft Inventory Associated with No Action and the Proposed Action

Aircraft	*No Action*	*Proposed Action*
F-15E	42	42
F-15SG (Singapore)	14	14
RSAF F-15SA	0	18
Total	**56**	**74**

USAF F-15E

The F-15E Strike Eagle is a dual-role fighter designed for sophisticated air-to-ground attack capabilities and air-to-air superiority missions, using two crewmembers, a pilot and a weapon systems officer (WSO). The mission of the F-15E is an aircraft capable of fighting its way to a target over long ranges, destroying enemy ground positions, and fighting its way out. To accomplish this goal, the F-15E can be equipped with both laser-guided weapons and air-to-air missiles, and use low-altitude navigation and targeting infrared for night systems in order to find and destroy targets day or night and in all kinds of weather.

With a WSO rear cockpit, the F-15E functions well in its dual-role fighter mode. During the air-to-surface weapons delivery, the pilot is capable of detecting, targeting, and engaging air-to-air targets while the WSO designates the ground target. The F-15E can carry most weapons in the USAF inventory for air-to-air and air-to-ground missions including AIM-9 Sidewinders and AIM-120 Advanced Medium

Range Air-To-Air Missiles. The "E" model also has an internally mounted 20-millimeter gun that can carry up to 500 rounds.

RSAF F-15SA

The RSAF version of the USAF F-15E Strike Eagle is designated the F-15SA, and represents a version of the USAF F-15E, with minor customization to Saudi specifications and up-to-date avionics. An updated radar system, electronics, and self-defense system has been added, as well as enhanced surveillance and targeting pods. General Electric F110 engines power the aircraft. The General Electric F110 is designed to provide higher performance (more than 5,000 pounds of thrust), improved reliability, and reduced operation and support costs. The RSAF beddown would result in up to 18 additional operational aircraft at Mountain Home AFB (refer to Table 2-1) purchased from the Boeing Company.

2.2.2 Flight Operations

Airfield Operations

Throughout this EA, three terms are used to describe aircraft operations: sortie, airfield operation, and sortie-operation. A *sortie* is the flight of a single aircraft from takeoff through landing. An *airfield operation* represents the single movement or individual portion of a flight in the base airfield airspace environment (e.g., a takeoff or a landing). A *sortie-operation* is defined as the use of one airspace unit (e.g., a training route) by one aircraft.

Under no action, the based F-15E/F-15SGs would conduct approximately 28,766 (88 percent) airfield operations annually (Table 2-2). Transient aircraft, including A-10s from the Idaho Air National Guard in Boise, account for 3,846 (12 percent) airfield operations. Combined based and transient aircraft at Mountain Home AFB would fly 32,612 operations. Under the proposed action, total airfield operations would increase to 43,821 from baseline, or about 34 percent. All of the additional operations would be conducted by the F-15SAs. The USAF expects no change to other based or transient aircraft activities. Airfield operations at these levels are consistent with past activities.

Table 2-2. Comparison of No Action and Proposed Action Annual Airfield Operations[1,2]

Aircraft	*No Action*	*Proposed Action*
F-15E	20,048	20,048
F-15SG (Singapore)	8,718	8,718
Transients[3]	3,846	3,846
RSAF F-15SA	0	11,209
Total	**32,612**	**43,821**
Percent Change from No Action	**0**	**+34%**

Notes:
[1]Includes landings, take-offs, and closed patterns.
[2]includes 10.5 percent environmental night (after 10:00 pm and before 7:00 am)
[3]Includes EA-6B, F-15C, KC-135, C-21, A-10, and others.

The F-15SAs would employ the same departure and landing procedures as currently used by the F-15E/F-15SGs at Mountain Home AFB. The F-15SA operations would adhere to existing restrictions, avoidance procedures, and the quiet-hours program at Mountain Home AFB. The base F-15E/F-15SG

aircraft at Mountain Home AFB currently average 240 flying days per year; the F-15SAs would be the same, based on USAF estimates. Daily operations would increase from 136 per day under no action to a maximum of 183 per day under the proposed action.

Under the USAF initiative to increase readiness, the F-15E fighters at Mountain Home AFB conduct 11 percent of their operations during environmental night (10:00 p.m. to 7:00 a.m.). The Singapore F-15SG aircraft fly about 14 percent during environmental night, whereas no transients operate during this period. With the addition of transient operations, the overall airfield night operations are 10.5 percent. Like the Singapore F-15SGs, the Saudi squadron would need to perform about 14 percent of its operations during environmental night in order to meet training requirements with the Saudi beddown. Total operations during environmental night would increase by less than 1 percent under the proposed action.

Airspace Operations

Airspace Structure

Aircraft from Mountain Home AFB conduct training operations in the Mountain Home Range Complex (MHRC), consisting of Military Operations Areas (MOAs) and overlying Air Traffic Control Assigned Airspace (ATCAA), Restricted Areas, and Military Training Routes (MTRs). MOAs are special use airspace designated by the Federal Aviation Administration (FAA) to identify areas where high density and quick maneuvering military operations are conducted and to separate these activities from nonparticipating Instrument Flight Rules (IFRs) (civil and military) traffic; however, Visual Flight Rules (VFRs) traffic is free to fly through these airspace units under the see-and-avoid concept. MOAs provide the horizontal and vertical space to permit military aircraft to maneuver and train. Mountain Home AFB uses six MOAs within the MHRC: Jarbidge North, Jarbidge South, Owyhee North, Owyhee South, Paradise North, and Paradise South. In addition, Mountain Home AFB uses the Saddle MOA, an adjunct airspace used for training but is not part of the MHRC. Figure 2-1 presents the boundaries and altitudes of these MOAs.

ATCAAs overlie each of these MOAs and provide additional maneuvering airspace, especially for air combat training. ATCAA airspace extends upward from 18,000 feet MSL to the altitude assigned by the FAA. ATCAAs are activated only when assigned by the FAA.

Restricted areas separate potentially hazardous military activities, such as air-to-ground training, from other aviation activities. Aircraft must have permission from air traffic control to enter a restricted area when active. Mountain Home AFB aircraft and transients use two restricted areas, R-3202 (High/Low) overlying Saylor Creek Range, and R-3204 (A-C) overlying Juniper Butte Range (refer to Figure 2-1). The Jarbidge North MOA encompasses both of these restricted areas and their underlying air-to-ground training ranges. The Jarbidge North MOA, as a range support MOA, subsumes all the training activities and sortie-operations associated with these two ranges.

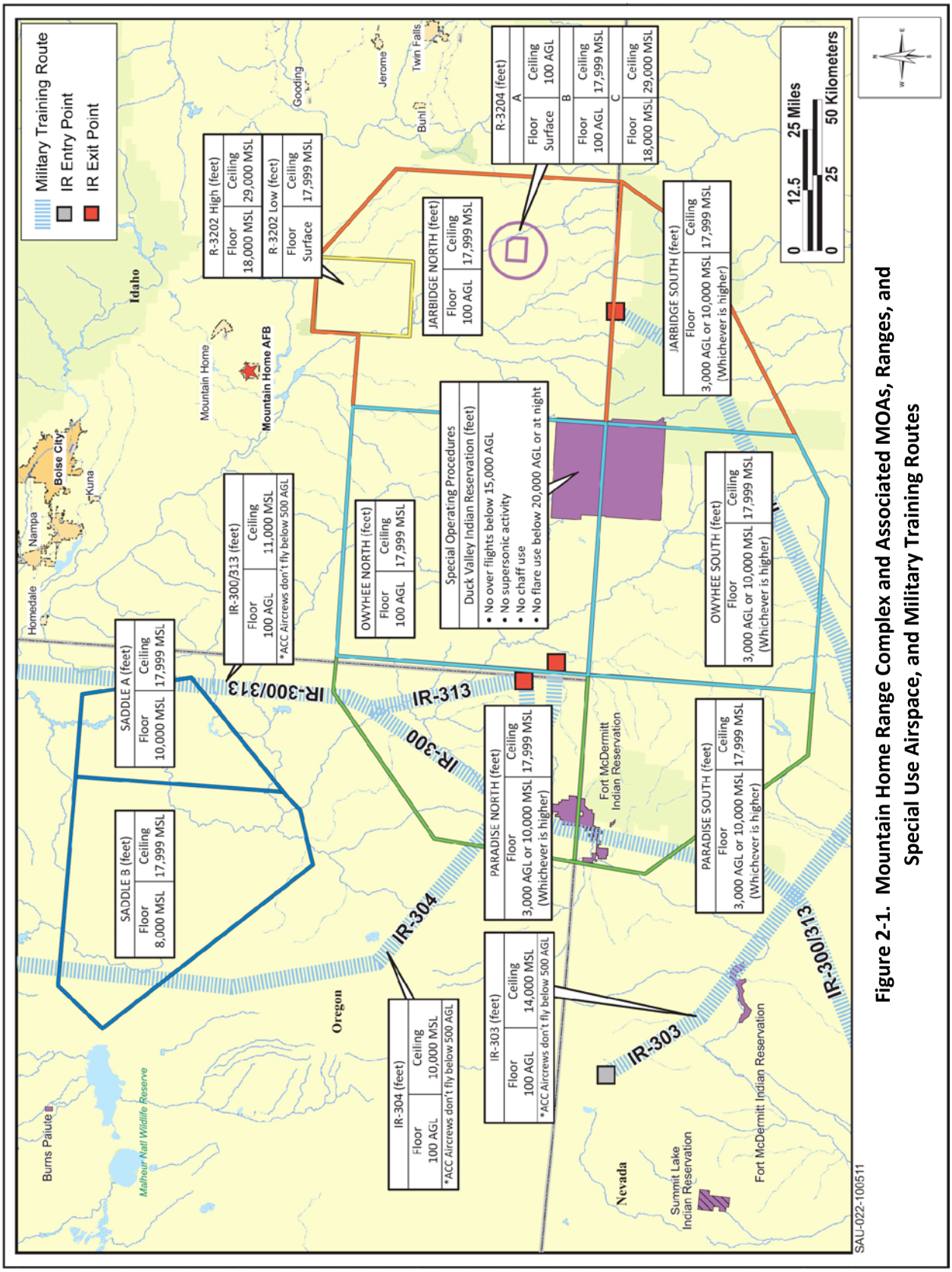

Figure 2-1. Mountain Home Range Complex and Associated MOAs, Ranges, and Special Use Airspace, and Military Training Routes

The three local MTRs affected by the proposed action consist of Instrument Route (IR)-300/313, IR-303, and IR-304. These MTRs, like all others, provide opportunities for low-altitude training within a defined corridor (refer to Figure 2-1). IR routes are used by military aircraft for low-altitude, high-speed navigation training under both instrument and visual flight conditions. IR-303 and IR-304 are flown unidirectionally. IR-300/313 is a reciprocal route that can be flown in either direction. To prevent conflicts, Mountain Home AFB rigorously controls the scheduling of this MTR ensuring all users' awareness of the direction of flight. These MTRs have been environmentally assessed and approved for flight down to 100 feet above ground level (AGL). However, ACC directives require aircrews to fly at 500 feet AGL or higher.

In October 2011, the FAA charted expanded MOAs (including lateral and vertical changes, known as the Paradise, Owyhee, and Jarbidge MOA Airspace Proposal [Mountain Home AFB 2010a]) for the MHRC in order to support ongoing activities irrespective of any proposed actions. Since the based F-15E and F-15SG aircraft would use the reconfigured MHRC regardless of any RSAF basing decision, this situation comprises the no-action alternative. In accordance with NEPA and CEQ regulations, the no-action alternative therefore provides for comparison of impacts with the proposed action.

Mountain Home AFB aircraft also occasionally use remote MOAs, restricted areas, and MTRs. This remote training airspace, such as at the Nevada Test and Training Range and Utah Test and Training Range, receives use by thousands of aircraft from other bases (USAF 1998a); Mountain Home AFB aircraft account for a minimal proportion of total training activities and use of these areas is analyzed in other NEPA documents. For this reason, these remote airspace units receive no further analysis in this EA.

No aspect of the proposed action would alter the structure or overall nature or use of the local or remote airspace units. Rather, changes to the aircraft inventory at Mountain Home AFB would, as described below, only result in minor modifications to the amount of activity in the airspace.

Sortie-Operations in the MHRC

Table 2-3 presents the projected changes in sortie-operations for the seven MOAs associated with Mountain Home AFB. These data reflect proposed increase in use by RSAF F-15SAs associated with the proposed action. As such, sortie-operations would increase 32 percent overall under the proposed action. Based on 240 flying days per year for the based F-15E/F-15SGs and the F-15SAs, increases in sortie-operations in the MOAs under the proposed action would range from 14 per day in the Jarbidge North MOA (for a total of 59 per day) to 4 per day in the Saddle MOA (for a total of 16 per day). Previous totals for the F-16C and F-15C/D squadrons, which were realigned under BRAC, generated an average of 64 sortie-operations per flying day in the Jarbidge MOA and 17 per flying day in the Saddle MOA. As such, the airspace has accommodated greater numbers of sortie-operations than proposed for the RSAF.

Table 2-3. Comparison of No Action and Proposed Action Annual Sortie-Operations In MOAs[1]

MOA	*Based F-15E/ F-15SG Total*	*No Action Total[3]*	*F-15SA*	*Proposed Action Total[3]*	*Percent Change*
Jarbidge North[2]	7,898	10,800	3,468	14,268	+32%
Jarbidge South	1,463	2,000	642	2,642	
Owyhee North	7,770	9,700	3,118	12,818	
Owyhee South	2,563	3,200	1,027	4,227	
Paradise North	2,204	2,400	770	3,170	
Paradise South	2,204	2,400	770	3,170	
Saddle	2,121	2,900	932	3,832	

Source: USAF 2012a

Notes:

[1]includes 10.5 percent environmental night (after 10:00 pm and before 7:00 am)

[2]Includes sortie-operations at Saylor Creek Range and Juniper Butte Range.

[3]Includes transient operations unchanged under the proposed action

Under the no action, the F-15Es/F-15SGs account for 73 percent of the sortie-operations in the Jarbidge North, Jarbidge South, and Saddle MOAs; transients, especially A-10 from the Idaho Air National Guard, conduct the remainder of sortie-operations in these MOAs. For the Owyhee North and South MOAs and the Paradise North and South MOAs, F-15E/F-15SG aircraft perform 80 and 92 percent of the total sortie-operations, respectively. Under the proposed action, use by transients would remain unchanged, but with the addition of the Saudi F-15SA sortie-operations, the proportion of operations by Mountain Home AFB based aircraft would increase. In the Jarbidge North MOA, total based F-15 sortie-operations would increase by about 7 percent to 80 percent overall. For the Jarbidge South MOA, which now affords more maneuvering and training space while avoiding the Duck Valley Indian Reservation, the F-15Es/F-15SGs plus the Saudi F-15SAs would represent 90 percent of the activity, up from 73 percent under no action. Similar increases in the proportion of the based F-15 sortie-operations would occur in the other MOAs (Owyhee North MOA 86 percent; Owyhee South MOA 91; Paradise North and South 97 percent; and Saddle MOAs 88 percent).

The addition of RSAF F-15SAs would also affect sortie-operations on three MTRs: IR-300/313, IR-303, and IR-304. These MTRs, like all others, provide opportunities for low-altitude training within a defined corridor, although under USAF policy, no aircraft fly below 500 feet AGL on MTRs. Under the baseline (Fiscal Year [FY] 09 and FY10), the F-15E/F-15SGs account for all sortie-operations on the MTRs (Table 2-4), with low use levels at less than one sortie-operation per flying day. Under the proposed action, total annual sortie-operations would increase by 34 to 36 percent on all MTRs. Despite these increases, less than 1 sortie-operation per flying day would continue to occur on IR- IR-300/313, IR-303, and IR-304.

Table 2-4. Annual Sortie-Operations in MTRs

MTR	*No Action*	*F-15SAs*	*Proposed Action*	*Percent Change*
IR-300/313	100	34	134	+34%
IR-303	100	34	134	+34%
IR-304	80	29	109	+36%

Source: USAF 2011a

Identical to the F-15E/F-15SG aircraft, the F-15SAs would fly approximately 30 to 90 minute-long missions, including take-off, transit to and from the training airspace, training activities, and landing. Depending upon the distance and type of training activity, the F-15SAs would spend between 20 to 60 minutes in the MHRC. In the larger airspace units, the duration of operations would be longer than in the smaller MOAs. On occasion during an exercise, the F-15SAs may spend up to 90 minutes in one or more airspace units as do the current based aircraft.

The F-15SAs would fly, on average, 14 percent of time during the environmental night (10:00 p.m. to 7:00 a.m.) in the MHRC, matching the activities of the existing F-15SGs currently using the airspace. Depending upon the MOA, about 0.3 to 1.5 operations during environmental night would be added for each flying day as a result of implementing the proposed action.

In a 1996 Settlement Agreement between the USAF and the Shoshone-Paiute Tribes, the USAF agreed, absent compelling national security circumstances, military contingencies, or hostilities, not to fly below 10,000 feet AGL, and voluntarily does not fly below 15,000 feet AGL for training operations over the present boundaries of Duck Valley Indian Reservation except during emergencies, such as aircraft mechanical problems or avoidance of weather. Also, they do not fly at any altitude within 5 nautical miles of the town of Owyhee, Nevada (USAF 1998a). Additionally, no supersonic operations are permitted over the Duck Valley Indian Reservation (USAF 1998b) and the USAF complies with all other terms contained within the 1996 Settlement Agreement. These restrictions would not change if the F-15SA aircraft were to base at Mountain Home AFB.

Supersonic Operations

To train with the full capabilities of the aircraft, the F-15SAs would employ supersonic flight at altitudes and within airspace already authorized for such activities. The amount of supersonic flight would match the current percentage flown by the 366 FW. The F-15Es/F-15SGs currently fly about 4 percent of their time in air combat training involving supersonic events. All supersonic flight would be conducted above 10,000 feet AGL, with 90 percent occurring above 30,000 feet MSL. However, only the Jarbidge North MOA/ATCAA and Owyhee North MOA/ATCAA permit supersonic flight down to 10,000 feet MSL. Supersonic flight is authorized above 30,000 feet MSL in the ATCAAs above the Paradise North and South and, Jarbidge South, and Owyhee South MOAs. All restrictions on overflights and supersonic flight above the Duck Valley Indian Reservation would remain in force.

Flight Profiles

While F-15E/F-15SGs have dual air-to-air and air-to-ground roles as reflected in their flight profiles (Table 2-5), the air-to-ground function is primary. Primary air-to-ground training occurs in the Jarbidge North MOA with the use of Saylor Creek Range and Juniper Butte Range, whereas use of the other MOAs tends to emphasize higher altitude air-to-air training.

Table 2-5. F-15E/SG Flight Profiles - MOAs	
Altitude (feet)	***Percentage of Use***
500 - 1,000 AGL	15%
1,000 - 5,000 AGL	15%
5,000 - 15,000 MSL	23%
15,000 - 23,000 MSL	23%
+23,000 MSL	24%

Source: USAF 2012a

If the USAF implements the proposed action, the additional 18 RSAF F-15SAs at Mountain Home AFB would conduct the same types of missions and training programs as the currently based F-15E/F-15SGs. The USAF expects that the F-15SA would use the training airspace associated with Mountain Home AFB in a manner similar to the F-15E/F-15SGs current use of the airspace. Operations by transient aircraft would continue with the same number and nature. The Idaho Air National Guard would remain the most frequent user after the 366 FW.

Defensive Countermeasures and Ordnance

For the F-15E/F-15SG and F-15SA, training involves use of defensive countermeasures (chaff and flares). Inert ordnance (including both guided and unguided munitions) is also used during training for the purpose of ensuring bombing proficiency and to simulate combat-loaded aircraft. Information on chaff, flares, and ordnance use associated with the force structure changes is included in Table 2-6.

Table 2-6. Annual Ordnance, Chaff, and Flare Use				
	No Action	**F-15SAs**	***Proposed Action***	***Percent Change***
Inert Ordnance[1]	14,241	6,828	21,069	+48%
Chaff	72,019	28,880	100,899	+40%
Flares (MJU-7)	60,820	14,880	75,700	+24%

Source: Air Combat Command International Affairs (ACC IAS) 2011
Note: [1]Includes BDU-33, BDU-50, BDU-56, GBU-12

Chaff and flares are the principal defensive countermeasures dispensed by military aircraft to avoid detection or attack by enemy air defense systems. A bundle of chaff consists of approximately 0.5 to 5.6 million fibers smaller than the size of a hair that reflect radar signals and, when dispensed in sufficient quantities from aircraft, form a "cloud" that breaks the radar signal and temporarily hides the maneuvering aircraft from radar detection. Flares ejected from aircraft provide high-temperature heat sources that mislead heat-sensitive or heat-seeking targeting systems. Chaff and flares are used to keep aircraft from being successfully targeted by weapons such as surface-to-air missiles, anti-aircraft artillery, and other aircraft.

Like the F-15E/F-15SGs, the RSAF F-15SAs would deploy chaff and flares as defensive countermeasures in training. Chaff and flare use would continue in the Jarbidge North and South, Owyhee North and South, and Paradise North and South MOAs. Chaff and flares are not used in the Saddle MOA or on the MTRs. Other seasonal and locational restrictions apply to the use of chaff and, especially, flare use in these MOAs (USAF 1998a). Mountain Home AFB MOAs require release of flares above 2,000 feet AGL. In addition, when fire hazard risk is categorized as High (4) or Extreme (5), flares are only dropped above

5,000 feet AGL in all the MOAs and over Juniper Butte Range and the Saylor Creek Training Range. Additionally, per the 1996 Settlement Agreement between the USAF and the Shoshone-Paiute Tribes, absent compelling national security circumstances, the USAF does not use flares at night at any altitude, or use flares during the day below 20,000 feet AGL for training operations over the Duck Valley Indian Reservation. The USAF also does not use chaff for training operations over the Duck Valley Indian Reservation. Chaff and flare use by the RSAF aircraft would follow all current locational, seasonal, and altitude restrictions for the MOAs.

Ordnance use for the aircraft based at Mountain Home AFB has varied over the past decade as a result of deployments, exercises, and changes in tactics. Total annual use of inert ordnance has ranged from 35,000 devices (USAF 1992) to a current annual use of 14,241 (USAF 2012a). Only inert ordnance is used at the Saylor Creek Range and Juniper Butte Range. Juniper Butte Range is only used for dropping non-explosive training ordnance with cold spot charges or no charges; and for electronic warfare and tactical maneuvering. Saylor Creek Range accommodates more diverse inert ordnance and hot spotting charges are allowed unless prohibited by fire conditions.

Under the proposed action, inert ordnance use would increase 48 percent over baseline, but would still be on the lower limit of the range of use within the last 15 years. No change would occur to the types of ordnance used at each range. Similarly, flare use would increase by 24 percent and chaff use would increase by 40 percent over baseline levels (refer to Table 2-6).

2.2.3 Personnel Changes

Basing the RSAF squadron at Mountain Home AFB would add an estimated total of 487 personnel to operate and maintain the squadron, and to provide necessary support services. Military personnel would increase by 208. The total RSAF contingent is expected to number 200, with the majority (163) of these being temporary maintenance trainees and officers and 37 associated with pilot training. Eight USAF military personnel would also provide support to pilot training and maintenance training. Projected civilian manpower, composed of U.S. contractors, would total 279. Of this total, 263 contractors would be associated with the maintenance training facility and 16 personnel associated with pilot and weapons systems officer training. The transition of additional personnel is expected to take place in 2014 concurrent with the basing of aircraft. Overall, base personnel would increase 10 percent as a result of the beddown (Table 2-7) under the proposed action when compared to baseline levels. Most of the additional personnel would be U.S. civilian contractors associated with the maintenance training facility. In addition, Mountain Home AFB would increase base operating support personnel by 49 (10 percent of the total additional personnel under the proposed action).

Table 2-7. Proposed Personnel Changes

	No Action[1]	*RSAF and USAF*[2]	*Proposed Action*	*Percent Change*
Military	4,131	208	4,339	+5
Civilian[3]	895	279	1,174	+31
Total	**5,026**	**487**	**5,513**	**+10**

Sources: [1.] Mountain Home AFB 2009a; [2.] ACC IAS 2011
Note: [3]Civilian (no action) is comprised of appropriated and non-appropriated fund civilians (755) plus Private Business employees (140). Civilian (RSAF) is comprised of U.S. Contractors.

Mountain Home AFB comprises a dynamic installation that has been subject to changes in mission, aircraft inventory, and personnel since the 1940s. As such, a 10 percent fluctuation in the base personnel would represent a common variation. Since the early 1990s, squadrons with hundreds of aircrews and support personnel have been deployed to combat or contingency operations overseas, temporarily reducing personnel and then returning personnel to former levels. The proposed action would not differ substantively from a cycle associated with deployments.

2.2.4 Facility Requirements

Several facility projects at Mountain Home AFB are required to support the beddown of the RSAF squadron (Table 2-8). A total of 22 construction, modification, or infrastructure improvement projects directly related to the beddown would be implemented beginning in 2012 under the proposed action. In total, the construction, modifications, and infrastructure improvements would affect more than 474,315 square feet of building space. One structure would be demolished. Affected areas in Table 2-8 include the area covered by the construction footprints and the footprints of structures and paved areas proposed for repair and renovation. The potential area of ground disturbance includes the actual construction footprints for the new construction or additions and the surrounding lands where construction-related clearing and grading could occur (the construction buffer areas). A construction buffer area of 50 feet around all construction footprints was added to the area of potential ground disturbance. This area comprises a total of 14.08 acres for all projects. As yet undefined infrastructure upgrades, such as connecting new facilities to water and power systems would also add to the affected areas/potential area of ground disturbance on base. New impervious surface would total 3.85 acres. Such surface would be limited because much of the construction would occur on already developed areas. Total estimated cost of construction is approximately $123 million. All construction, repair, and demolition costs required to implement the Saudi F-15SA beddown would be reimbursed by the government of Saudi Arabia.

Table 2-8. Construction/Repair Projects under the Proposed Action

Approximate Construction Dates[1]	*Description*	*Construction Activity*	*Affected Area (square feet)*[2]	*Potential Ground Disturbance (acres)*	*New Impervious Surface (acres)*
November 2012-March 2014	Consolidated Maintenance and Training Facility	Construct	75,000	3.47	0.00
November 2012-December 2013	Squadron Operations	Construct	12,404	2.12	0.86
November 2012-December 2013	Aircraft Maintenance Unit	Construct	8,000		
November 2012-December 2013	2-Bay Simulator Facility	Construct	16,956		
November 2012-December 2013	Parking Area for Squadron Operations Building	Construct	15,922	1.17	0.37
November 2012-December 2013	Jet Engine Intermediate Maintenance Shop	Construct	10,079	1.34	0.41
November 2012-December 2013	Jet Engine Storage Facility	Construct	10,000		
November 2012-December 2013	Fuels Maintenance Facility[3]	Construct	10,000	0.57 (removal of wash rack)	0.00
April 2013-December 2013	Aircraft Parts Store	Construct	18,000	1.24	0.41
July 2012-December 2012	Wash Rack[3]	Construct	24,660	1.49	0.57

Table 2-8. Construction/Repair Projects under the Proposed Action (con't)

Approximate Construction Dates[1]	*Description*	*Construction Activity*	*Affected Area (square feet)*[2]	*Potential Ground Disturbance (acres)*	*New Impervious Surface (acres)*
January 2013-July 2013	Aircraft Parking Shelters (if authorized) (12 total)	Construct	64,260	N/A (on existing pavement)	0.00
February 2012- April 2012	Aircraft Fuel Tank Storage	Construct	15,000	1.09	0.34
November 2012-December 2013	Dormitory, 216 person[3] (4 story)	Construct	19,880[5]	0.46	0.46
October 2012-March 2013	Building 1332, Sortie Generation Hangar[3]	Repair	29,611	N/A (interior only)	0.00
July 2012-December 2012	Upgrade 12th Avenue and portions of 14th Avenue	Repair and Replace	N/A	N/A (already paved and built)	0.00
February 2012-December 2012	Airfield Joint Sealing/Surface Sealing/ Marking	Repair	N/A	N/A (already paved and built)	0.00
February 2012-December 2012	"B" Ramp/North Spur/Hangar Pavements	Repair	N/A	N/A (already paved and built)	0.00
February 2012-June 2012	Flightline Facility 1359	Demolish	18,815[4]	0.00	0.00
July 2012-December 2012	Aerospace Ground Equipment (AGE) Yard at Building 1359 Location	Expansion and Repair	82,547	0.46	.046
July 2012-December 2012	Update Fuel Station	Repair and Replace	10,414	0.24	0.24
July 2012-December 2012	USAF/428th AGE, Building 1361	Expansion and Repair	22,770	0.12	0.12
July 2012-December 2012	RSAF AGE Flightline Facility 1360	Repair	8,997	N/A (interior only)	0.00
November 2012-December 2013	Precision Measuring Equipment Laboratory (PMEL) Facility in Building 927	Expansion	1,000	0.31	0.02
Total Affected Area/Potential Ground Disturbance			**474,315**	**14.08**	**3.85**
Optional Projects					
October 2012-March 2013	Building 1332, Sortie Generation Hangar with Fuel Maintenance Facility (option to building stand-alone Fuel Maintenance Facility)	Repair	29,611	N/A (interior only)	0.00
November 2012-December 2013	Buildings 2412 and 2416 (alternative to building 216-person dormitory; would be associated with new 168 person dormitory)	Repair	92,835	N/A (interior only)	0.00
November 2012-December 2013	Dormitory, 168 person (3 story)	Construct	17,040[6]	0.39	0.39

Notes:
[1]Mountain Home AFB ADP November 2011; all dates assume LOA signature in January 2012.
[2]Personal communication, Hedrick 2011
[3]Associated with optional projects
[4]Totals associated with the AGE storage alterations
[5]19,880 square feet per floor
[6]17,040 square feet per floor

The beddown plan emphasizes the re-use, conversion, and/or leveraging of as many existing facilities as possible to minimize costs, while also minimizing impact to 366 FW current operations. There are several new construction projects proposed (Figures 2-2, 2-3, 2-4, 2-5, and 2-6), the design of which would be determined by the scheduling of the proposed maintenance training and RSAF requirements. All of the construction would occur simultaneously.

Construction of the Consolidated Maintenance and Training Facility (CMTF) represents the single most substantial construction project under the proposed action. The facility would be planned to accommodate maintenance training personnel with classroom and office space, new joint-use back shops specific to the RSAF mission, and space for oversized training aids and mock-ups. The CMTF would be located along the flightline in the area that currently contains Buildings 1224, 1222, 1226, and 1229. These buildings are already programmed for demolition in 2012.

A new Squadron Operations Center, Aircraft Maintenance Unit, and simulator complex would be constructed between the northern edge of the flightline and the current wash rack. This would provide the RSAF a central location that supports FTU activities in close proximity to their aircraft. Parking for the Squadron Operations Center would be constructed to the west of the complex. Noise abatement measures (constructing sound walls, roof upgrading, window upgrades) would be incorporated into the building design to reduce noise levels from flightline operations. Siting and design of the facility would accommodate the jet backblast safety area.

The engine shop (Building 1339), which is currently shared between the USAF and the Republic of Singapore Air Force, is at capacity and cannot be further expanded. A new co-located Jet Engine Intermediate Maintenance shop and storage facility with capacity for four engine maintenance bays is proposed for RSAF use. It would be constructed across 14th Avenue and the existing road would be closed. Upgrades to 12th and 14th Avenues would accommodate heavy loads on a secondary munitions delivery route to the flightline.

A new F-15SA Parts Store would be constructed in the empty lot next to the Republic of Singapore Air Force Aircraft Parts Store. The RSAF would require a larger than normal storage allocation since they would work via a “return and replace” concept, with a footprint of 18,000 square feet proposed for the parts supply point.

Several AGE and jet engine maintenance facilities would be repaired or constructed near the flightline. Building 1359 would be demolished, allowing expansion of the AGE storage yard. Building 1361 would be altered for use by the USAF/428th Fighter Squadron AGE and Building 1360 would be repaired for RSAF AGE use. The existing fuel station north of the AGE yard would be updated.

Building 1332 would be renovated for RSAF use as a hangar. In addition, a 15,000 square foot expansion of the current Aircraft Fuel Tank Storage area would be constructed to accommodate RSAF needs. The existing 366 FW PMEL facility in Building 927 would be expanded. A new dormitory is also planned.

Figure 2-2. Proposed Action: Construction and Renovation Overview

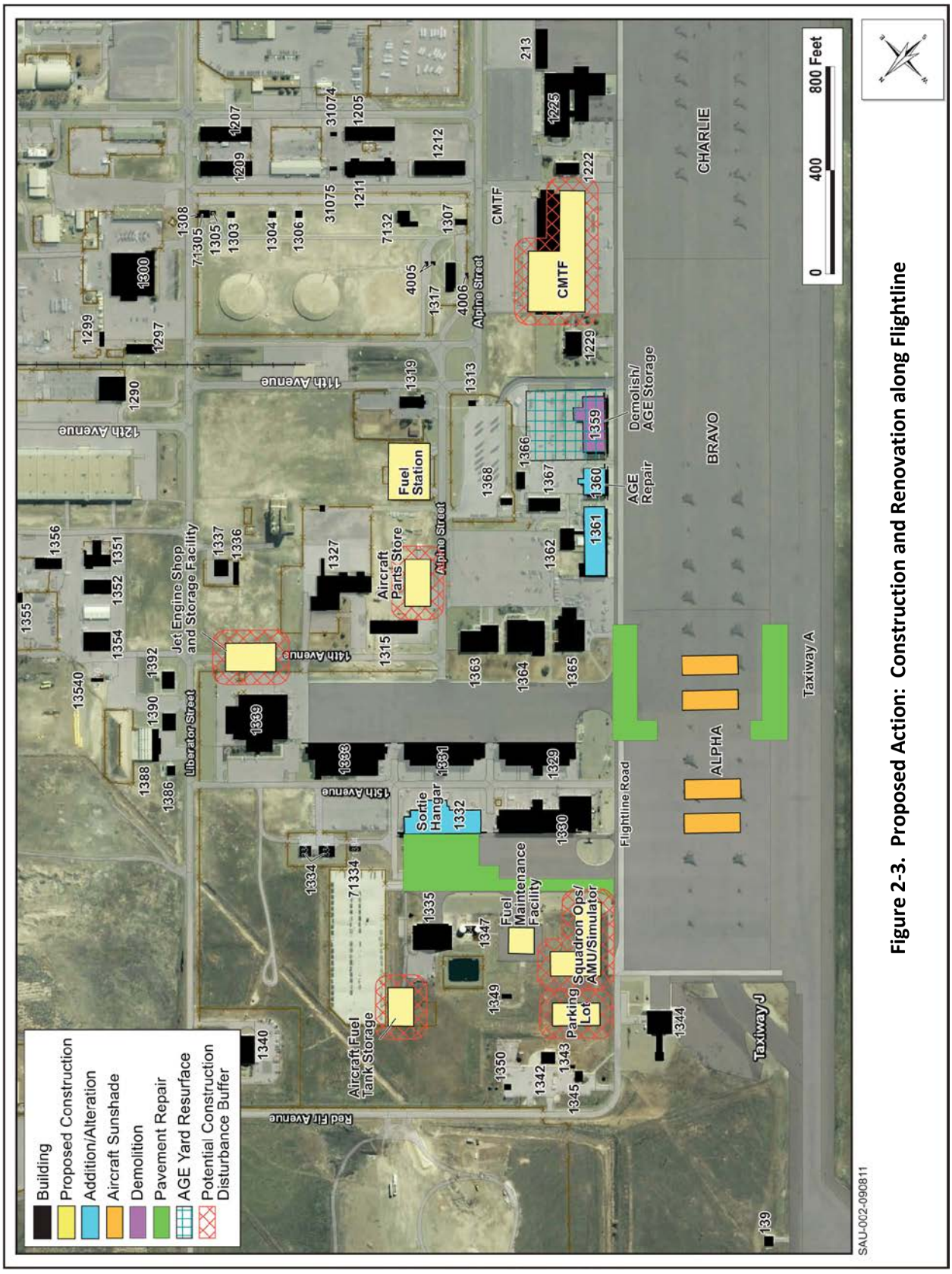

Figure 2-3. Proposed Action: Construction and Renovation along Flightline

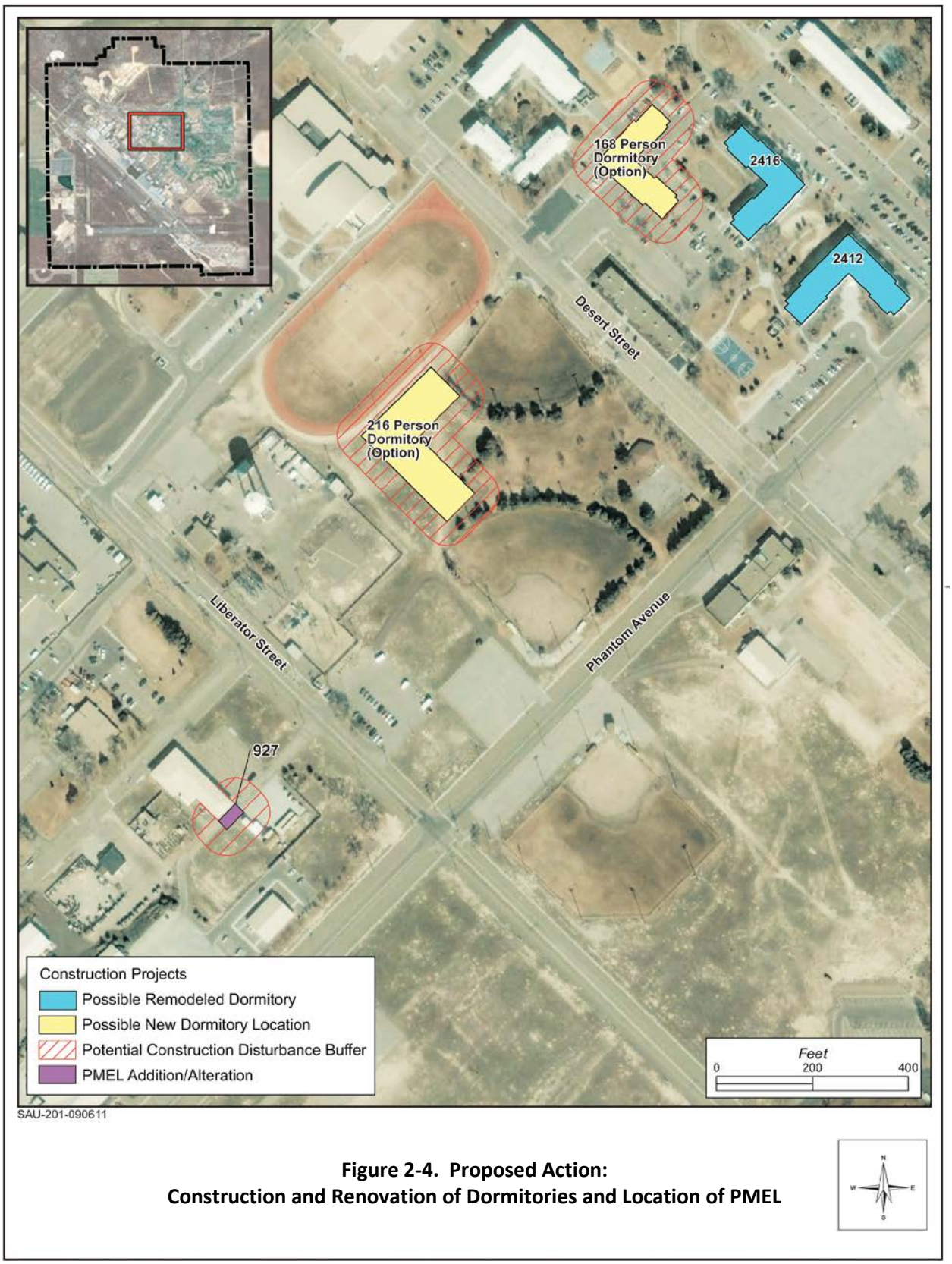

Figure 2-4. Proposed Action:
Construction and Renovation of Dormitories and Location of PMEL

**Figure 2-5. Proposed Action:
Possible Washrack Location**

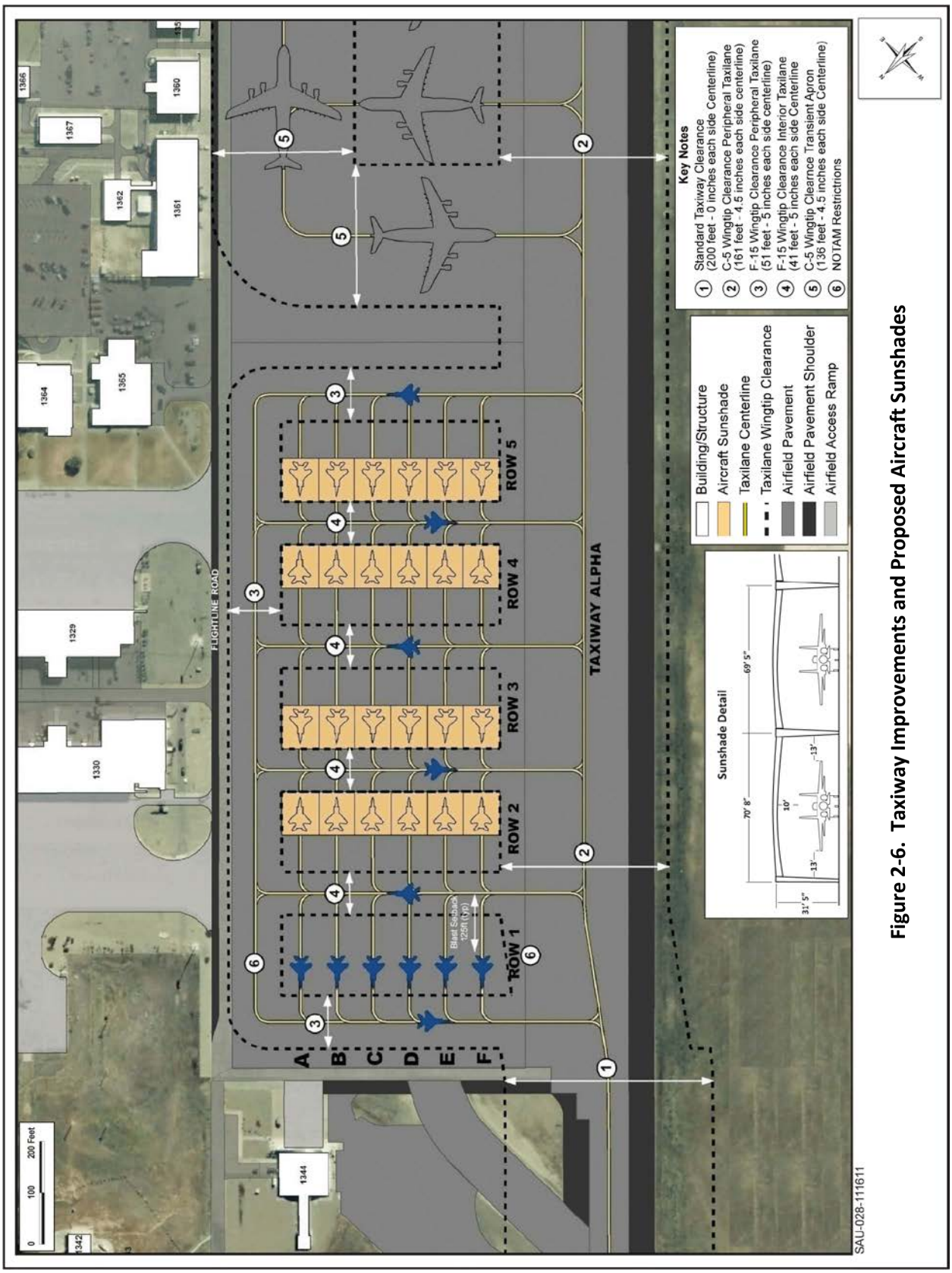

Figure 2-6. Taxiway Improvements and Proposed Aircraft Sunshades

Options within the proposed action include alternative locations and sizes for a dormitory and for a Fuels Maintenance Facility. Dormitory options include the construction of a 216-person dormitory or the renovation of two existing dormitories (Buildings 2412 and 2416) and the construction of a 168-person dormitory. Locations of the two dormitory options are shown in Figure 2-4. The location of the Fuels Maintenance Facility also has two options: the construction of a new stand-alone facility north of the proposed Squadron Operations building and the renovation of Building 1332 (Sortie Generation Hangar) with the addition of a Fuel Maintenance Facility inside. If a new Fuel Maintenance Facility is constructed, the existing aircraft wash rack in that location would be demolished, and a new wash rack would be constructed near the southern end of the ramp (refer to Figure 2-5).

Additionally, on the flightline, aircraft parking shelters, apron striping, and 4.54 acres of pavement repair of the taxiways and Bravo Ramp would also be required to support parking and operations for RSAF aircraft. Approximately 18 new parking spaces and 12 aircraft parking shelters (aircraft sunshades) would be constructed (refer to Figure 2-6), if authorized. The proposed construction of aircraft sunshades would require a waiver (or amendment to an existing waiver) under UFC 3-260-01, *Airfield and Heliport Planning and Design* (17 November 2008) and is currently awaiting further design studies. Prior to construction, implementation of jet blast and wing tip clearance standards would be integrated into the design of new aircraft parking and sunshade construction. Proposed taxiway and wingtip clearance in addition to sunshade details are shown in Figure 2-6.

All construction would adhere to sustainable design principles in accordance with the Energy Independence and Security Act of 2007; Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding, incorporated as part of Executive Order (EO) 13423; Energy Policy Act of 2005; and the U.S. Green Building Council's LEED® (Leadership in Energy an Environmental Design) Rating System. Construction would also include best management practices and conservation measures already conducted at Mountain Home AFB. These include the inspection of soils for contamination prior to construction and the filling in of badger dens in the construction area to prevent impacts to nesting burrowing owls.

2.3 NO-ACTION ALTERNATIVE

Under the no-action alternative, no beddown of the RSAF F-15SA FTU squadron would occur. All airfield, airspace, and range use, as well as munitions training, would reflect conditions applicable to the F-15E and F-15SG operations should the proposed action not occur. No changes in personnel would occur and no construction or building renovations would be necessary. However, the no-action alternative would not meet the purpose and need. Denying the RSAF the opportunity to base a squadron in CONUS would hamper our relationship and ability to operate effectively with the Saudi armed forces, to the detriment of U.S. policy.

2.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

This EA examines the specific affected environment for the proposed action, considers the current conditions of the affected environment, and compares those to conditions that might occur under the no-action alternative. It also examines the cumulative impacts within the affected environment of the alternative as well as past, present, and reasonably foreseeable actions of the USAF and other federal, state, and local agencies. The following steps were involved in the preparation of this EA.

1. ***Conduct Interagency and Intergovernmental Coordination for Environmental Planning (IICEP).*** IICEP requires comments to be solicited from local governments as well as federal and state agencies to ensure their concerns and issues about the proposed energy security and conservation projects at Mountain Home AFB are included in the analysis. It also requires that the public in the region local to the proposed action be solicited for their comments. IICEP letters are included in Appendix A.

2. ***Prepare a draft EA.*** The first comprehensive document for public and agency review was the draft EA. This document examined the environmental impacts of the proposed action and no-action alternative.

3. ***Announce that the draft EA has been prepared.*** An advertisement was posted in the *Idaho Statesman* on April 10 and in the *Mountain Home News* on April 11 notifying the public as to the draft EA's availability for review in local libraries (see Appendix A). Information about the draft EA and public comment period was also posted to Mountain Home AFB's public website.

4. ***Provide a public comment period.*** The goal during this process was to solicit comments concerning the analysis presented in the draft EA. The document was sent to local, state, and federal agencies, American Indian Tribes, and interest groups. The document was available at local libraries in Boise, Mountain Home, and Bruneau, Idaho, Malheur County, Oregon, and Elko Nevada. A 30-day public comment period began on April 10, 2012, the date of notification of the document availability as announced in the newspapers, and closed on May 10, 2012. Three comment correspondences were received and are included in Appendix A.

   The comments included one from a member of the public concerned about noise and who opposed the action, the State of Idaho Special Assistant for Military Affairs asked for two corrections to airspace and cumulative impact sections, and the U.S. Fish and Wildlife Service recommended adding reference to existing conservation measures and best management practices in regards to slickspot peppergrass, sage grouse, and migratory birds. These comments received consideration in the preparation of the final EA.

5. ***Prepare a final EA.*** Following the public comment period, this final EA was prepared. The final EA incorporates pertinent issues identified during the public and agency review period, and provides the decision maker with a comprehensive review of the proposed action and no-action alternative and the potential environmental impacts of implementing either action. Minor additions and deletions were made between the draft and final document based on the

comments received from the State of Idaho Special Assistant to Military Affairs and the U.S. Fish and Wildlife Service.

6. ***Issue a Finding of No Significant Impact (FONSI).*** The final step in the NEPA process is signature of a FONSI if the analysis supports this conclusion or a determination that an Environmental Impact Statement would be required for the proposal.

2.5 OTHER REGULATORY AND PERMIT REQUIREMENTS

This EA has been prepared in compliance with the NEPA, other federal statues, such as the Clean Air Act, the Clean Water Act, Endangered Species Act, and the National Historic Preservation Act (NHPA), EOs, and other applicable statutes and regulations. Agencies contacted through the IICEP process included U.S. senators and representatives, state senators, state governors, city mayors, county commissioners, the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Forest Service (USFS) (Appendix A). All parties also received copies of the draft EA. A response was received from the USFWS.

Mountain Home AFB has established a Programmatic Agreement (signed in 2009) with the Idaho State Historic Preservation Office in lieu of Section 106 consultation on projects on Mountain Home AFB that do not adversely affect historic properties. However, letters were sent to the State Historic Preservation Offices in Idaho, Nevada, and Oregon in August 2011 initiating Section 106 consultation for a review of effects to resources listed in or eligible for listing in the National Register of Historic Places (NRHP) in the airspace (Appendix A). The Oregon SHPO responded that no formal consultation is required for the project. The Nevada SHPO concurred with the finding that the project would have no effect on historic properties. The project falls under the Programmatic Agreement (PA) in place with the Idaho SHPO. Based on these letters and submittal of the draft EA to each of the three SHPOs, Section 106 consultation has been completed.

Additionally, as part of the Government-to-Government consultation process (Department of Defense [DoD] Instruction 4710.02, Interaction with Federally Recognized Tribes, September 14, 2006), Mountain Home AFB sent letters to five federally-recognized tribes (Shoshone-Paiute Tribes of Duck Valley Indian Reservation, Shoshone-Bannock Tribes, Northwestern Band of the Shoshone, Paiute-Shoshone Tribes of Fort McDermitt Indian Reservation, and Burns Paiute Tribe) requesting initiation of consultation, identification of concerns or information on affects to cultural resources within the proposed project area, and requested a meeting at their tribal offices or at Mountain Home AFB in Idaho. Government-to-Government consultation meetings were held between the Air Force and the Shoshone-Paiute Tribes on the following dates: November 8, 2010; December 1, 2010; January 18, 2011; March 11, 2011; May 2, 2011; and August 17, 2011. Additionally, on April 20, 2011, representatives from the 366 FW and the ACC visited the Duck Valley Indian Reservation. The tribes were given an advanced review (30 day) copy of the draft EA on March 7, 2012 and no comments were received. All tribes were sent copies of the draft EA for review on April 10, 2012. No formal opposition to the action has been received by the Air Force by any of the tribes.

The USAF has conducted informal consultation with the USFWS as part of the IICEP process and with the submittal of the draft EA. Comments from the USFWS were considered in the preparation of the final EA and the USFWS has responded that no formal section 7 consultation on threatened and endangered species is needed for this proposal (see Appendix A) and that section 7 consultation was therefore completed.

CHAPTER 3

DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 ANALYSIS APPROACH

The National Environmental Policy Act (NEPA) requires focused analysis of the areas and resources potentially affected by an action or alternative. It also provides that a NEPA document should consider, but not analyze in detail, those areas or resources *not* potentially affected by the proposal. Therefore, a NEPA document should not be encyclopedic; rather, it should be succinct and to the point. Both description and analysis in an Environmental Assessment (EA) should provide sufficient detail and depth to ensure that the agency (i.e., United States [U.S.] Air Force [USAF]) took a critical look at all resources potentially impacted by an action. NEPA also requires a comparative analysis that allows decisionmakers and the public to differentiate among the alternatives. This EA focuses on those resources that would be affected by the proposed beddown of Royal Saudi Air Force (RSAF) F-15SA aircraft at Mountain Home Air Force Base (AFB), Idaho.

Council of Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] §§ 1500-1508) for NEPA also require an EA to discuss impacts in proportion to their potential magnitude and present only enough discussion of peripheral issues as necessary to demonstrate why more study is not warranted. The analysis in this EA considers the current (baseline) conditions of the affected environment and compares those to conditions that might occur should the USAF implement the proposed action or no-action alternative.

3.1.1 Definition of Baseline/No Action

Baseline conditions provide a benchmark against which an agency measures the potential impacts of the proposed action and alternatives. No action represents the set of conditions and circumstances that would apply should the proposed action not be implemented. Analysis in this EA employs both baseline and no action concepts to evaluate the magnitude and nature of potential impacts. For conditions and operations at Mountain Home AFB, baseline (conceived of as current) and no action are the same. For the Mountain Home Range Complex (MHRC) airspace, however, these two concepts differ slightly due to the recent reorganization and modification of the airspace units (Mountain Home AFB 2010a). The changed airspace units will be charted and in use by the time the Saudi F-15SA beddown would occur. Should the beddown not occur, the changed airspace units would still be used by the 366th Fighter Wing (366 FW) for the foreseeable future. Therefore, to accurately describe no-action conditions, comparison of the proposed Saudi F-15SA operations to the operations expected for the newly-charted airspace units was analyzed. In turn, a more accurate evaluation results than from comparisons to a no longer applicable baseline. Differences in the conditions between baseline and the proposed action and alternatives reflect the magnitude of impacts relative to the various resources analyzed. As such, the NEPA document must define baseline conditions and timing of the action.

Establishing baseline/no-action conditions is based on three factors: 1) the timing of the various components of the proposed action; 2) the timing of other scheduled and approved actions; and 3) continuity with previous NEPA documentation. As defined in Chapter 2, the different components of

the proposed action (e.g., aircraft inventory, operations, personnel changes, and construction) would start in 2012 for construction, but would primarily occur with the delivery of aircraft and the arrival of personnel tentatively scheduled for2014. Therefore, the baseline/no action employed for this EA consists of the conditions reasonably foreseeable at that time. Such conditions would include actions already authorized but exclude those that are not yet authorized but may be under analysis in separate NEPA documentation.

3.1.2 Affected Areas

The proposed action includes components affecting Mountain Home AFB, the MHRC and associated airspace, or both. Some components, such as proposed construction projects, only affect the base due to their limited geographic scope. In contrast, the proposed changes in personnel would not only affect the base, but its economic and social effects could extend out into the general Mountain Home community. Noise generated by airfield operations would both cover much of the base and also require analysis of lands adjacent to the base.

The MHRC and its associated airspace form another affected area with a similar, but distinct set of components. For example, increases in aircraft operations generate more noise in the airspace (and potentially impact resources under the airspace), just like at Mountain Home AFB. The effects of ordnance delivery are exclusive to the Saylor Creek and Juniper Butte Ranges. Resources such as airspace, noise, land use, air quality, environmental justice, biological resources, and cultural resources are discussed for the areas below the airspace since aircraft operations and resulting changes in noise could impact these resources. Table 3.1-1 highlights the affected areas analyzed for each resource.

Table 3.1-1. Resources Analyzed in the Environmental Impact Analysis Process

Resource Category	*Mountain Home AFB*	*MHRC and Airspace*
Airspace Management and Safety	Yes	Yes
Noise	Yes	Yes
Land Use, Recreation, and Visual Resources	Yes	Yes
Air Quality	Yes	Yes
Soils and Water Resources	Yes	No
Hazardous Materials and Waste	Yes	No
Socioeconomics and Environmental Justice/Protection of Children	Yes	Yes (Environmental Justice/Protection of Children only)
Transportation	Yes	No
Community and Infrastructure	Yes	No
Biological Resources	Yes	Yes
Cultural Resources	Yes	Yes

3.1.3 Affected Environment and Resources Analyzed

Based on the components of the proposed action and Interagency and Intergovernmental Coordination for Environmental Planning (IICEP) comments, the USAF defined the environment potentially affected by the RSAF F-15SA beddown. This definition focused on specific resource categories. As a result, this EA evaluated eleven resource categories: airspace management and safety; noise; land use, recreation, and visual resources; air quality; soils and water resources; hazardous materials and waste;

socioeconomics and environmental justice and protection of children; transportation; community and infrastructure, biological resources; and cultural resources (see Table 3.1-1).

3.1.4 Resources Not Carried Forward for Further Analysis

Since no construction would occur at the ranges, no additional trips would be needed to maintain ground assets, no personnel would be added to the ranges or other facilities in the MHRC and lands under its associated airspace, and no lands would be altered, several resources do not warrant analysis for the MHRC and areas under the airspace. These include soils and water resources; hazardous materials and waste; socioeconomics; transportation; and community and infrastructure. These resources were analyzed only for Mountain Home AFB and its vicinity. No changes to any of these resources from baseline conditions would occur in the MHRC or areas under the airspace if the proposed action were implemented, thus supporting the justification of only analyzing these resources at the base.

3.2 AIRSPACE MANAGEMENT AND SAFETY

Airspace management is defined as the direction, control, and handling of flight operations in the "navigable airspace" that overlies the geopolitical borders of the U.S. and its territories. "Navigable airspace" is airspace above the minimum altitudes of flight prescribed by regulations under U.S. Code (USC) Title 49, Subtitle VII, Part A, and includes airspace needed to ensure safety in the take-off and landing of aircraft (49 USC § 40102). Congress has charged the Federal Aviation Administration (FAA) with responsibility for managing airspace as well as developing plans and policy for the use of the navigable airspace and assigning by regulation or order the use of the airspace necessary to ensure the safety of aircraft and its efficient use (49 USC § 40103[b]; FAA Order JO7400.2G 2008). Special Use Airspace (SUA), which is identified for military and other governmental activities, is charted and published by the National Aeronautical Charting Office in accordance with FAA Order JO7400.2G and other applicable regulations and orders. Management of this resource considers how airspace is designated, used, and administered to best accommodate the individual and common needs of military, commercial, and general aviation. The FAA considers multiple and sometimes competing demands for aviation airspace in relation to airport operations, Federal Airways, Jet Routes, military flight training activities, and other special needs to determine how the National Airspace System can best be structured to address all user requirements. Specific rules and regulations concerning airspace designation and management are listed in FAA Order JO7400.2G.

There are two categories of airspace or airspace areas, regulatory and non-regulatory. Within these two categories, there are four types of airspace, Controlled, Special Use, Other, and Uncontrolled airspace. *Controlled airspace* is airspace of defined dimensions within which air traffic control service is provided to Instrument Flight Rule (IFR) flights and to Visual Flight Rule (VFR) flights in accordance with the airspace classification (FAA 2008). Controlled airspace is categorized into five separate classes: Classes A through E. These classes identify airspace that is controlled, airspace supporting airport operations, and designated airways affording *en route* transit from place-to-place. The classes also dictate pilot

qualification requirements, rules of flight that must be followed, and the type of equipment necessary to operate within that airspace. *Uncontrolled airspace* is designated Class G airspace.

SUA is airspace of defined dimensions wherein activities must be confined because of their nature, or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. The types of SUA are Prohibited Areas, Restricted Areas, Military Operations Areas (MOAs), Warning Areas, Alert Areas, and Controlled Firing Areas.

Other airspace areas includes advisory areas, temporary flight limitations, areas designated for parachute jump operations, Military Training Routes (MTRs), Aerial Refueling Tracks, National Security Areas, and Air Traffic Control Assigned Airspace (ATCAAs). When not required for other needs, an ATCAA can extend the vertical boundary of training airspace (e.g., a MOA) as authorized for military use by the controlling Air Route Traffic Control Center.

When flying, all pilots must comply with FAA avoidance regulations (Section 91.119). Aircraft must avoid congested areas of a city, town, or settlement or any open-air assembly of people by 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. Outside congested areas, aircraft must avoid persons, vessels, vehicles, or structures by 500 feet.

As part of an active, combat-ready fighter wing, aircrews at Mountain Home AFB conduct operational training at the base's airfield and in the associated MHRC. Airspace in the U.S. is controlled and administered by the FAA, with training activities managed with regard for the safety and benefit of all users. Not only must Mountain Home AFB conduct air operations safely, it must ensure safe operations on the flightline and the remainder of the base. For these reasons, this section addresses ground, flight, and ordnance safety associated with activities conducted by units stationed at and operating from Mountain Home AFB. These operations include activities at the base itself, as well as training conducted in the local military airspace consisting of MOAs, Restricted Areas, and MTRs.

Aircraft safety addresses aircraft mishaps and Accident Potential Zones (APZs), Fire and Crash Response, and Bird/Wildlife-Aircraft Strike Hazards (BASH). Ground safety associated with construction is not addressed within this EA; all construction would be compliant with Occupational Safety and Health Administration (OSHA) and antiterrorism/force protection requirements, and no changes to existing ground safety procedures would occur. Day-to-day operations and maintenance activities conducted on Mountain Home AFB, the ranges, and other facilities are performed in accordance with applicable USAF safety regulations, published USAF Technical Orders, and standards prescribed by USAF Occupational Safety and Health requirements.

Ground safety associated with fire and crash response is discussed below. For the lands under the local airspace, particularly Saylor Creek Range and Juniper Butte Range, safety also examines fire risk and management most commonly related to use of defensive countermeasures and ordnance. Flight safety evaluates aircraft flight risks such as aircraft mishaps and bird/wildlife aircraft strikes.

3.2.1 Mountain Home AFB and Vicinity

3.2.1.1 Airspace Management

The airspace encompassing Mountain Home AFB's airfield differs in structure and function from the training airspace in the region. Airspace currently supporting aircraft operations at Mountain Home AFB includes the airspace directly overlying and surrounding the airfield. This airspace extends from the airfield surface up to and including 3,000 feet above ground level (AGL) within a 5.9 statute mile radius of the airfield. Under the control of the Mountain Home AFB control tower for arriving/departing aircraft operations at the airfield, this airspace supports roughly 32,600 annual baseline operations flown by based and transient aircrews. Operations in this airspace include takeoffs, landings, and closed patterns.

Mountain Home Approach Control controls airspace and aircraft movements around the base's airfield. The nearest other airfield, Mountain Home Municipal Airport (about 10 statute miles from Mountain Home AFB), supports civil aviation and commercial activities such as crop dusting. Within the Mountain Home AFB region, other airfields include the Glenns Ferry Municipal Airport (almost 30 statute miles from Mountain Home AFB), Grasmere airport (about 45 statute miles from the base), and a private-use airport at Owen (approximately 20 statute miles from the base).

Aircraft at Mountain Home AFB have flown in this airspace environment since the 1940s without substantive conflict with civil and commercial aviation. In addition, due to the rural location and low density of aircraft operations at these airfields, as well as in the overlying airspace, few, if any, concerns exist over conflicts between military and civilian aircraft operations in the Mountain Home AFB approach control area. The base and all aircrews adhere to all FAA regulations applicable to the controlled and uncontrolled airspace.

3.2.1.2 Safety

Aircraft Mishaps

Aircraft mishaps and their prevention represent a paramount concern of the USAF. The USAF defines four categories of aircraft mishaps: Classes A, B, C, and D. Class A mishaps result in a loss of life, permanent total disability, a total cost in excess of $2 million, or destruction of an aircraft. Class B mishaps result in total costs of more than $500,000, but less than $2 million, or result in permanent partial disability, or hospitalization for three or more individuals. Class C mishaps involve costs of more than $50,000, but less than $500,000, or a loss of worker productivity of one or more days. Class D represents minor incidents not meeting any of the criteria for Class A, B, or C (Department of Defense [DoD] 2011). Class C mishaps form the most common occurrences, primarily involving minor damage and injuries, but rarely affecting property or the public. For example, in Fiscal Year (FY) 06, Mountain Home aircraft experienced 10 non-bird strike mishaps; all consisted of Class C mishaps (Mountain Home AFB 2006a).

Class A mishaps, the most severe, provide an indicator of aircraft safety. Class A mishaps are calculated by aircraft type per 100,000 flying hours; combat losses are excluded from these mishap statistics.

Under baseline conditions, F-15 aircraft fly the vast majority (85 percent) of sorties at Mountain Home AFB. The lifetime Class A mishap rate for F-15 aircraft, as derived from records collected since 1972 and based on more than 5.5 million hours flown, is 2.42 per 100,000 flying hours. However, despite logging over 190,000 flying hours, only one based aircraft has been involved in a Class A mishap at Mountain Home AFB in a decade (AFSC 2010). This record results in a mishap rate of 1.06, lower than the total USAF mishap rate.

Data on mishaps within 10 nautical miles of an airfield reveal that 75 percent of aircraft accidents occur on or adjacent to the runway or in a corridor extending out from the end of the runway for 15,000 feet. The USAF establishes three zones within this corridor based on aircraft mishap patterns: the Clear Zone (CZ), APZ I, and APZ II. Within the CZ, which covers a 3,000 by 3,000 foot area at the end of each runway, the overall accident risk is highest. APZ I, which extends for 5,000 feet (by 3,000 feet wide) beyond the CZ, comprises an area of reduced accident potential. In APZ II, measuring 7,000 feet long by 3,000 feet wide, data define accident potential as the lowest among the three zones. Based on more than 30 years of study, the USAF designs these zones to prevent encroachment of incompatible land uses in areas with demonstrated potential for aircraft mishaps. At Mountain Home AFB, neither the CZ nor the APZs include housing or other incompatible land uses. Rather, the land is primarily open and used for grazing or agricultural purposes.

Nevertheless, no methods exist to predict the precise location of an aircraft accident, and the probability of an aircraft crashing into a populated area is extremely low for several reasons. First, FAA regulations require pilots to avoid direct overflight of population centers at low altitudes. Second, the limited amount of time the aircraft flies over any specific geographic area limits the probability that a mishap in a populated area occurs. Lastly, design and location of safety zones and land use restrictions exclude population centers from areas subject to higher risk from a crash.

Secondary effects of an aircraft crash include the potential for fire and environmental contamination. Again, because the extent of these secondary effects depends on the situation, they are difficult to quantify. When an aircraft crashes, it may release petroleum, oil, and lubricants not totally consumed in a fire. While these materials could enter the soil and water, the potential for contamination depends on numerous factors such as the extent of the mishap, contents of the aircraft, terrain, soils, and weather.

Fire and Crash Response

The Mountain Home AFB military fire department provides both fire and crash response. The two-station fire department meets DoD emergency response time criteria for aircraft and structural emergencies. To respond to a wide range of potential incidents, the base maintains detailed mishap response procedures as captured in the *366th Fighter Wing Mishap Response Plan 9101-05* (Mountain Home AFB 2005). This plan fulfills the requirements of Air Force Instruction (AFI) 91-202 and AFI 91-204, providing responsibilities and procedures for "preparing for, responding to and conducting" investigation of major aircraft, ground, or weapons mishaps. It also assigns agency responsibilities and prescribes functional activities necessary to react to major mishaps, whether on or off base. Initial response to a

mishap considers such factors as rescue, evacuation, fire suppression, safety, elimination of explosive devices, ensuring security of the area, and other actions immediately necessary to prevent loss of life or further property damage. Subsequently, the investigation phase is accomplished. After all required actions on the site are complete, the base civil engineer ensures cleanup of the site.

Bird/Wildlife Aircraft Strike Hazards

According to the Air Force Safety Center (AFSC) BASH statistics, more than 50 percent of bird/wildlife strikes occur below 400 feet, and 90 percent occur at less than 2,000 feet AGL (AFSC 2007). The USAF BASH Team maintains a database that documents all reported bird/wildlife-aircraft strikes. Historic information for the past 37 years indicates that 43 USAF aircraft have been destroyed and 35 fatalities have occurred from bird/wildlife-aircraft strikes (AFSC 2009).

In general, migratory waterfowl (e.g., raptors, ducks, geese, and swans) are the most hazardous birds to low-flying aircraft because of their size and their propensity for migrating in large flocks at a variety of elevations and times of day. The potential for bird-aircraft strikes is greatest during spring and fall migratory seasons in areas used as migration corridors (flyways) or where birds congregate for foraging or resting (e.g., open water bodies, rivers, and wetlands). For Mountain Home AFB, the Snake River, which lies 3 miles to the south, offers an area where waterfowl congregate, although not in great numbers. These birds typically migrate at night and generally fly between 1,500 to 3,000 feet AGL during the fall migration and from 1,000 to 3,000 feet AGL during the spring migration. The Morley Nelson Snake River Birds of Prey National Conservation Area, which is located between Mountain Home AFB and the MHRC airspace, provides quality nesting and foraging habitat for many species. A fall raptor migration route also occurs through Jarbidge North and South.

Although waterfowl are the greatest threat, small songbirds are involved in bird airstrikes most often at Mountain Home AFB. Songbirds are small birds, usually less than one pound. During nocturnal migration periods, they navigate along major rivers, typically between 500 to 3,000 feet AGL.

The USAF BASH Reduction Program focuses on reducing BASH through awareness, bird control, bird avoidance, and aircraft design. Mountain Home AFB maintains an aggressive program to minimize BASH potential. In the airfield environment, this BASH program uses pyrotechnic and noise-making devices to dissuade birds and wildlife from congregating especially at the treated effluent storage lagoon. For the training airspace, aircrews use a Bird Avoidance Model to define altitudes and locations to avoid when planning a mission. Each base, such as Mountain Home AFB, develops and maintains a bird/wildlife aircraft strike avoidance plan that dictates the location and timing of avoidance measures within the training airspace.

As outlined in Annex C to 366th Fighter Wing Plan 9102-04, rapid communications to disseminate bird activity and implement appropriate operational procedures, are in place in order to reduce the BASH potential. Bird watch conditions are characterized as Low, Moderate, or Severe by the Supervisors of Flying (SOF) during normal wing flight operations. The Range Control Officer (RCO) or Chief Airfield Management is the declaring authority at all other times. The bird watch condition is based on visual observations, relayed information from airborne aircraft, and observations by tower and other flight line

personnel. Areas placed under "Severe" bird watch conditions, are closed to flying and only full stop landings are permitted. Bird watch conditions are updated every 15 minutes once the bird watch condition "Severe" has been declared. During "Moderate" bird watch conditions, formation flight and practice approaches are prohibited. Seasonal restrictions to aircraft approaches are also in place from 1 September to 30 November and 1 April to 30 June, plus or minus one-hour of sunrise and sunset; unless the bird watch condition is "Low" and the SOF grants a waiver to these restrictions. Additional considerations are given to various operations during periods of increased bird activity including: raising pattern altitude, raising altitude to low-level or training areas, and changing pattern direction to avoid bird concentrations (Mountain Home AFB 2004).

Based on the use of the BASH program and avoidance measures, Mountain Home AFB aircraft historically have experienced minimal bird strikes in the airfield environs. Over the past 20 years, aircraft based at Mountain Home AFB have experienced an average of less than 10 bird strikes per year. Most of these incidents resulted in little or no damage to the aircraft, and none resulted in a Class A mishap (personal communication, Gendreau 2010).

Munitions Handling

Personnel at Mountain Home AFB control, maintain, and store all ordnance and munitions required for mission performance. This includes training and inert bombs and rockets, live bombs and rockets, chaff, flares, gun ammunition, small arms ammunition, and other explosive and pyrotechnic devices. Munitions are handled and stored in accordance with USAF explosive safety directives (Air Force Manual 91-201), and all munitions maintenance is carried out by trained, qualified personnel using USAF-approved technical data. The airfield area also has specific areas designated for the loading of live ordnance, parking of aircraft loaded with live ordnance, and arming and dearming of ordnance and guns. The live ordnance loading areas lie at the southeast end of the runway. Hot brake and hung ordnance pads lie on either end of the runway, adjacent to the arm/dearm pads. The weapons storage area, located in the north-central portion of the base, provides sufficient storage capacity for current types and amounts of ordnance.

Quantity Distance (Q-D) arcs surround each area of the base supporting munitions handling. Designed to ensure protection to facilities, equipment, and personnel, the Q-D standards consider the type, size, and quantity of munitions at a location, as well as the type and function of buildings and facilities. All Q-D areas at Mountain Home comply in accordance with Air Force Manual 91-201.

3.2.2 Mountain Home Range Complex and Associated Airspace

3.2.2.1 Airspace Management

The affected airspace for Mountain Home AFB includes the MOAs, ATCAAs, MTRs, and Restricted Areas that the USAF-lead RSAF aircraft would use for training. Figure 3.2-1 depicts this training airspace and provides details on its horizontal and vertical boundaries. These local airspace units, known collectively as the MHRC, receive most of Mountain Home AFB's current F-15E/F-15SG use. In total, the F-15E/F-15SGs fly about 26,200 operations in the MHRC and its associated airspace. The based aircraft

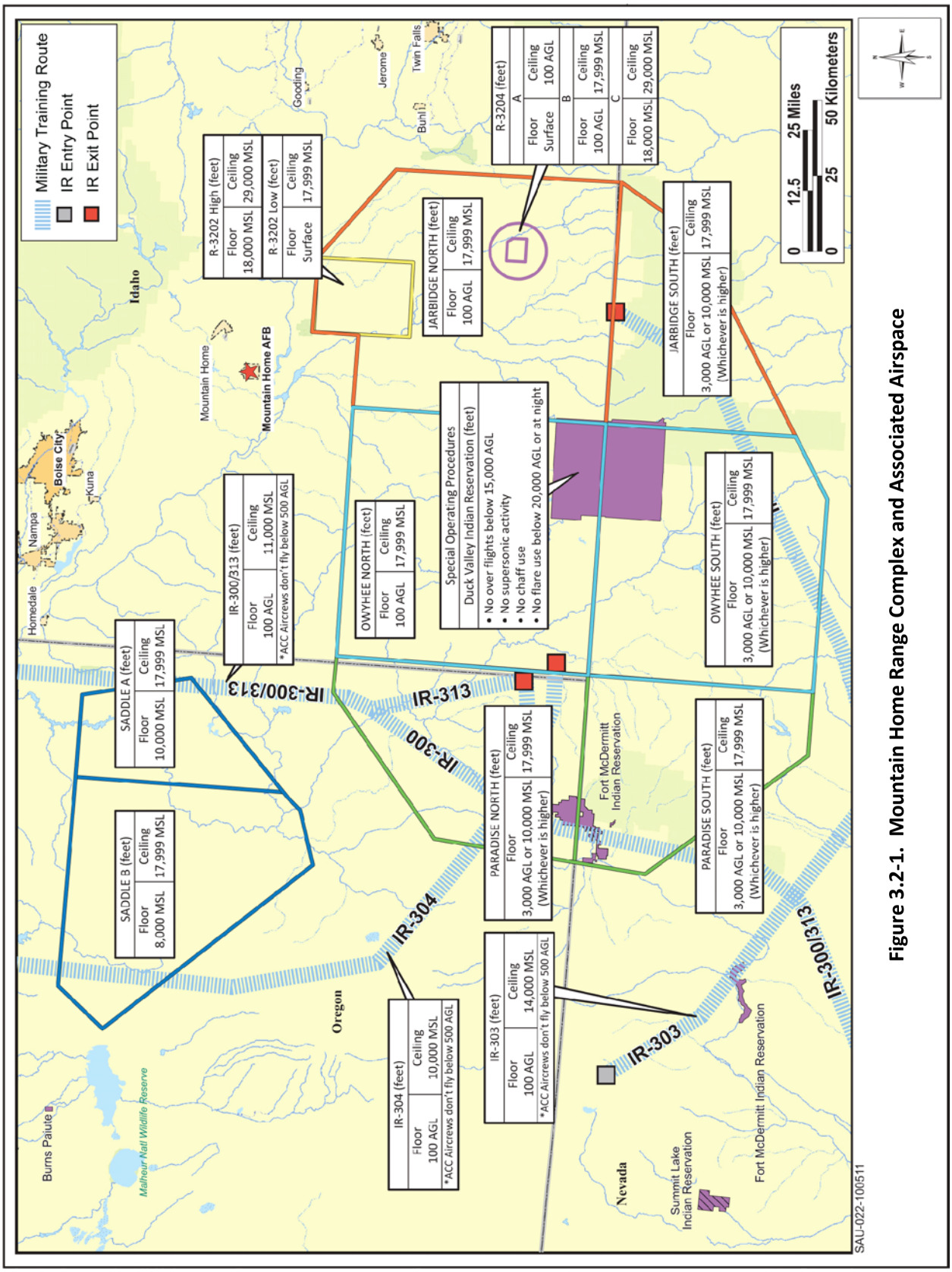

Figure 3.2-1. Mountain Home Range Complex and Associated Airspace

account for 80 percent of the total use of this airspace. The Idaho Air National Guard, which operates A-10s, accounts for about 19 percent of total operations. Occasionally, Mountain Home AFB's F-15E/F-15SGs also fly training operations to the Nevada Test and Training Range, near Nellis AFB, or the Utah Test and Training Range.

The restricted areas in which Mountain Home AFB aircraft operate (R-3202 High/Low and R-3204 A/B/C) consist of airspace that limits use because it supports air-to-ground training and other activities considered hazardous to nonparticipating air traffic (civil and military). The seven MOAs (and overlying ATCAA)[1] used by Mountain Home AFB aircraft extend up to 17,999 feet above mean sea level (MSL), providing substantial vertical and horizontal maneuvering room for training. The floors (base altitude) of these MOAs differ, with the Jarbidge North MOA and the Owyhee North MOA starting at 100 feet AGL (see Figure 3.2-1). Aircraft using Saylor Creek Range or Juniper Butte Range also schedule and use the surrounding Jarbidge North MOA. In addition, during air-to-air training and large force exercises, the Jarbidge and Owyhee North and South MOAs, as well as the Paradise North and South MOAs, may be scheduled as one complete unit.

While the Jarbidge North and Owyhee North MOAs permit flight down to 100 feet AGL, F-15E/F-15SG aircrews currently do not fly below 500 feet AGL in these areas. The USAF also employs seasonal, altitude, and locational restrictions for flight activity below 2,000 feet AGL for this airspace (USAF 1998a, 1998b; Figure 3.2-2). Most of these restrictions are implemented to reduce overflight noise over recreationists and certain wildlife species during specific times of the year.

ATCAAs overlie each of the seven MOAs. An ATCAA extends from 18,000 feet MSL to an altitude assigned by the FAA. Assigned on an as-needed basis and established by a letter of agreement between a military unit and the local FAA Air Route Traffic Control Center, each ATCAA provides additional airspace for training. The FAA releases ATCAAs to military users only for the time they are to be used, thereby allowing maximum access to the airspace for civil aviation.

Only the Jarbidge North MOA/ATCAA and Owyhee North MOA/ATCAA permit supersonic flight down to 10,000 feet AGL. Supersonic flight is authorized above 30,000 feet MSL in the ATCAAs above the Paradise North and South and, Jarbidge South, and Owyhee South MOAs. The 366 FW aircraft currently fly about 4 percent of their time in air combat training involving supersonic events.

In a 1996 Settlement Agreement between the USAF and the Shoshone-Paiute Tribes, the USAF agreed, absent compelling national security circumstances, military contingencies, or hostilities, to not fly below 10,000 feet AGL, and voluntarily not fly below 15,000 feet AGL for training operations over the present boundaries of Duck Valley Indian Reservation except during emergencies, such as aircraft mechanical

[1] ATCAA overlies all six MOAs in the MHRC, in addition to Saddle MOA, an adjunct airspace used for training but not part of the MHRC. As such and unless otherwise specified, any reference to these MOAs also incorporates the ATCAA in the remainder of this EA.

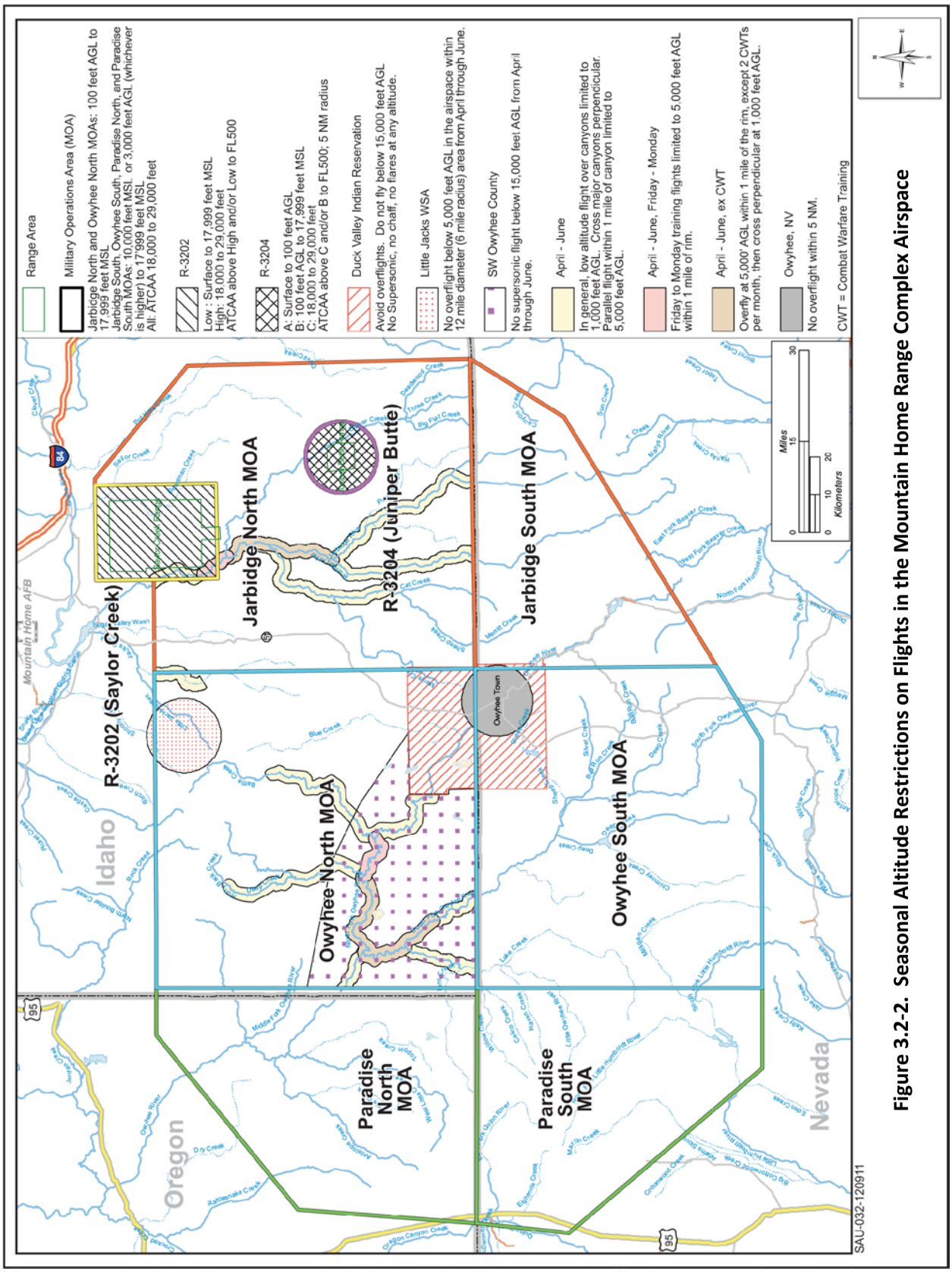

Figure 3.2-2. Seasonal Altitude Restrictions on Flights in the Mountain Home Range Complex Airspace

problems or avoidance of weather. The USAF also does not fly at any altitude within 5 nautical miles of the town of Owyhee (USAF 1998a). The USAF complies with all other terms contained within the 1996 Settlement Agreement. Additionally, no supersonic operations occur over the Duck Valley Indian Reservation (USAF 1998b).

Three MTRs (IR-300/313 [450 miles], 303 [320 miles] and IR-304 [362 miles]) also form part of the affected environment. MTRs are essentially aerial "highways" that vary in length, width, and altitude. Aircrews use MTRs for many different types of training, including terrain following and low-altitude navigation. All of the MTRs affected by the proposed action consist of "IRs," or instrument routes. Additionally, all have segment floor altitude limits down to 100 feet AGL; however, no Mountain Home AFB or USAF aircraft fly below 500 feet AGL on these routes. Other aircraft may occasionally operate at lower altitudes where permissible.

No low-altitude civil routes (called Victor routes) transit the MHRC. Only one high level jet route, J523 transits the western edge of Paradise North/South MOA, but aircraft on the route are under positive air traffic control at altitudes above 18,000 feet MSL. Annual traffic counts on this route number about 365, or one per day (FAA 2010).

Commercial aircraft activity in Idaho and Nevada has increased recently and is expected to continue to grow over the next 20 years as the population of the states also increases. Most of this present and anticipated growth occurs at the Boise Airport. Two civilian airports occur under the Jarbidge North MOA, and one each underlies the Owyhee South, Paradise North, and Saddle A MOAs. A few private airstrips are widely scattered under the entire MOA airspace and may be used occasionally.

Use of the MOA airspace in the MHRC is required, on occasion, by the Bureau of Land Management (BLM) and Idaho Department of Fish and Game for management flights for fire spotting/response, game surveys, and other such activities. Mountain Home AFB airspace management assists in coordinating these flights when contacted by the agencies to help make both agency and military aircrews aware of the timing, duration, location, and altitudes of each other's flight activities. Close coordination of scheduling and use of these Restricted Areas and MOAs by the respective scheduling agencies for these and other activities, ensures safe air traffic operations throughout this region. Therefore, other air traffic traveling in or near these airspace units are not in conflict with military flight activities.

3.2.2.2 Safety

Aircraft Mishaps

Aircraft flight operations in the MHRC are governed by standard flight rules. Additionally, under the Commander 366 FW, the 366 Range Control Squadron is the designated operating agency for the range and is responsible for operational monitoring, administration, and general safety of the MHRC. MHRC activity must comply with AFI 13-212, *Range Planning and Operations*, Volumes 1-3 and supplements/addendums (Mountain Home AFB 2005). As mentioned in 3.2.1.2, aircraft mishap rates are calculated using 100,000 flight hours. These mishap rates do not differentiate between accidents at the airfield or in a training airspace. Therefore, the mishap rate for the MHRC reflects the same 1.06

accident rate as at the airfield, and analogous interval between mishaps. Safety records indicate only one Class A mishap occurred within the MHRC since 2000 (personal communication, Gendreau 2010).

Fire Management

Contractors operating Juniper Butte Range and Saylor Creek Range provide fire management and response for the ranges and associated facilities. The fire management and response staff and equipment meet the requirements of the USAF Fire Protection Operation and Fire Prevention Program (AFI 32-2001). However, under the Support Agreement between 366 FW and the Department of Interior Bureau of Land Management Lower Snake River District (July 2008), the BLM provides firefighting support for all lands outside the Exclusive Use Area on Saylor Creek Range, Juniper Butte Range, emitter sites, and no-drop targets. For lands within the Exclusive Use Area and Juniper Butte Range, the BLM only supplies help when requested. Fire activity within the MHRC and surrounding range land, as a result of lightning, occurs regularly during the May through November range fire season.

Fires on the MHRC as a result of training activity are usually small as a result of expeditious detection and response. Fires outside of the impact areas in Juniper Butte Range and Saylor Creek Range are typically lightning-caused and larger due to delayed detection and response (Mountain Home AFB 2007).

Prevention of fires includes reduction of ignition sources, management of vegetation and fuels, and maintenance of firebreaks. Fire risk is higher on the ranges and associated facilities, primarily due to increased ignition sources. The USAF employs a program of annually reducing fine fuels on the ranges. Ordnance use, as well as maintenance activities, can produce ignition sources. Therefore, Mountain Home AFB commonly implements aggressive fire suppression in June, which extends through August. During dry years, the fire season can extend from May to November (USAF 2004). Both Saylor Creek Range and Juniper Butte Range support fire suppression equipment and personnel, ensuring rapid response to any fires that may start. Mountain Home AFB also precludes the use of flares, “hot- spot” training ordnance, and pyrotechnic devices used for training during high, very high, and extreme fire risk conditions. Implementation of these fire management and suppression programs has substantially reduced both the number and extent of fires occurring on the ranges (USAF 2004).

Training Ordnance Use

Use of ordnance during training is limited to Saylor Creek and Juniper Butte Ranges. USAF safety standards require safeguards on weapons systems and ordnance to ensure against inadvertent releases. All munitions mounted on an aircraft (as well as the guns carried in the aircraft) are equipped with mechanisms that preclude release or firing without activation of an electronic arming circuit.

Saylor Creek Range supports delivery of a range of ordnance, all inert. Most ordnance consists of bomb dummy unit (BDU)-33, 25 pound training bombs. These BDU-33s account for roughly 97 percent of ordnance used under baseline conditions. Other inert ordnance authorized at Saylor Creek Range include BDU-50s and BDU-56s. Aircraft use 20 millimeter training rounds for strafing, as well as white phosphorus rounds (Willy Pete rockets) at Saylor Creek Range. As noted above, Mountain Home AFB

precludes use of "hot-spot" BDU-33 ordnance during high, very high, and extreme fire conditions. Dropping operations on Juniper Butte Range utilize BDU-33s with cold spot or no spot, regardless of fire conditions. No other munitions are used on Juniper Butte Range per 1998 public law; it is used primarily for electronic warfare and tactical maneuvering. Currently, 14,241 inert ordnance of all types are dropped annually at the ranges. In the past, total quantities of ordnance expended have been almost three times as great (USAF 1998a).

Based on past ordnance use data, "footprints" have been developed that describe a geographic area within which training munitions may ultimately be expected to come to rest on the ground. These zones have a long (i.e., beyond the target), short (i.e., in front of the target), and cross-range dimension. Based on data developed from varied attack profiles, flown by varied aircraft, and the type of ordnance delivered, frequency distributions for the dispersion of these munitions have been developed and, with a 95 percent confidence level, a geographic area within which 99.99 percent of the delivered munitions will be contained has been defined. This geographic area is then considered the weapon footprint, and is unique for each weapon system, aircraft, ordnance type, and delivery profile. The weapon footprints are then used to define the area where people are prohibited from entry when the range and/or targets are in use.

At Saylor Creek and Juniper Butte Ranges, trained personnel conduct explosive ordnance disposal every year in accordance with Air Force Manual 91-201. Each year, the USAF clears the Exclusive Use Area at Saylor Creek Range of spent ordnance. Further, clearance of ordnance residue within 100 meters of each target occurs every 75 days. In addition to a complete annual clearance of Juniper Butte Range target areas, one of three grazing pastures is also cleared annually.

Chaff and Flares

Chaff consists of very small fibers of aluminum-coated mica that reflect radar signals and, when dispensed from an aircraft, form a cloud that temporarily hides the aircraft from radar detection. Although the chaff may be ejected from an aircraft using a pyrotechnic charge, the chaff itself is not explosive. Chaff is composed of silicon dioxide fibers ranging in diameter from 0.7 to 1 mil (thousandth of an inch), coated with an aluminum alloy and a slip coating of stearic acid (fat). Analyses of the materials comprising chaff indicate that they are non-toxic in the quantities used (USAF 2008, 1997). About 500,000 to 3,000,000 fibers are contained in each chaff bundle.

Chaff is made to specifically counter radio frequencies on which the radar is operating. This type of chaff provides false targets on the radar. Training chaff, which is the predominant type of chaff used in this airspace, is specifically developed so that it does not interfere with radars used by the FAA for air traffic control. If non-training chaff is used, then altitude and locational restrictions coordinated with the FAA apply. Current authorizations allow the use of chaff and flares in the Owyhee and Paradise MOAs, as well as on the ranges and their surrounding airspace. Chaff is not authorized in the Saddle MOA or over the Duck Valley Indian Reservation.

Baseline levels of use account for the annual release of approximately 72,000 bundles of chaff within the airspace used by Mountain Home AFB. Recently, as many as 78,000 bundles of chaff were dispensed

annually (Mountain Home AFB 2006a). The public has raised concerns regarding human health risks associated with the use of chaff. In response, the General Accounting Office (now the Government Accountability Office) reviewed the available information on chaff and asked the DoD to evaluate the need to conduct further studies on potential health risk. Available information, as summarized below, indicates that chaff does not pose a significant health risk (USAF 2008, 1997).

Silicon dioxide is an abundant compound in nature that is prevalent in soils, rocks, and sands. The trace quantities of metals included in the mica fibers are not present in sufficient quantities to pose a health risk. Aluminum is non-toxic and is one of the most abundant metals in the earth's crust, water, and air. Trace quantities of silicon, iron, copper, manganese, magnesium, zinc, vanadium, or titanium may be found in the alloy, but the quantities involved are a minuscule percentage of levels that might cause concern. Stearic acid is found naturally as a glyceride in animal fat and some vegetable oils.

Air quality concerns regarding chaff use address the potential for chaff to break down into respirable particles and the possibility that hazardous air pollutants may be generated from the cartridges used with some chaff types. Chaff has been test-fired in a controlled environment to determine its potential to break down into respirable particulates. The finding of this test and a screening health risk assessment (USAF 2008, 1997) concluded that chaff posed no significant air quality or respiration concerns.

The potential for chaff to affect soil and water is remote. Laboratory tests of chaff indicated little or no potential for adverse effects on soil (USAF 2008, 1997). No adverse impacts on biological resources have been identified with regard to ingestion or inhalation of chaff. The extensive dispersal and decomposition of chaff fibers on lands under the MHRC limit the exposure of grazing and foraging animals to chaff. Studies on grazing and foraging livestock (USAF 2008, 1997) provide an indicator of the lack of effects of chaff on animals. Livestock apparently avoided eating clumps of chaff when mixed with feed. Only when the mixture of chaff and feed were coated in molasses would the animals eat it. None of the subject livestock exhibited any observable health effects.

Inhalation of chaff fibers does not cause adverse effects on wildlife. Data from livestock has shown that the chaff fibers tend to be too large to penetrate the larynx (USAF 2008, 1997). Such fibers are expelled through the nose or swallowed. Furthermore, chaff particles represent a small percentage of the particulates (e.g., dust, vegetal material) regularly inhaled by animals (USAF 2008, 1997).

Impacts on land use and visual resources are directly related to the visibility and accumulation of chaff debris. Chaff does not constitute litter under the U.S. Environmental Protection Agency (USEPA) definition, nor is it readily visible on the ground. Field studies of the visibility of chaff and incidental debris in different environmental contexts concluded that noticeably adverse aesthetic effects are unlikely (USAF 2008, 1997).

Approximately 61,000 flares are currently released annually within the Owyhee and Jarbidge MOAs. Although flares are authorized for use, they may not be released lower than 2,000 feet AGL. Flares are not deployed in the Saddle MOA or over inhabited areas such as the Duck Valley Indian Reservation. Over the impact area of Saylor Creek Range, depending on aircraft type, they may be released as low as 700 feet AGL when fire risks are not high to extreme. For Juniper Butte Range, the USAF established a

minimum release altitude of 2,000 feet AGL. The minimum altitude for flare use in the Owyhee North and South MOAs are 10,000 feet MSL.

Flares consist of magnesium and Teflon pellets that burn rapidly and completely after being dispensed. A flare begins burning immediately after it is expelled; reaching its highest temperature (1,000° Fahrenheit) by the time it passes the tail of the aircraft. The actual amount of time it takes for a flare to burn out completely is classified, but minimum release altitudes for different flare types provide sufficient time for a flare to burn completely at least 100 feet AGL. Stricter release altitude standards imposed for the ranges and MOAs provide an additional margin of safety to prevent burning flare material from contacting the ground.

Toxicity of flare materials is not a concern because magnesium, the primary material found in flares, is considered not likely to be ingested by humans or animals. Impulse cartridges and initiators used with some flares contain chromium and, in some cases, lead—hazardous air pollutants under the Clean Air Act. However, a screening health risk assessment concluded that they do not present a health risk in the quantities involved. Laboratory analyses of flare pellets and flare ash indicate that these materials have little potential for affecting soil or water resources (USAF 2008, 1997). Field studies similar to those conducted for chaff indicate that flare debris does not accumulate in noticeable quantities; therefore, there is little potential to impact aesthetic resources (USAF 2008, 1997).

BASH

The BASH program also applies to the MHRC and its associated airspace. As noted previously, adherence to this program has minimized bird/wildlife air strikes. For this reason, and because, on average, aircraft fly at higher altitudes (i.e., above zone most associated with bird-airstrikes), actual strikes remain low throughout the MHRC. Historic information for the last 3 years for the MHRC airspace indicates that 23 bird/wildlife-aircraft strikes have occurred (personal communication, Gendreau 2010). All of these were minor incidents and did not result in a Class A mishap. These data reflect total strikes experienced by all users of the airspace, not just aircraft from Mountain Home AFB.

3.3 NOISE

This section describes the noise environment under baseline conditions and then presents the potential impacts that could occur under the proposed action.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the human ear. Sound is all around us. Noise is generally described as unwanted sound. Unwanted sound can be based on objective effects (such as hearing loss or damage to structures) or subjective judgments (community annoyance). Noise analysis thus requires assessing a combination of physical measurement of sound, physical and physiological effects, plus psycho- and socio-acoustic effects. The response of different individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise, its appropriateness in the setting, the time of day, the type of activity during which the noise occurs, and the sensitivity of the individual. Noise may also affect wildlife through disruption of nesting, foraging, migration, and other

life-cycle activities. Noise and sound are expressed in logarithmic units of decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB; sound levels above 120 dB begin to be felt inside the human ear as discomfort. Sound levels between 130 to 140 dB are felt as pain (Berglund and Lindvall 1995). The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB. On average, a person perceives a doubling (or halving) of the sound's loudness when there is a 10-dB change in sound level.

All sounds have a spectral content, which means their magnitude or level changes with frequency, where frequency is measured in cycles per second, or hertz (Hz). To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements usually employ an "A-weighted" scale that filters out very low and very high frequencies in order to replicate human sensitivity. It is common to add the "A" to the measurement unit in order to identify that the measurement has been made with this filtering process (dBA). In this document, the dB unit refers to A-weighted sound levels. "C-weighting" is typically applied to impulsive sounds such as a sonic boom or ordnance detonation and is denoted by the units "dBC."

In accordance with DoD guidelines and standard practice for environmental impact analysis documents, the noise analysis herein utilizes the following (A-weighted) noise descriptors or metrics: Maximum Sound Level (L_{max}), Sound Exposure Level (SEL), Day-Night Average Sound Level (DNL), and Onset-Rate Adjusted Day-Night Average Sound Level (L_{dnmr}).

Maximum Sound Level

The highest A-weighted integrated sound level measured during a single event in which the sound level changes value with time (e.g., an aircraft overflight) is called the maximum A-weighted sound level or L_{max}. During an aircraft overflight, the noise level starts at the ambient or background noise level, rises to the maximum level as the aircraft flies closest to the observer, and returns to the background level as the aircraft recedes into the distance. L_{max} defines the maximum sound level occurring for a fraction of a second. For aircraft noise, the "fraction of a second" over which the maximum level is defined is generally 1/8 second, and is denoted as "fast" response (American National Standards Institute 1988). Slowly varying or steady sounds are generally measured over a period of 1 second, denoted "slow" response. In this EA, L_{max} is one metric used in the analysis of speech interference.

Sound Exposure Level

SEL is a composite metric that represents both the intensity of a sound and its duration. Individual time-varying noise events (e.g., aircraft overflights) have two main characteristics: a sound level that changes throughout the event and a period of time during which the event is heard. SEL provides a measure of total sound exposure of the entire acoustic event, but it does not directly represent the sound level heard at any given time. During an aircraft flyover, SEL captures the total sound energy from the beginning of the acoustic event to the point when the receiver no longer hears the sound. It then condenses that energy into a 1-second period of time and the metric represents the total sound

exposure received. SEL represents the best metric to compare noise levels from overflights. For sound from aircraft overflights, which typically lasts more than 1 second, the SEL is usually greater than the L_{max} because an individual overflight takes seconds and the L_{max} occurs instantaneously. Analysis of speech interference and sleep disturbance employs the SEL metric.

Day-Night Average Sound Level

The DNL noise metric is the energy-averaged sound level measured over a 24-hour period, with a 10 dB penalty assigned to noise events occurring between 10:00 p.m. and 7:00 a.m. (environmental night). DNL values are obtained by averaging the SEL values for a given 24-hour period, with louder values receiving emphasis. DNL is the preferred noise metric of the U.S. Department of Housing and Urban Development, FAA, USEPA, and DoD. Studies of community annoyance in response to numerous types of environmental noise show that DNL correlates well with impact assessments; there is a consistent relationship between DNL and the level of annoyance.

Most people are exposed to sound levels of 50 to 65 dB (DNL) or higher on a daily basis. Research has indicated that about 87 percent of the population is not highly annoyed by outdoor sound levels below 65 dB DNL (Federal Interagency Committee on Urban Noise [FICUN] 1980). Therefore, the 65 dB DNL noise level is typically used to help determine compatibility of military aircraft operations with local land use, particularly for land use associated with airfields. For comparison purposes, normal conversation (at a distance of 3 feet) is approximately 60 dB, loud speech is approximately 70 dB, and the sound of a train approaching a subway platform is approximately 90 dB. At approximately 120 dB, sound can be intense enough to induce pain, while at 130 dB, immediate and permanent hearing damage can result (National Park Service 1994).

Onset-Rate Adjusted Day-Night Average Sound Level

Subsonic noise levels associated with the types of military airspace proposed for use by military aircraft are characterized by the Onset-Rate Adjusted Day-Night Average Sound Level, or L_{dnmr}. This metric is a derivation of DNL, but it accounts for the nature of operations in airspace. Whereas aircraft operations at airfields tend to be continuous or patterned, operations in airspace are sporadic and dispersed. L_{dnmr} also accounts for the specific effects of low-altitude and high-speed operations that can occur in airspace such as MOAs or Restricted Areas. Because military jet aircraft can exhibit a rate of increase in sound level (onset rate) of up to 150 dB per second, the L_{dnmr} metric is adjusted to account for the startle effect with addition of up to 11 dB to the normal SEL. Unlike the use of DNL around airfields, the FICUN compatibility standards do not readily apply to land use under military airspace. Rather, the analysis considers both the L_{dnmr} generated by the proposed operations and the degree of change in L_{dnmr} from baseline to proposed noise conditions. As noted previously, an L_{dnmr} of 45dB or less is low and considered indistinguishable from ambient outdoor noise levels. The implications of higher L_{dnmr} depend upon the underlying land uses and the degree of change in noise levels. For example, a 3 dB change in L_{dnmr} begins to be perceptible to the human ear and a 10 dB change is perceived as a doubling or halving of the sound.

C-Weighted DNL

Supersonic noise is described using C-weighted DNL, or CDNL. This metric captures the impulsive characteristics of supersonic noise in a day-night average. In addition, the analysis considers changes in the number of sonic booms per month as a measure of effects. Peak overpressures measured in pounds per square foot provides a measure of potential impacts from sonic booms.

Supplemental Metrics

To fully characterize the potential effects of noise from aircraft operations, this EA includes supplemental noise analyses, such as potential hearing loss, speech interference, and sleep disturbance. All of these supplemental analyses apply to the airfield environs. Appendix A provides further detail on these supplemental analyses.

3.3.1 Mountain Home AFB and Vicinity

The data used for baseline noise conditions were derived from the original Republic of Singapore Air Force beddown (USAF 2007a) and the plus-up of Republic of Singapore Air Force F-15SG Squadron at Mountain Home AFB (USAF 2009). Under baseline, 32,612 airfield operations were flown annually at Mountain Home AFB. This total includes 28,766 operations generated by the based 366 FW and Republic of Singapore Air Force F-15E/F-15SG aircraft and an additional 3,846 operations conducted by transient military as well as very few civilian and commercial aircraft. Under baseline conditions, based and transient aircraft conducted 29,193 operations during environmental daytime hours (i.e., 7:00 a.m. and 10:00 p.m.); a total of 3,419 operations were generated during environmental nighttime (or between 10:00 p.m. to 7:00 a.m.). Operations occurring during environmental nighttime hours are assessed a 10-dB penalty applied for each operation.

The noise environment at Mountain Home AFB was modeled using NOISEMAP. The USAF uses NOISEMAP to model noise exposure at and around military air bases for operations generated by military aircraft and engine run-up activities. Noise contours generated by NOISEMAP are used in support of the Air Installation Compatible Use Zone (AICUZ) program and NEPA documentation. NOISEMAP 7 is the latest software version and includes the input component (BASEOPS), the calculation component (NMAP), and the output component (NMPlot) (Air Force Center for Engineering and the Environment [AFCEE] 2010). The military NOISEMAP-generated contours are presented in Figure 3.3-1.

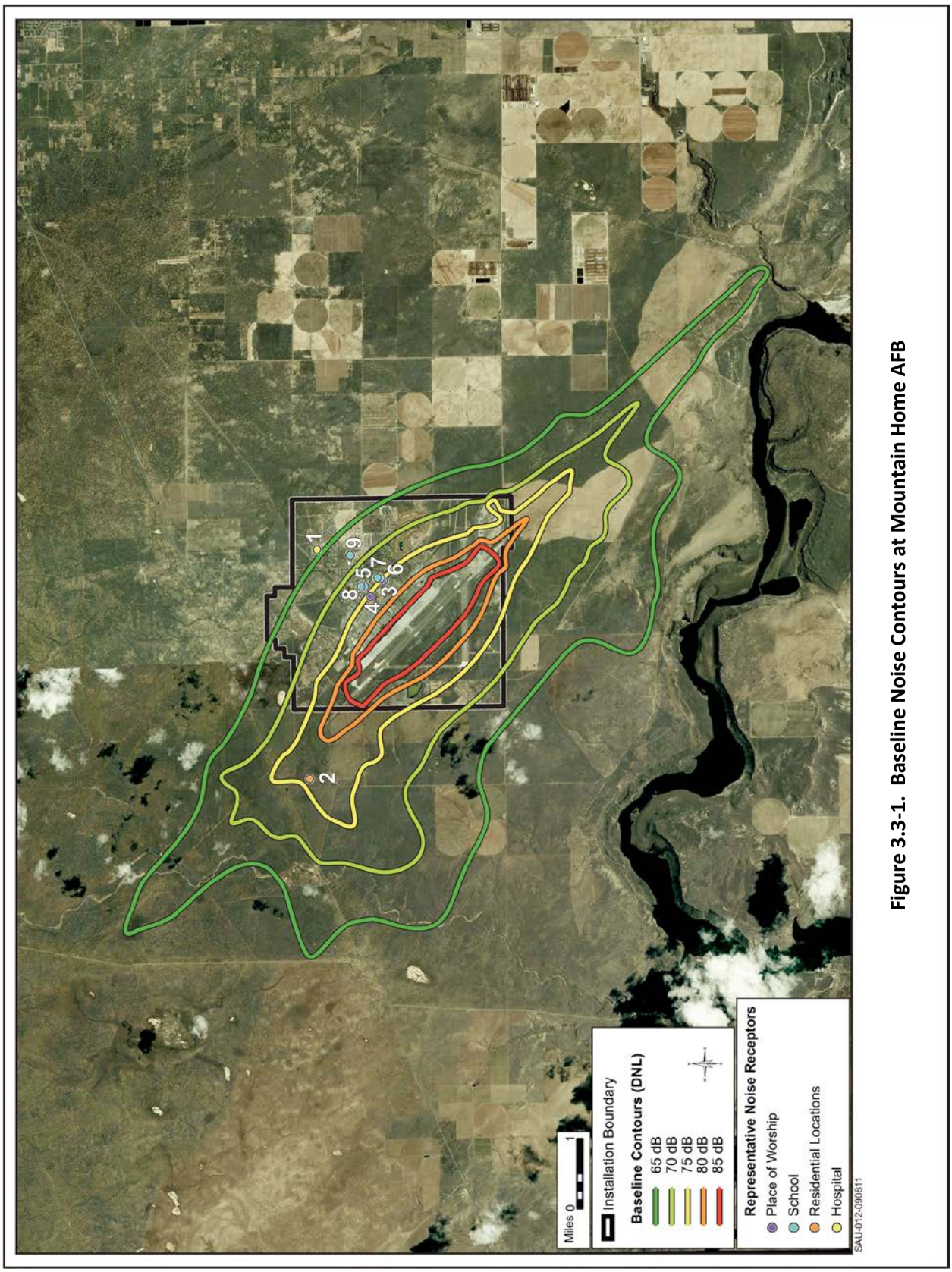

Figure 3.3-1. Baseline Noise Contours at Mountain Home AFB

3.3.1.1 Noise Exposure

Figure 3.3-1 shows the 65 to 85 dB DNL contour bands, in 5-dB increments, for Mountain Home AFB baseline conditions. Table 3.3-1 presents noise exposure within each dB DNL contour band for off-base acreage, population, households, and representative receptors. One off-base receptor (a residence) falls within the area affected by noise levels of 65 dB DNL or greater; the remaining receptors (schools, hospital, and chapel) lie within the base. According to the Census Bureau (U.S. Census Bureau 2010), households are defined as a house, an apartment, a mobile home, a group of rooms, or a single room occupied (or if vacant, intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live separately from any other people in the building and that have direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated people sharing living quarters (U.S. Census Bureau 2010). Generally, to determine the population counts by contour band, this type of analysis uses the U.S. Census block population and methodology that assumes an even distribution of population within each block under the respective contour bands. In most cases, this methodology provides a good estimate of the number of people who may be exposed. However, at locations like the vicinity of Mountain Home AFB where there are low or inconsistent population densities, actual houses were counted using current aerial photographs and using the U.S. Census population multiplier for Elmore County of 2.76 people per household.

Table 3.3-1. Noise Exposure within Baseline Contours at Mountain Home AFB

Contour Band (dB DNL)[1]	*Acreage*	*Population*[2]	*Households*[2]	*Receptors*[3]
65 – 70	9,628	0	0	1
70 – 75	5,267	0	0	3
75 – 80	2,467	3	1	4
80 – 85	869	0	0	0
85+	1,014	0	0	0
Total	**19,245**	**3**	**1**	**8**

Source: Wyle 2011.
Notes:
[1]Exclusive of upper bound for all bands.
[2]Based on actual house counts and U.S. Census multiplier.
[3] Includes 7 receptors on base and 1 off base

In total, exposure to noise levels of 65 dB DNL or greater (both on and off base) includes 19,245 acres, 3 people and 1 household. Table 3.3-2 lists the DNL for nine representative receptors on and around Mountain Home AFB under baseline conditions. Of the nine representative receptors identified, eight lie within the base and nearer to the airfield where noise levels are higher. All but one receptor experienced noise levels of 65 dB DNL or greater.

Table 3.3-2. Baseline Decibel Levels at Representative Locations on and near Mountain Home AFB

Location ID Number	*Receptor*[1]	*Type*	*Decibel Level (dB DNL)*
1	366 FW Hospital	Hospital	<65
2	Residential	Residential	77
3	Liberty Chapel	Worship	75
4	Chapel Annex	Worship	76
5	Boise State University (annex)	School	73
6	Child Care Center	School	75
7	Child Care Center	School	74
8	Education Facility	School	73
9	Base Primary School	School	68

Note: [1]Receptors 1, and 3 through 9 are on Mountain Home AFB.

Departures from Runway 30 and arrivals to Runway 12 of based F-15E/F-15SG aircraft dominate the DNL curves to the northwest of the base. Based F-15E/F-15SG departures from Runway 30 dominate the DNL curves to the west of the base (i.e., they cause the western bulge in the DNL contours) and based F-15E/F-15SG arrivals to Runway 30 dominate the DNL curves to the southeast of the base.

3.3.1.2 Speech Interference

Speech interference for normal conversation comprises another indicator of noise effects. Such interference is measured by the numbers of average daily indoor daytime (7:00 a.m. to 10:00 p.m.) events per hour subject to indoor maximum sound levels of at least 50 dB at representative locations. This measure also accounts for 15 dB or 25 dB of noise attenuation provided by buildings such as houses and schools with windows open or closed, respectively. Since modeling accounts for outdoor noise levels only, these data are represented as NA75 L_{max} (windows closed) and NA65 L_{max} (windows open). NA means "number of events above," so this analysis examines the number of annual average daily overflight events whose L_{max} are greater than or equal to 65 dB and 75 dB. Table 3.3-3, which presents indoor speech interference under baseline, reveals that speech-interfering events per hour average 1.8 with windows closed and 4.3 with windows open.

Table 3.3-3. Baseline Indoor Speech Interference at Representative Locations on and near Mountain Home AFB

Location ID Number	*Receptor*[2]	*Average Daily Indoor Events per Hour*[1] *Daytime (7:00 a.m. to 7:00 p.m.)*	
		Windows Closed	*Windows Open*
1	366 FW Hospital	1	2
2	Residential	2	5
3	Liberty Chapel	2	5
4	Chapel Annex	2	5

Source: Wyle 2011.
Notes:
[1]Assumed a noise level reduction of 15 dB (windows open) and 25 dB (windows closed).
[2]Receptors 1, 3, and 4 located on Mountain Home AFB.

3.3.1.3 Classroom Speech Interference

Because of the nature of activities in schools, different speech interference criteria are used. For schools, two additional classroom criteria have to be applied to evaluate if speech interference would inhibit classroom learning. When considering intermittent noise caused by aircraft overflights, guidelines for classroom interference indicate that an appropriate criterion is a limit on indoor background equivalent noise levels of 35 to 40 dB (equivalent noise level [L_{eq}]) and a limit on single events of 50 dB L_{max}. The 50 dB L_{max} for single events equates to outdoor L_{max} of 65 dB and 75 dB for windows open and closed, respectively. Thus the number of annual average daily events whose L_{max} is greater than or equal to 65 dB and 75 dB serve as the measure of potential classroom effects and are presented as NA65 L_{max} and NA75 L_{max} for windows open and closed, respectively, on a per-hour basis. Because classrooms are in use during the day predominantly, these criteria are applied for aircraft operations occurring between 8:00 a.m. and 4:00 p.m. rather than between 7:00 a.m. and 10:00 p.m. for standard speech interference. Table 3.3-4 presents the baseline classroom levels and events for the school receptors. All of the on-base schools exceed the outdoor equivalent noise level of 60 dB L_{eq} over an 8-hour period.

Table 3.3-4. Baseline Classroom Speech Interference for Schools on Mountain Home AFB

Location ID Number	*Receptor*	*Outdoor Equivalent Noise Level (L_{eq})*	*Number of Events Above a Maximum Outdoor Noise Level of 75 dB ($NA75L_{max}$)[1]*	
			Windows Closed	*Windows Open*
5	Boise State University (annex)	69	2	5
6	Child Care Center	70	2	5
7	Child Care Center	69	2	5
8	Education Facility	68	2	4
9	Base Primary School	64	1	3

Source: Wyle 2011.
Note: [1]Assumed a noise level reduction of 15 dB (windows open) and 25 dB (windows closed).

3.3.1.4 Sleep Disturbance

Sleep disturbance is a concern for communities exposed to nighttime noise. The lack of quality sleep has the potential to affect health and concentration, although the relationship between noise levels and sleep disturbance is complex and not fully understood. To assess the potential for sleep disturbance, the analysis uses SEL as the metric and calculates the probability of being awakened at least once from overflights occurring between 10:00 p.m. and 7:00 a.m. when most people sleep. The SEL from each overflight is based on the particular type of aircraft, flight track, power setting, speed, and altitude relative to the residential receptor. The analysis also accounts for standard building attenuation of 15 dB and 25 dB with windows open and closed, respectively. When summed, the probability of being awakened for a given location is determined. Table 3.3-5 lists the probabilities of indoor awakening from average daily nighttime (10:00 p.m. to 7:00 a.m.) events for the single residence within the 65 dB DNL contour band. Because the 366 FW flies approximately 12 percent of its operations during environmental night (10:00 p.m. to 7:00 p.m.), the single affected residence experiences an estimated 22 to 31 percent probability of nighttime awakening with windows closed and open, respectively.

Table 3.3-5. Baseline Indoor Sleep Disturbance at Representative Locations near Mountain Home AFB			
Location ID Number	***Receptor***	***Average Nightly (10:00 p.m. to 7:00 a.m.) Probability of Awakening (%)[1]***	
		Windows Closed	*Windows Open*
2	Residential	22%	31%

Source: Wyle 2011.
Note: [1]Assumed a noise level reduction of 15 dB (windows open) and 25 dB (windows closed).

3.3.1.5 Potential for Hearing Loss

Potential for Hearing Loss (PHL) applies to people living in high noise environments where they can experience long-term (40 years) hearing effects under noise levels greater than 80 dB DNL. No on-base or off-base residences occur within the 80 dB DNL or greater contour bands, so PHL is not an issue at Mountain Home AFB.

3.3.1.6 Occupational Noise

When on-base noise exposure occurs, existing USAF occupational noise exposure prevention procedures, such as hearing protection and monitoring, are undertaken in compliance with all applicable OSHA and USAF occupational noise exposure regulations.

3.3.1.7 Other Noise Sources

Other generators of noise, such as general vehicle traffic, and maintenance and landscaping activities, are a common on-going occurrence at the base. While these sources may contribute to the overall noise environment, they are not distinguishable from aircraft-generated noise at and adjacent to the base. For this reason, these other noise sources were not considered under baseline nor are they analyzed under any of the beddown scenarios.

3.3.2 Mountain Home Range Complex and Associated Airspace

Prediction of aircraft noise in an airspace environment requires two sets of data. The first is a quantitative understanding of aircraft operations: numbers of aircraft, their speeds, altitudes, and locations. The second set of data derives from the physical modeling of the noise itself, which is then accumulated for all aircraft operations. These sortie-operations in the MHRC, which have been described in Chapter 2, were derived from the Mountain Home Airspace Manager and from previous environmental documents. Also refer to Section 3.1.1, Definition of Baseline/No Action.

Within the MOAs and overlying ATCAAs used by Mountain Home AFB aircraft, subsonic flight is dispersed and often occurs randomly or, due to either airspace configuration or training scenarios, it may be concentrated or channeled into specific areas or corridors. The USAF has developed the MR_NMAP (MOA-Range NOISEMAP) computer program (Lucas and Calamia 1996) to calculate subsonic aircraft noise in these areas. MR_NMAP can calculate noise for both random operations and operations channeled into corridors. It is supported by measurements in several military airspaces (Lucas and Plotkin 1988). The affected airspace for the MHRC includes MOAs where random aircraft operation is the norm and MTRs where operations occur in corridors.

3.3.2.1 Subsonic Noise

The primary noise metric calculated by MR_NMAP for this assessment is DNL L_{dnmr}. This quantity has been computed for each of the seven MOAs (Jarbidge North and South, Owyhee North and South, Paradise North and South, and Saddle) potentially affected by the proposed action and compared to the baseline or no-action alternative. This cumulative metric represents the most widely accepted method of quantifying noise impact.

Although L_{dnmr} provides the most widely accepted cumulative metric, it does not offer an intuitive description of noise conditions. People often desire to know the loudness of individual aircraft during a flyover. The SEL metric, as a single-number representation of a noise energy dose, meets this need. This measure accounts for the effect of both the duration and intensity of a noise event. During an aircraft flyover, SEL includes both the maximum noise level and the 10 dB lower levels produced during the onset and recess periods of the flyover (which is also known as 10 dB down). Because an individual overflight takes seconds and the maximum sound level occurs instantaneously, SEL is the best metric for comparing noise levels from overflights. SEL values decrease as altitude increases and vary according to the type of aircraft, its altitude or distance from the receptor, its power setting, and its speed.

Table 3.3-6 presents SEL values at representative altitudes (feet AGL) for the F-15E and F-15SG aircraft currently using the MHRC. They are identical. It also provides this information for A-10 aircraft from the Idaho Air National Guard. Typically, the noise environment is dominated by the aircraft performing the majority of operations, although it could occasionally be subject to operations of louder aircraft, such as the F-35 or F-18.

Table 3.3-6 Sound Exposure Level (SEL) in dB under the Flight Track for Aircraft at Various Altitudes[1]

Aircraft Type	*Airspeed (units)*	*Altitude in Feet Above Ground Level*					
		500	*1,000*	*2,000*	*5,000*	*10,000*	*20,000*
F-15E	550	115	110	104	95	85	71
F-15SG	550	115	110	104	95	85	71
A-10	325	94	88	81	71	63	54

Note: [1]Level flight, steady high-speed conditions.

Figure 3.3-2 provides the baseline noise levels for the MOAs, ATCAA, and MTRs. As these data show, noise levels in the Paradise North and South, Jarbidge South, Owyhee South, Saddle MOAs, IR-300/313, IR-303, and IR-304 under baseline conditions are below 45 L_{dnmr}. In the Jarbidge North and Owyhee North MOAs, the most intensely used airspace units, noise levels are each 64 L_{dnmr}. Noise levels for the Jarbidge North MOA include operations over the two ranges. In several areas, the MOAs and MTRs overlap. At these limited locations, the noise from both flying activities are "additive" (logarithmically). Since both the affected MOA and MTR portions generate low noise levels of less than 45 L_{dnmr} combined, the noise level is below 45 L_{dnmr}.

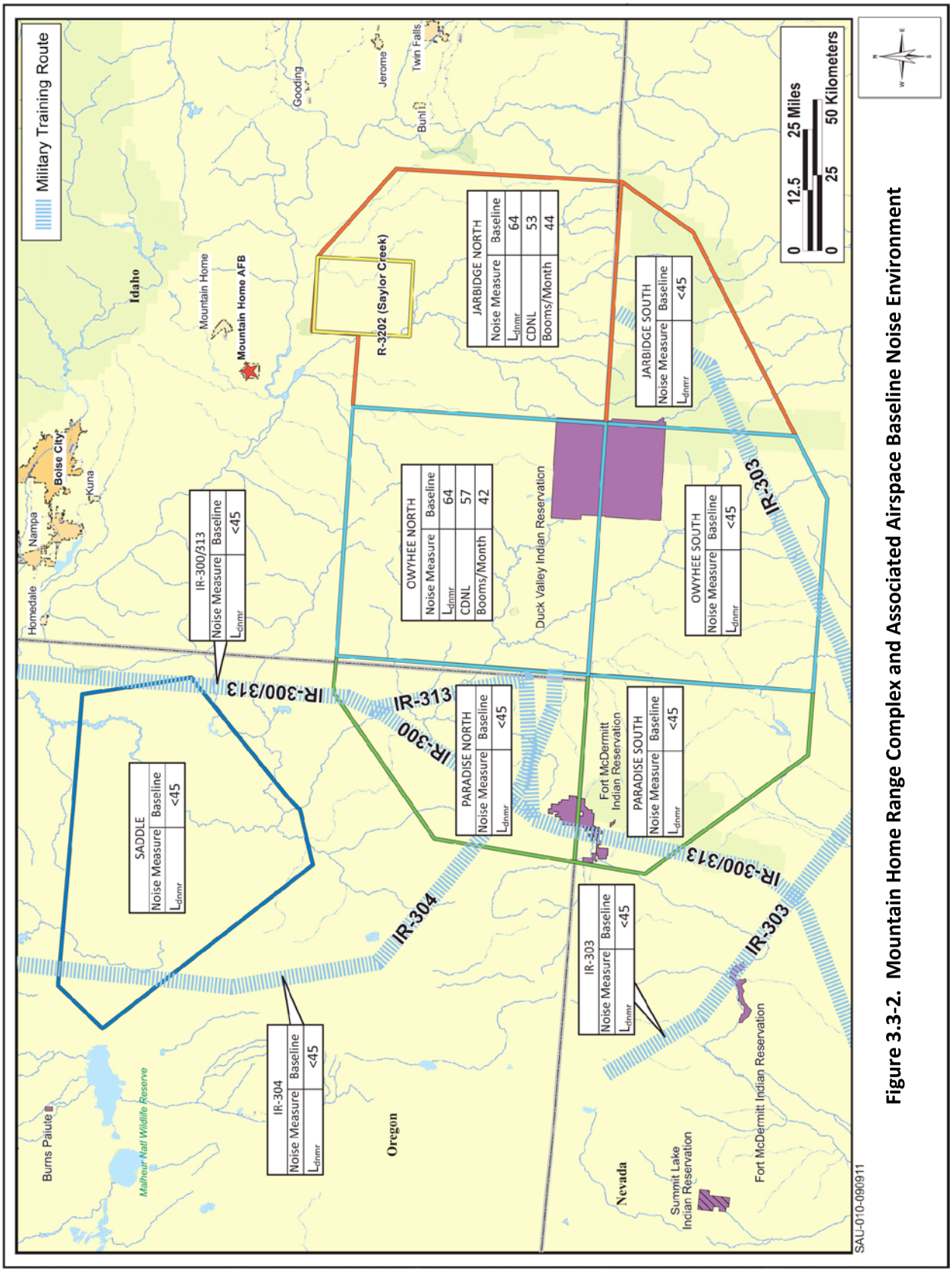

Figure 3.3-2. Mountain Home Range Complex and Associated Airspace Baseline Noise Environment

The USAF conducted a monitoring study for noise conducted in the Owyhee and Jarbidge MOAs (now called Owyhee North and Jarbidge North MOAs after the recent Paradise MOA Airspace EA) and on the range in 2003 (Fidel Associates, Inc. 2003). It concluded: 1) indigenous sources (e.g., wind) comprised the noise sources audible for the majority of time; 2) noise from military aircraft were occasionally audible as rumbling noises at all eight monitoring sites, but higher level noise intrusion occurred rarely; and 3) monitoring revealed hourly equivalent sound levels commonly less than 40 dB, even when aircraft operations dominated the noise environment.

While L_{dnmr} is one method to evaluate noise events, occasional events, such as MTR operations, can be better evaluated using SEL, which accounts for both the maximum sound level and the length of time a sound lasts. The three MTRs associated with the proposed action have floors (lowest altitude allowed to be flown) of 100 feet AGL, yet aircrews from Air Combat Command (ACC) cannot fly lower than 500 feet AGL, and do so rarely. As seen in Table 3.3-6 above, at 500 feet AGL an F-15E/F-15SG has an SEL of 115 dB. However, this dB level is experienced for a very short amount of time (i.e., seconds) and only occurs once every 3 days.

3.3.2.2 Supersonic Noise

Supersonic flight for fighter aircraft, including the F-15E, is primarily associated with air combat training. Aircraft exceeding Mach 1 always create a sonic boom; however, not all supersonic flight activities will cause a boom at the ground. As altitude increases, air temperature decreases, and the resulting layers of temperature change cause booms to be turned upward as they travel toward the ground. Depending on the altitude of the aircraft and the Mach number, many sonic booms are bent upward sufficiently that they never reach the ground. This same phenomenon, referred to as "cutoff," also acts to limit the width (area covered) of the sonic booms that reach the ground (Plotkin *et al.* 1987).

When a sonic boom reaches the ground, it impacts an area that is referred to as a “footprint” or (for sustained supersonic flight) a “carpet.” The size of the footprint depends on the supersonic flight path and on atmospheric conditions. Sonic booms are loudest near the center of the footprint, with a sharp “bang-bang” sound. Near the edges, they are weak and have a rumbling sound like distant thunder.

Sonic booms from air combat training activity have an elliptical pattern. Aircraft will set up at positions up to 100 nautical miles apart, before proceeding toward each other for an engagement. The airspace used tends to be aligned, connecting the setup points in an elliptical shape. Aircraft will fly supersonic at various times during an engagement exercise. Supersonic events can occur as aircraft accelerate toward each other, during dives in the engagement itself, and during disengagement.

A variety of aircraft conducting training perform flight activities that include supersonic events. Predominantly, these events occur during air-to-air combat, often at high altitudes. Roughly 3 to 10 percent of air combat maneuvering flight activities, depending upon aircraft type, result in supersonic events within the supersonic region of the Jarbidge North and Owyhee North MOAs, where supersonic activity is authorized above 10,000 feet AGL, except over the Duck Valley Indian Reservation where it is prohibited. Supersonic flight in the other MOAs is allowed above 30,000 feet MSL; however, sonic booms at this altitude rarely hit the ground. On average, F-15E/F-15SGs fly supersonic 4 percent of the

time spent in air combat training with Mach numbers usually 1.1 or less, but occasionally up to about 1.3. This is typical of all the current-generation supersonic aircraft studied in the development of the USAF's BOOMAP model. The BOOMAP model (Frampton *et al.* 1993) provides cumulative sonic boom impacts based on measurements of sonic booms and analysis of tracking data.

Supersonic noise levels and average numbers of sonic booms per month have varied greatly with aircraft numbers fluctuating in the MHRC airspace over the last 10 years. In 2001 and 2002, the Owyhee and Jarbidge MOAs (now the Owyhee North and Jarbidge North) analysis revealed CDNL estimates of 52 dBC with an average of 17 booms per month (USAF 2001, 2002). In 2011, baseline CDNL for Jarbidge North is 53 dBC, with Owyhee North estimated at 57 dBC, and booms per month (average 22 flying days) of 44 and 42, respectively (personal communication, Downing 2011). A study was conducted in 2003 (Fidel Associates, Inc. 2003) that monitored sonic booms near Little Blue Table under the Owyhee North MOA. Only 27 booms were detected over roughly 9 months. However, this study does not provide comparable data from other locations and time periods.

3.4 LAND USE, RECREATION, AND VISUAL RESOURCES

Land use, as addressed in this chapter, includes land ownership, base planning, local government planning and zoning, and management of state and federal public lands. Aircraft-related noise is discussed as it pertains to land use compatibility on base and in the surrounding community. For Mountain Home AFB, the City of Mountain Home, and their vicinity, the chapter focuses on land ownership and human-modified land use such as residential, commercial, industrial, institutional, recreational, and military. For the airspace and range areas in which RSAF F-15SA aircraft use would remain approximately at current levels, the primary land status category examined is federal public lands, although small portions of these lands are state or privately owned. Federal land in the affected area consists predominantly of that managed and administered by the BLM, DoD, U.S. Forest Service (USFS), and Bureau of Indian Affairs. Special Land Use Management Areas, such as Wilderness Areas, Wilderness Study Areas (WSAs), Wild and Scenic Rivers, and Areas of Critical Environmental Concern are administered by federal agencies and are addressed in this chapter.

3.4.1 Mountain Home AFB and Vicinity

Mountain Home AFB covers approximately 6,844 acres of land. Approximately 20 to 25 percent of the base is developed with buildings, roads, runways and other facilities, with the most densely developed areas located in the central and northeastern portions of the base. Landscaped and disturbed areas account for approximately 25 percent of the base, while the remaining areas are open space. Open space areas consist of undeveloped fields, partially disturbed areas separating buildings and facilities, and disturbed shrubland communities.

General siting criteria have been established for land development and use at military airfields. For example, APZs, which address height restrictions, mishaps, development density, and land use in and around military airports, are enforced to reduce the potential for aircraft-related hazards. CZs are established at each end of a runway and are 3,000 feet wide by 3,000 feet long. The DoD requires that control of the land within each CZ be acquired through purchase, lease, or easement to minimize

exposure and prevent obstructions. Only agricultural land use occurs within the CZs and APZs at Mountain Home AFB.

3.4.1.1 Existing Aircraft Noise and Land Use Compatibility Surrounding the Base

Mountain Home AFB is located near several natural areas of importance including Bruneau River Scenic Area (approximately 9 miles), Bruneau Dunes State Park (approximately 12 miles), and Morley Nelson Snake River Birds of Prey National Conservation Area which surrounds the base. The Snake River, located approximately 4 miles south of the base, is an important wildlife habitat, recreation area, and important for economic reasons such as power generation and a source of water for irrigation.

Land use activities most sensitive to noise typically include residential and commercial areas, public services, and areas associated with cultural and recreational uses. Noise measurements related to aircraft operations that define the area of noise impact are expressed in terms of DNL. DNL represents the average annual day community noise exposure from aircraft operations during a 24-hour period over a year (refer to Section 3.3 for more details on DNL). DNL also considers an additional weighting for nighttime operations. DoD has established noise compatibility criteria for various land uses. According to these criteria, noise levels equal to or less than 65 dB DNL are compatible with land uses such as residences, transient lodging, and medical facilities.

The City of Mountain Home Comprehensive Plan (City of Mountain Home 2008) and the Elmore County Comprehensive Growth and Development Plan (Elmore County 2010) guide decisions regarding land use and growth surrounding the base. Elmore County is primarily rural with a large portion utilized for farming and timber production, with approximately 70 percent of the county owned by the federal government (U.S. Fish and Wildlife Service [USFWS], BLM, and DoD) (Elmore County 2004). Lands directly around Mountain AFB are generally open, agricultural, and low density residential, with a few commercial areas north of the base along State Highway 67. The majority of population is located northeast of the base, miles outside the area subject to noise levels of 65 dB DNL or greater.

The AICUZ program is a DoD requirement that addresses public health and safety through an analysis of aircraft noise, aircraft accident potential, and land use development in the areas surrounding military installations. At Mountain Home AFB, the AICUZ provides guidelines to address safety and noise issues in planning activities for the base and surrounding communities. It also provides the base and surrounding communities with guidelines to address safety and noise issues in planning. Mountain Home AFB published its latest AICUZ Study in 1998. As part of the AICUZ program, Mountain Home AFB has established a CZ and two APZs at the end of each runway. The CZs, both of which extend off base, include neither housing nor other incompatible land uses. Within the APZs, as well as the portions of the CZs that lie outside of the base, agriculture forms the predominant land use. Refer to Section 3.2.1.2, Safety, for further details on CZs and APZs.

While Elmore County has not adopted AICUZ guidelines in the 2006 Comprehensive Plan, it has adopted an Air Base Hazard Zone to prevent encroachment while allowing the best possible use of private lands in this zone as long as private uses do not conflict with Air Base operations. Land use restrictions apply

to this Air Base Hazard Zone area. Additionally, the Air Base Commercial Zone is located at the highway entrance to Mountain Home AFB (Elmore County 2004).

Within the noise contours that lie outside the base, agriculture forms the predominant land use (Figure 3.4-1) and land management is primarily administered by the BLM (Figure 3.4-2). Private lands in this area are agricultural. Existing noise levels greater than 65 dB DNL exceed the 1998 AICUZ contours, they primarily fall within the Air Base Hazard Zone (Figure 3.4-3).

Table 3.4-1 shows land use area measurements within the existing noise level contours. Only agriculture/open lands are exposed to noise levels of 65 dB DNL or greater outside of Mountain Home AFB, itself. No off-base schools, hospitals, or churches are located in the area currently affected by noise levels 65 dB DNL or above, although one residence is located within the 75 to 80 dB DNL contours.

Table 3.4-1. Land Use Areas Affected by Baseline Noise Contours (acres)

Land Use Category	*65-69 DNL*	*70-74 DNL*	*75-79 DNL*	*80-84 DNL*	*85+ DNL*	*Totals*
Mountain Home AFB	1,124	1,393	1,175	734	1,014	**5,440**
Agriculture/Open Space	8,504	3,874	1,292	135	0	**13,805**
Totals	**9,628**	**5,267**	**2,467**	**869**	**1,014**	**19,245**

3.4.2 Mountain Home Range Complex and Associated Airspace

Land under the airspace is primarily federally owned, with the BLM as the primary land manager (Figure 3.4-4). Areas located under the MOAs and ATCAAs are mostly undeveloped with very little residential use present. Numerous dispersed ranches and several very small communities, however, occur including Paradise Valley and Orovada in Nevada, and Riddle and Grasmere, Idaho.

Two American Indian reservations lie under the airspace, the Duck Valley Indian Reservation and the Fort McDermitt Indian Reservation (Figure 3.4-5). The northern half of the Duck Valley Indian Reservation occurs under Owyhee North in Idaho, and consists primarily of ranch areas and dispersed homes. The majority of the reservation's inhabitants live in the southern half which is located in Nevada under Owyhee South. As noted previously in Section 3.2, numerous restrictions apply to overflights of this reservation, including no flights below 15,000 feet AGL. The Fort McDermitt Indian Reservation is located in Oregon and Nevada, with half in Paradise North and half in Paradise South. The floor for this airspace is 3,000 AGL or 10,000 feet MSL, whichever is higher.

Under Jarbidge North, Juniper Butte Range underlies R-3204 (A-C), approximately 45 miles south of Mountain Home AFB in Owyhee County (see Figure 3.4-5). The range encompasses approximately 12,812 acres and is bordered to the east by the East Fork Bruneau Canyon and on the south by Juniper Butte. The entire range is considered an impact area; however, targets are only permitted in a 662-acre fenced off area in the center of the Range (USAF 2007b). Saylor Creek Range is also located under Jarbidge North, under R-3202 (High/Low), about 16 miles southeast of Mountain Home AFB. The range encompasses 109,466 acres and is composed of lands withdrawn from the public domain or leased land from the state. Within Saylor Creek Range's 12,200 acre Exclusive Use Area, land use consists solely of target areas and support facilities, with more than half the acreage consisting of open space (USAF 2007b).

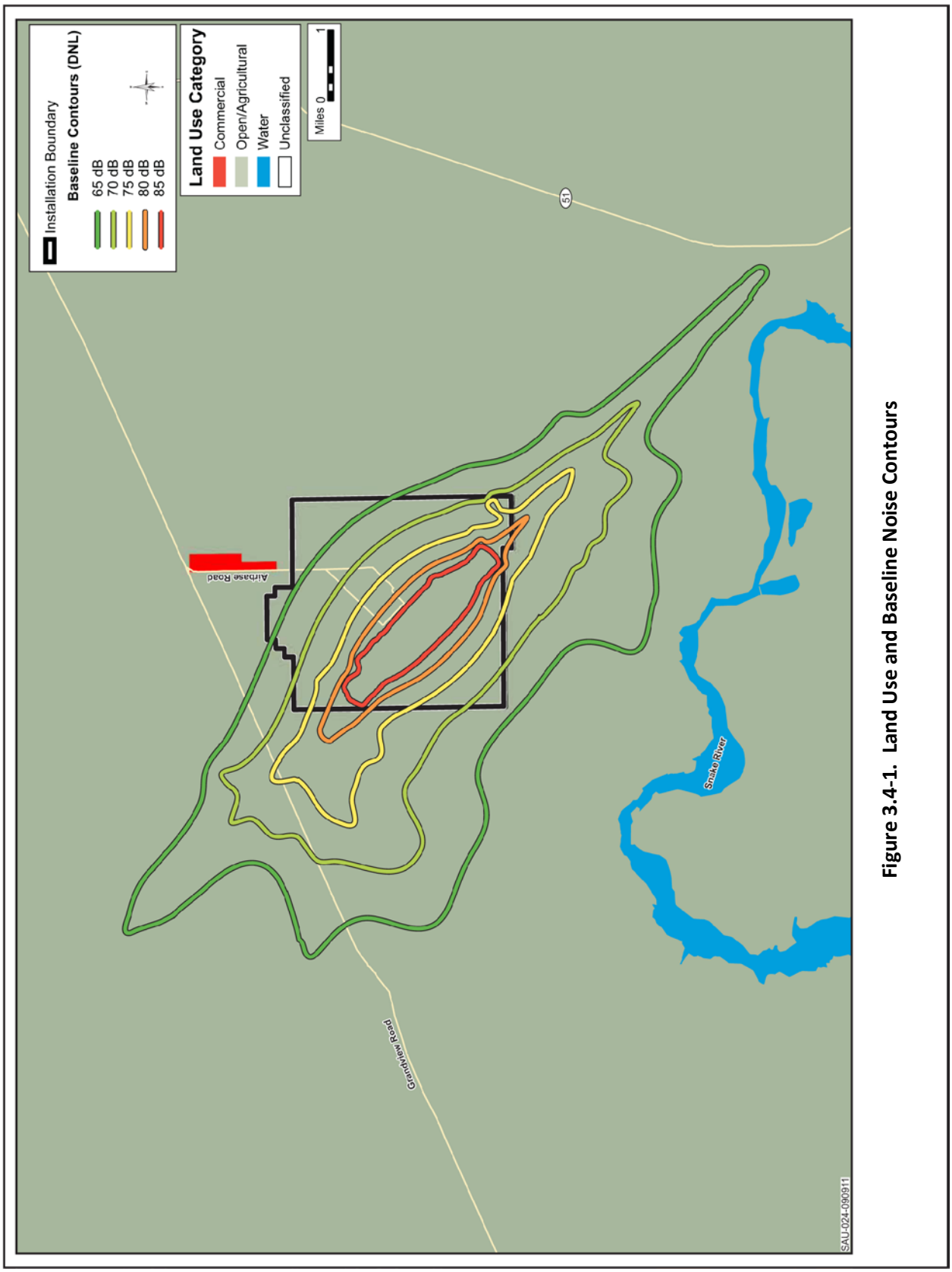

Figure 3.4-1. Land Use and Baseline Noise Contours

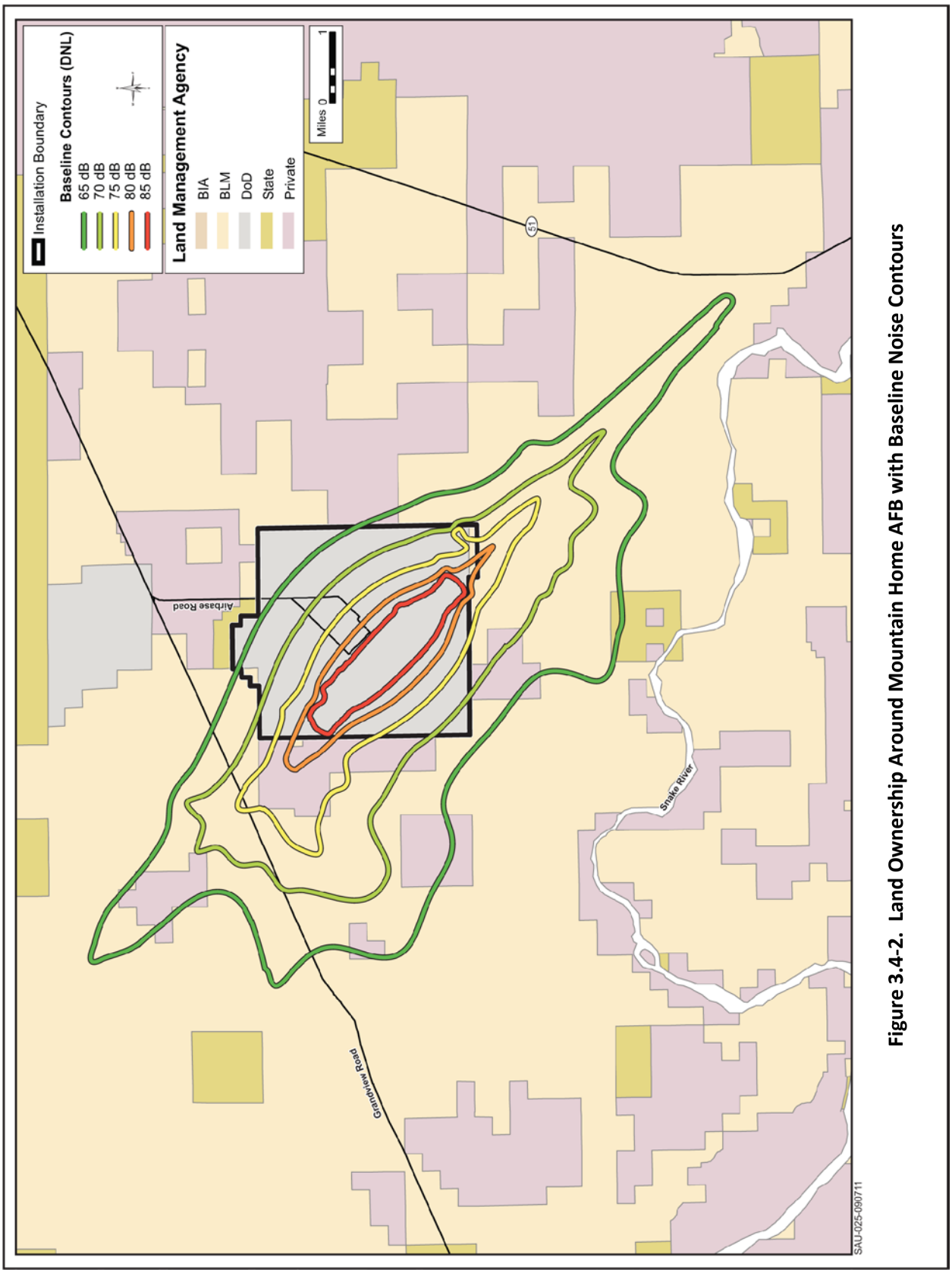

Figure 3.4-2. Land Ownership Around Mountain Home AFB with Baseline Noise Contours

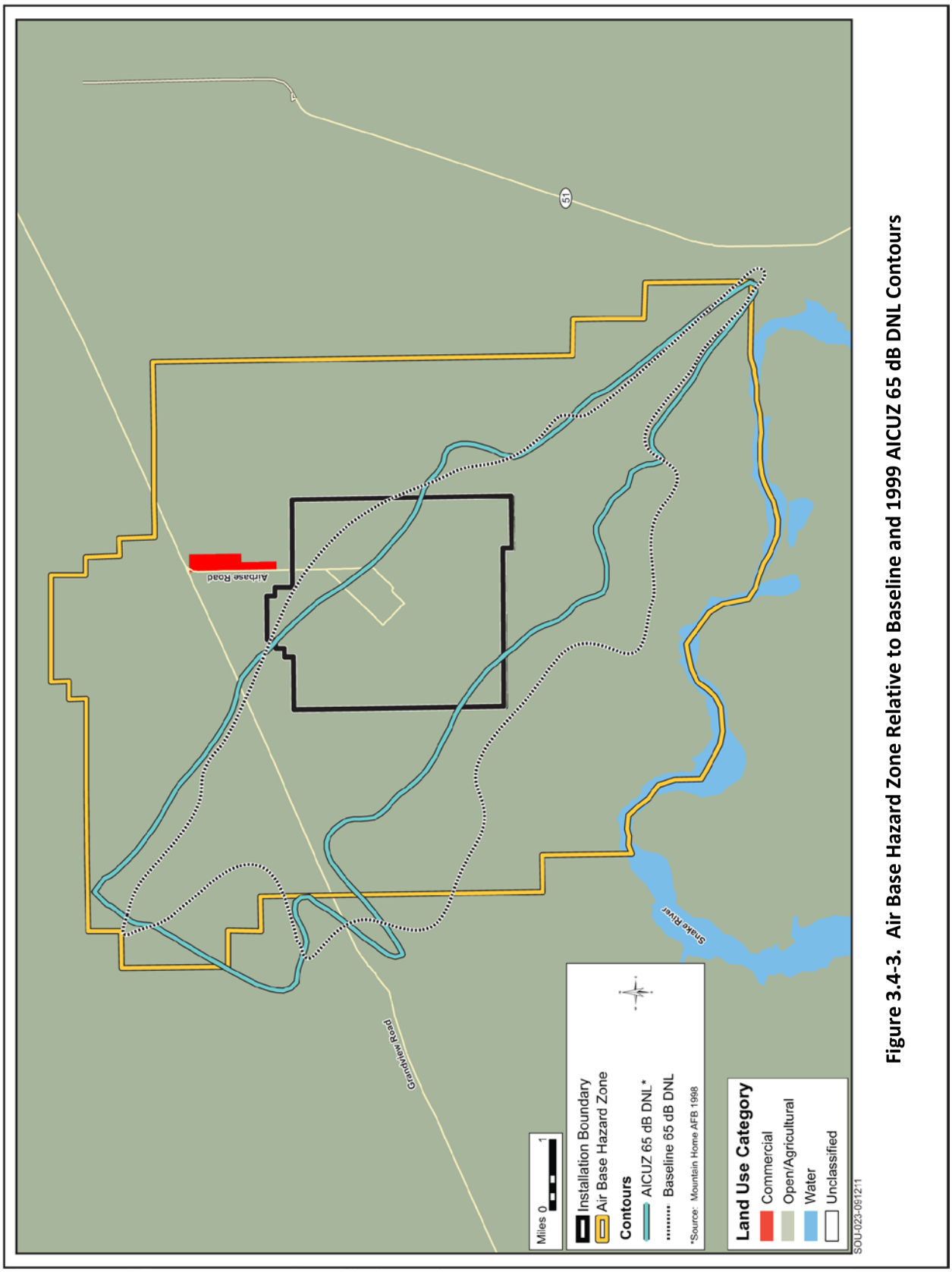

Figure 3.4-3. Air Base Hazard Zone Relative to Baseline and 1999 AICUZ 65 dB DNL Contours

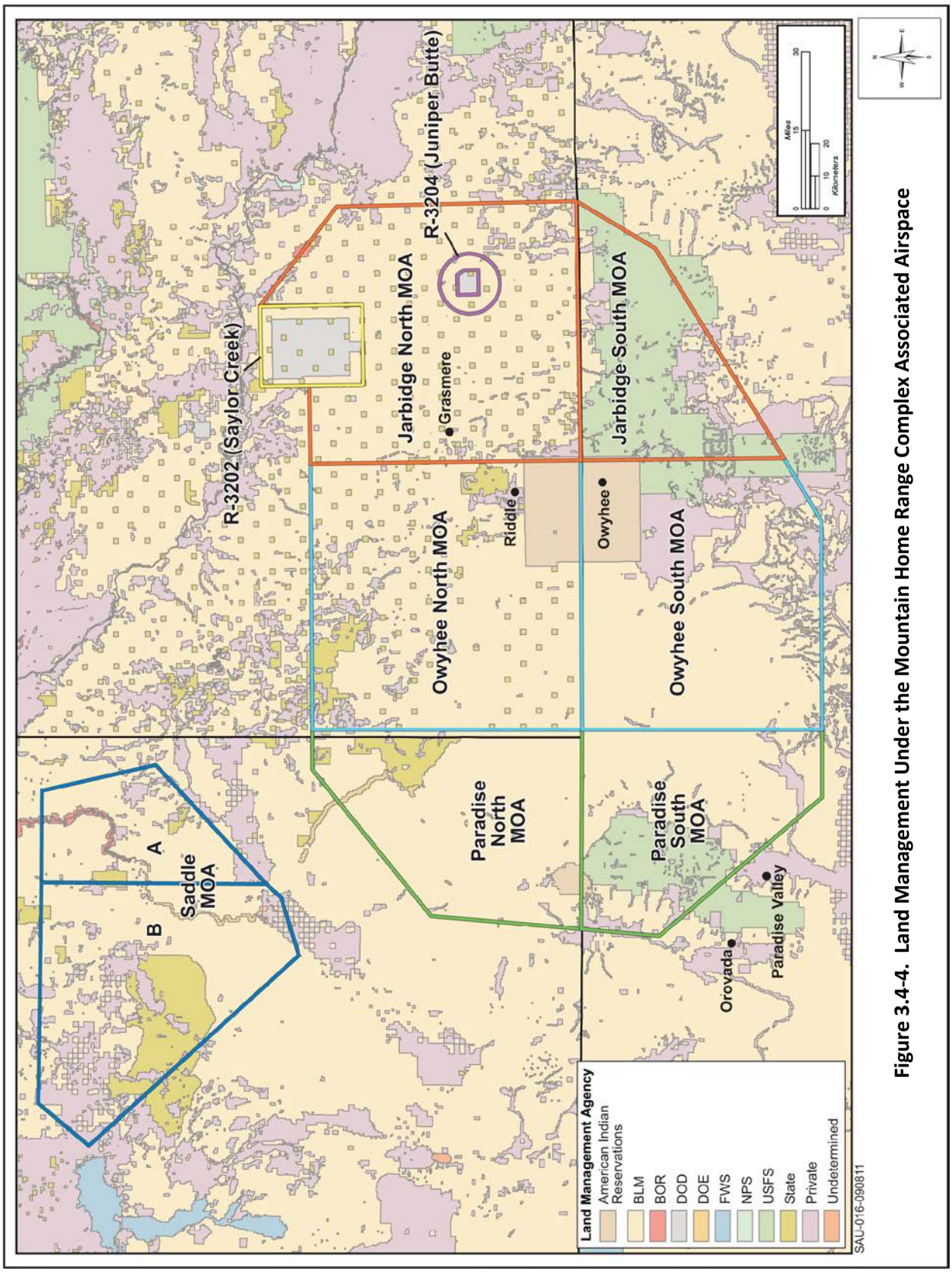

Figure 3.4-4. Land Management Under the Mountain Home Range Complex Associated Airspace

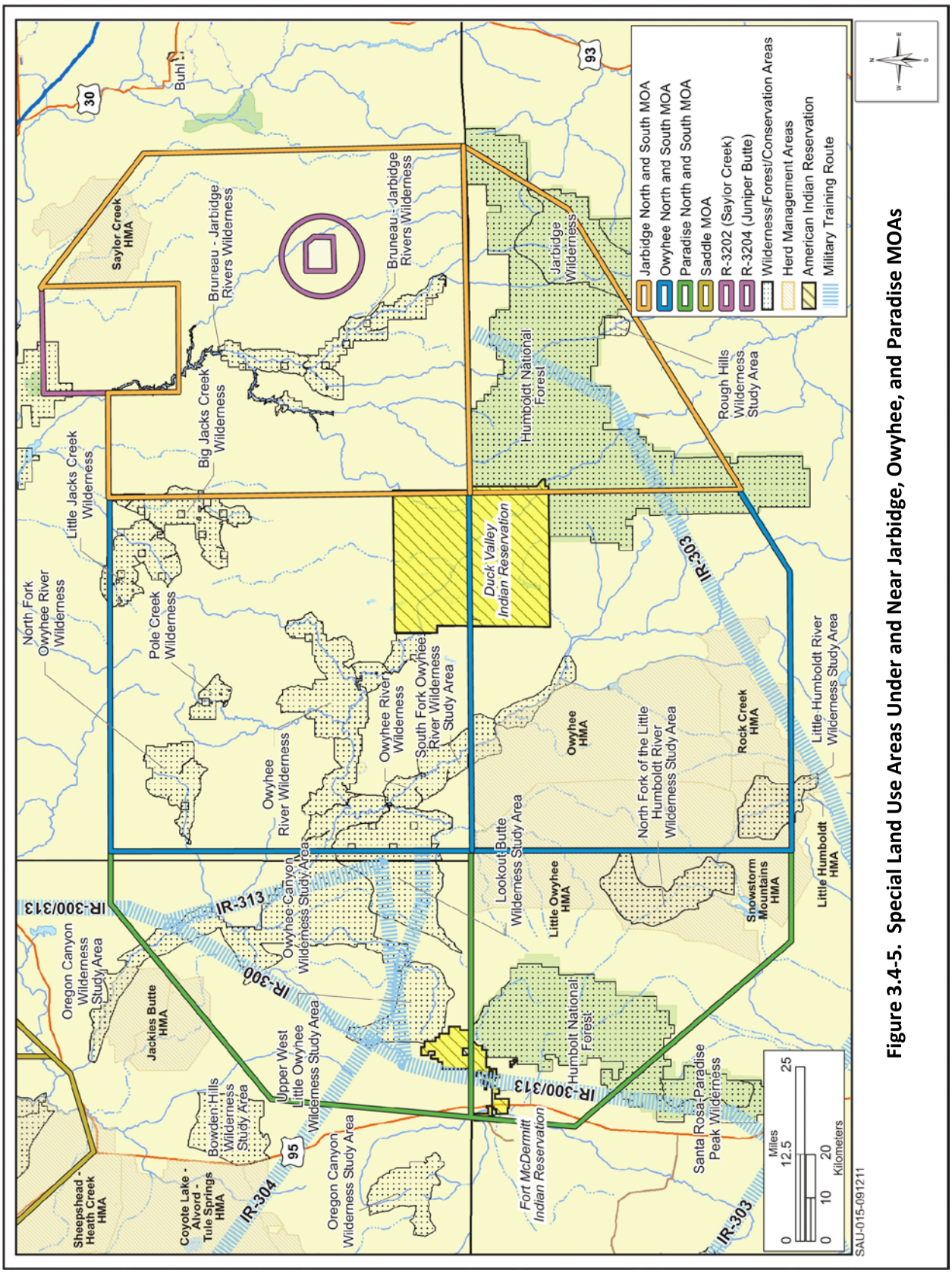

Figure 3.4-5. Special Land Use Areas Under and Near Jarbidge, Owyhee, and Paradise MOAs

3.4.2.1 Special Land Use Areas

The BLM, in accordance with Section 603(c) of the Federal Land Policy and Management Act of 1976, reports to Congress on the federal lands under its management suitable for inclusion in the National Wilderness Preservation System. Inclusion of land into the National Wilderness Preservation System is intended to preserve areas in a primitive state that possess little evidence of human activity. The Wilderness Act of 1964 identified criteria for evaluating areas for wilderness characteristics and gave direction on how designated wilderness areas should be managed. The major factors evaluated for each WSA include wilderness qualities such as naturalness, size, solitude, and special features; additional wilderness quality factors include multiple resource benefits, balancing the geographic distribution of wilderness areas, diversity of natural systems, and manageability. Subject to certain exemptions, use of motor vehicles or other motorized equipment, landing of aircraft, and construction of structures and roads are prohibited in wilderness areas. Each federal agency is responsible for evaluating, nominating, managing, and protecting designated and potential wilderness areas within the lands they manage. Wilderness Areas under the airspace include Bruneau-Jarbidge Wilderness, Little Jacks Creek and Big Jacks Creek Wilderness, Owyhee River Wilderness, North Fork Owyhee, and Pole Creek Wilderness (Table 3.4-2 and refer to Figure 3.4-5). Numerous WSAs underlie the Saddle MOA airspace (Figure 3.4-6).

The Omnibus Public Land Management Act of 2009 designated 517,000 acres of wilderness and 316 miles of wild and scenic rivers and "released" nearly 200,000 acres of wilderness study areas from the requirement to be managed to protect wilderness characteristics (P.L. 111-11). All areas are located under the Owyhee and Paradise MOAs.

Several WSAs are located within the MHRC airspace. These include a small area of the North Fork of the Little Humboldt River WSA under Paradise South and roughly one-quarter of the Little Humboldt River WSA under Owyhee South and the Rough Hills WSA under Jarbidge South. A narrow leg in the upper region of the Owyhee Canyon WSA in Oregon has been withdrawn. The FAA does not restrict aircraft flights over WSAs (FAA 2010).

The Wild and Scenic Rivers Act (16 USC 1271-1287)—P.L. 90-542, approved October 2, 1968, (82 Stat. 906) established a National Wild and Scenic Rivers System and prescribed the methods and standards through which additional rivers may be identified and added to the system. Subtitle F of The Omnibus Public Land Management Act of 2009, Section 1504, Designation of Wild and Scenic Rivers, also has two reaches within the area under the airspace—the North Fork of the Owyhee River and the Owyhee River.

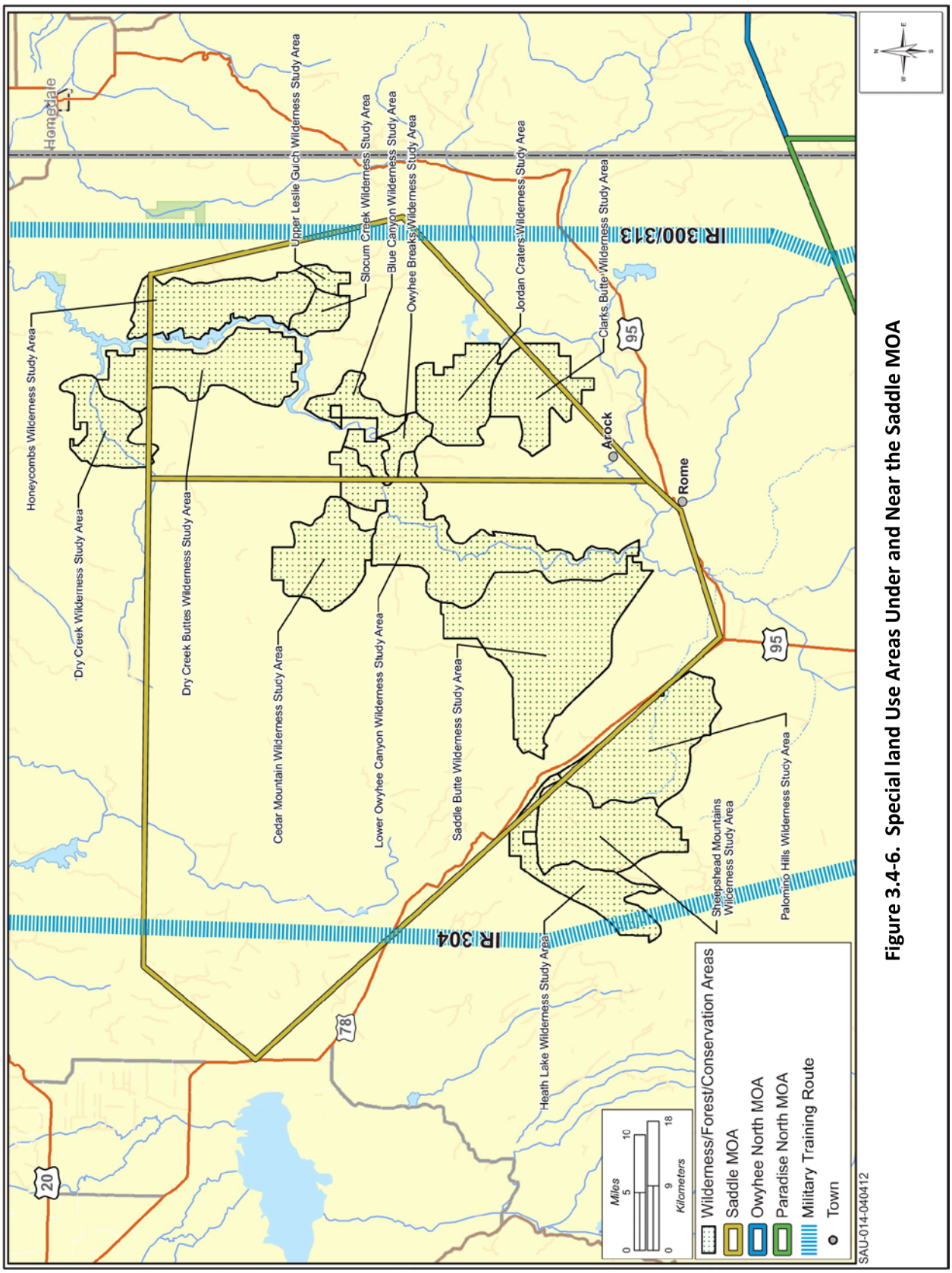

Figure 3.4-6. Special land Use Areas Under and Near the Saddle MOA

Table 3.4-2. Land Ownership under the Mountain Home Range Complex and Associated Airspace		
Agency	***Acres***	***Primary Special Use Areas***
Saddle		
Bureau of Land Management	1,011,152	Blue Canyon WSA, Clarks Butte WSA, Dry Creek WSA, Dry Creek Buttes WSA, Honeycombs WSA, Jordan Craters WSA, Lower Owyhee Canyon WSA, Owyhee Breaks WSA, Slocum Creek WSA, Upper Leslie Gulch WSA, Cedar Mountain WSA, Lower Owyhee Canyon WSA, Owyhee Breaks WSA, Palomino Hills WSA, Saddle Butte WSA, Sheepshead Mountains WSA
Bureau of Reclamation	14,026	
Department of Energy	12,611	
State	200,568	
Private	177,649	
Uncategorized	1,995	
Total	**1,418,001**	
Paradise		
Bureau of Land Management	1,482,700	Owyhee River Canyon WSA, Upper West Little Owyhee WSA, Lookout Butte WSA, Owyhee River Wilderness, Fort McDermitt Indian Reservation, North Fork of the Little Humboldt River WSA, Little Owyhee HMA, Snowstorm Mountains HMA
American Indian Reservations	24,779	Fort McDermitt Indian Reservation
Department of Energy	9,227	
Forest Service	193,630	Humboldt NF
State of Oregon	68,124	
State of Idaho	1,127	
Private	115,372	
Total	**1,894,959**	
Saylor Creek (R-3202 High/Low)		
Bureau of Land Management	77,697	
Department of Defense	102,977	
State of Idaho	11,086	
Private	88	
Total	**191,848**	
Owyhee		
Bureau of Land Management	2,302,391	North Fork Owyhee River WA, Owyhee River WA, Little Jacks Creek WA, Big Jacks Creek WA, Pole Creek WA, Owyhee River WA, South Fork Owyhee River WSA, Owyhee Canyon WSA, Little Humboldt River WSA, Little Owyhee HMA, Snowstorm Mountains HMA, Little Humboldt HMA, Rock Creek HMA, Owyhee HMA
American Indian Reservations	279,002	Duck Valley Indian Reservation
Forest Service	86,422	Humboldt NF
State of Idaho	132,301	
Private	389,187	
Total	**3,189,303**	
Jarbidge		
Bureau of Land Management	1,475,330	Saylor Creek HMA, Big Jacks Creek WA, Bruneau-Jarbidge Rivers WA, Rough Hills WSA
American Indian Reservations	11,097	Duck Valley Indian Reservation
Bureau of Reclamation	3,190	
Department of Defense	12,249	
Forest Service	501,145	Humboldt NF, Jarbidge WA
State of Idaho	86,120	
Private	201,381	
Total	**2,290,512**	

3.4.2.2 Recreation

Recreational areas occur within the Humboldt, Sawtooth, Boise, and Challis National Forests, Craters of the Moon National Monument, and the Minidoka National Wildlife Refuge. Most recreation sites are semi-developed or dispersed and include boat launch sites, campsites and trails for hiking, birding, mountain bike riding, horseback riding, and off-highway vehicle use. Hunting opportunities are available for big game and upland game birds.

3.4.2.3 Visual Resources

Visual resources describe the scenic values of landscapes. The BLM, the primary administrative unit for lands under the MHRC, uses its Visual Resource Management system to inventory scenic values and establish management objectives for those values on public lands. Proposed activities and their effects are evaluated as to their conformity to these objectives. The BLM identifies four classes of Visual Resource Management and associated management objectives and acceptable level of contrast for each class (BLM Manual 8431 - Visual Resource Contrast Rating, no date). Areas under the airspace range from Class I to Class IV. Private lands are not classified for Visual Resource Management.

3.5 AIR QUALITY

Air quality is defined by ambient air concentrations of specific pollutants determined by the USEPA to be of concern with respect to the health and welfare of the general public. The major pollutants of concern, called "criteria pollutants," are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), total suspended particulate matter less than or equal to 10 (PM_{10}) and 2.5 ($PM_{2.5}$) microns in diameter, and lead (Pb). The USEPA has established National Ambient Air Quality Standards (NAAQS) for these pollutants (Table 3.5-1). Areas that violate a federal air quality standard are designated as non-attainment areas.

Ambient air quality refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) that occurs at a particular geographic location. The ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and chemistry. Emission considerations include the types, amounts, and locations of pollutants emitted into the atmosphere. Meteorological considerations include wind and precipitation patterns affecting the distribution, dilution, and removal of pollutant emissions. Chemical reactions can transform pollutant emissions into other chemical substances. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter [$\mu g/m^3$] of air) or as a volume fraction (e.g., parts per million [ppm] by volume).

Emissions associated with operations at Mountain Home AFB include emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x), both of which are precursors to O_3, as well as CO, SO_2, $PM_{2.5}$, and PM_{10}. Emissions of lead are not addressed because the affected areas contain no significant sources of this criteria pollutant, and operations at Mountain Home AFB would not result in substantial emissions of lead.

Table 3.5-1. National Ambient Air Quality Standards

Pollutant	*Averaging Time*	*National Standards*[1]	
		Primary[2,3]	*Secondary*[2,4]
O_3	8-hour	0.075 ppm (147 µg/m^3)	Same as primary
CO	8-hour	9 ppm (10 mg/m^3)	—
	1-hour	35 ppm (40 mg/m^3)	—
NO_2	Annual	0.053 ppm (100 µg/m^3)	Same as primary
	1-hour	0.100 ppm (188 µg/m^3)	—
SO_2	3-hour	—	0.5 ppm (1,300 µg/m^3)
	1-hour	0.075 ppm (105 µg/m^3)	—
PM_{10}	24-hour	150 µg/m^3	Same as primary
$PM_{2.5}$	Annual	15 µg/m^3	
	24-hour	35 µg/m^3	
Pb	Rolling 3-month period	0.15 µg/m^3	Same as primary
	30-day average	—	—

Source: USEPA 2010a.

Notes:

[1]Standards other than the 24-hour PM_{10}, 24-hour $PM_{2.5}$, and those based on annual averages are not to be exceeded more than once a year. The 8-hour ozone national standard has replaced the 1-hour ozone national standard. New 1-hour SO_2 standard was effective August 1, 2010; annual and 24-hour standards revoked at that time.

[2]Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.

[3]Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the USEPA.

[4]Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

The affected environment varies according to pollutant. For pollutants that do not undergo a chemical reaction after being emitted from a source (i.e., direct emissions), the affected area is generally restricted to a region in the immediate vicinity of the base. These pollutants include CO, SO_2, and directly-emitted PM_{10} and $PM_{2.5}$. For pollutants that undergo chemical reactions and interact within the atmosphere to form secondary pollutants, such as O_3 and its precursors NO_x and VOCs, and precursors of PM_{10} and $PM_{2.5}$, the affected environment is a larger regional area. The chemical transformations and interactions that create O_3 and secondary PM_{10} and $PM_{2.5}$ can take hours to occur; therefore, the precursor pollutants may be emitted some distance from the impact area depending on weather conditions.

Another factor used in defining the affected environment is mixing height. Mixing height is the upper vertical limit of the volume of air in which emissions may affect air quality. Emissions released above the mixing height are typically restricted from affecting ground-level ambient air quality in the region. Emissions of pollutants released below the mixing height may affect ground-level concentrations. The USEPA default mixing height of 3,000 feet AGL has been used for Mountain Home AFB.

3.5.1 Mountain Home AFB and Vicinity

The affected environment for base-generated emissions includes Mountain Home AFB, the area surrounding the base where aircraft operate below 3,000 feet AGL, and the airspace overlying these areas and where aircraft train. Mountain Home AFB is located in Elmore County, Idaho, and is under the jurisdiction of the Idaho Department of Environmental Quality (DEQ). The base is located within the Idaho Intrastate Air Quality Control Region (AQCR) #63 which consists of 22 counties in central Idaho, including Elmore County.

Air quality in the AQCR has been designated as either in "attainment," "unclassifiable/attainment," or "better than national standards" with the NAAQS for all pollutants (40 CFR 81.313); therefore, no conformity analysis is required.

Mountain Home AFB has a current Tier I Operating Permit issued by the Idaho DEQ under the federal operating permits program (Idaho DEQ 2008). The Tier I Operating Permit establishes facility-wide requirements in accordance with the Idaho State Implementation Plan control strategy and the Rules for the Control of Air Pollution in Idaho. Stationary sources are regulated under the Tier I Operating Permit, and include hospital boilers, jet engine testing within hush houses at the base, aircraft and aircraft parts surface coating operations, flight line area spray painting, vehicle spray painting, abrasive blasting, flight-line generators, and emergency generators.

Mobile source emissions include emissions from aircraft operations (take-offs and landings), aerospace ground equipment (AGE), and aircraft maintenance operations such as engine run-ups and trim checks. To establish baseline conditions, emissions from all F-15E/F-15SG aircraft, as well as AGE and maintenance operations associated with these aircraft were considered. Emissions were calculated for all airfield activities below the mixing height. Commuting emissions associated with staff assigned to the F-15E/F-15SG aircraft were also included in baseline calculations.

Baseline stationary and mobile source emissions are summarized in Table 3.5-2 and were based on flight profiles and engine maintenance runups developed as part of the noise analysis (Wyle 2011). This approach was taken for consistency purposes with the noise evaluation and for comparability. For aircraft, sulfur oxides are calculated based on weight percent sulfur content of jet propellant (JP)-8, as identified in MIL-DTL-83133G (April 2010). Methane and nitrous oxide emissions were calculated based on Table C-2 of the USEPA Mandatory Greenhouse Gas (GHG) Reporting Rule. AGE emissions were calculated using F-15-associated equipment and modeled in the Air Force Conformity Applicability Model program (USAF 2002). Emission factors were derived from Idaho Energy Resources Association Aircraft/Auxiliary Power Units/Aerospace Ground Support Equipment, except for CO_2, which was derived from Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling--Compression-Ignition (USEPA 2002). For CH_4 and N_2O emissions, Table C-2 of the Mandatory Greenhouse Gas Reporting Rule was also used. Commuting vehicle emissions were calculated using emission factors from MOBILE 6.2.03 (2003) and USEPA Direct Emissions from Mobile Combustion Sources (USEPA 2008).

Table 3.5-2. Baseline Airfield Operation Emissions for Mountain Home AFB						
Pollutants in Tons per Year						
CO	*NO_x*	*VOCs*	*SO_2*	*PM_{10}*	*$PM_{2.5}$*	*CO_2e*[1]
514.34	421.22	61.43	13.46	28.57	22.51	68,582

Note: [1]CO_2e= carbon dioxide equivalent, which includes emissions calculated for carbon dioxide, methane and nitrous oxide and is measured in metric tons per year or mT/yr.

3.5.1.1 Greenhouse Gases

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. The accumulation of GHGs in the atmosphere regulates the earth's temperature. Some scientific evidence suggests a trend of increasing global temperature over the past century possibly due to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative environmental, economic, and social consequences across the globe.

The most common GHGs emitted from natural processes and human activities include CO_2, CH_4, and N_2O. Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of one. For example, under the USEPA's Mandatory Greenhouse Gas Reporting Rule, CH_4 has a GWP of 21, which means that it is considered to have a global warming effect 21 times greater than CO_2 on an equal-mass basis. Total GHG source emissions are often reported as a CO_2 equivalent (or CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. For this analysis, the only GHG that has been quantified is CO_2, as discussed above, and the total emissions have been converted to metric tons for CO_2e.

3.6 SOILS AND WATER RESOURCES

Soils refer to unconsolidated earthen materials overlying bedrock or other parent material. Soil structure, elasticity, strength, shrink-swell potential, liquefaction potential, and its potential to erode all determine the ability of the ground to support structures and facilities. General hydrology, water quality, and flooding are also discussed in this section. Hydrology for this EA considers surface water, groundwater, and floodplains. Water quality describes the chemical and physical composition of water as affected by natural conditions and human activities. Impacts to these fundamental resources can also influence other issues such as biological resources, environmental justice, land use, socioeconomics, and even air quality.

Water quality is regulated under the Clean Water Act (CWA) of 1972 that sets standards for contaminants and impurities to protect public water supplies and ensure water bodies support aquatic life. In addition, states may also impose contaminant standards more stringent than those established by the USEPA. Contaminants range from priority pollutants such as mercury or selenium to non-priority pollutants like oil and grease. All federal actions need to evaluate their potential effects on water quality standards.

Stormwater runoff is precipitation that falls onto surfaces, such as roofs, streets, the ground, etc., and is not absorbed or retained by that surface but flows off, collecting volume and energy. Stormwater runoff management addresses measures to reduce flow energy and pollutants in stormwater and to control discharge from point and non-point sources. Point source pollution is produced by a single, identifiable source. Non-point source pollution affects surface water and groundwater resources as a result of pollution from diffuse sources.

Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance,* mandates a 2 percent annual reduction in potable, industrial, landscaping, and agricultural water intensity by FY 2020. In addition, EO 13514 requires that all new construction comply with the *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings*. This includes employing design and construction strategies that reduce stormwater runoff. Furthermore, Section 438 of the Energy Independence and Security Act of 2007 requires that any development or redevelopment project involving a federal facility with a footprint exceeding 5,000 square feet shall use site planning, design, construction, and maintenance strategies to maintain or restore the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow. Compliance with this requirement can be met through the implementation of Low Impact Development technologies.

Floodplains are low, relatively flat areas adjoining inland and coastal waters. EO 11988, *Floodplain Management*, sets forth the responsibilities of federal agencies for reducing the risk of flood loss or damage to personal property, minimizing the impacts of flood loss, and restoring the natural and beneficial functions of floodplains.

The protection of unique geological features, minimization of soil erosion, and siting of facilities away from potential geological hazards are considered when evaluating the potential impacts of an action. Generally, impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering components are incorporated into project design. This section also analyzes changes in hydrologic and water quality parameters resulting from the implementation of any of the action alternatives. The criteria used to determine impact analysis to water resources were derived from the *CWA of 1972, as amended (33 USC §§ 1251, et seq.)*; the *Safe Drinking Water Act of 1974 (as amended in 1986 and 1996; 42 USC § 300 et seq.)*; and *Section 10 of the Rivers and Harbors Act of 1899 (as amended; 33 USC § 403)*.

No construction or ground disturbance would occur below the airspace proposed for use under the proposed action; as a result there would be no impacts to soils and water on land under the airspace.

3.6.1 Mountain Home AFB and Vicinity

3.6.1.1 Geology, Topography, and Soils

Mountain Home AFB lies in Elmore County in southwestern Idaho. The base is situated in the western Snake River Plain, a northwest-trending structural basin bounded on both the southwest and northeast by high-angle faults. The Snake River Plain is thought to be an area of crustal rifting that began around 16 million years ago (USAF 2004). The upper bedrock unit is mostly Middle to Late Pleistocene-age

basalts of the Snake River Group. Stratigraphic sequences below the Snake River Group include the olivine basalt flows of the Bruneau Formation. The basalt rock beneath the base is between 490 to 580 feet thick (Mountain Home AFB 2006b). Mountain Home AFB is situated south of the Central Idaho Seismic Zone, with the Boise Front and Danskin Mountain fault systems being located to the north (Idaho Geological Survey 2009). The topography of Mountain Home AFB has minimal relief, and is generally flat. There are no major topographic features present on the base (Mountain Home AFB 2006b).

Soils present are typical of semi-arid regions, characterized by poor drainage and lack of organic matter. The majority of the soils on Mountain Home AFB consist of Bahem Silt Loam, with the exception of the northeast portions of the base that includes silt loams, stony loams, and sandy loams. Slopes of 0 to 4 percent characterize most soils, with the exception of those along the eastern boundary that have slopes from 0 to 8 percent. These soil types have moderate potential for wind and water erosion.

3.6.1.2 Surface Water, Groundwater, and Floodplains

Mountain Home AFB is located within the C.J. Strike Dam Recreation Annex watershed in a small, very shallow basin of approximately 55 square miles in size. No drainages or natural impoundments occur on base. During spring snow melt or during heavy thunderstorms, surface water flows into two ephemeral streams or into four man-made drainage ditches. Generally, surface water flows from northeast to southwest into Canyon Creek that ultimately drains into the Snake River (USAF 2004).

Mountain Home AFB relies on a regional, unconfined aquifer for its water. This aquifer is shared with the City of Mountain Home and other surrounding communities (Mountain Home 2004). These aquifers are sedimentary and volcanic aquifers composed of a mixture of loose gravels, sands, silts, and clays that comprise valley fill aquifers, intermixed with areas containing basalt, shale and sandstone rocks that have a more consistent structure (Idaho DEQ 2010). See Community Facilities and Infrastructure, Section 3.10, for detailed information on capacity (USAF 2011).

No floodplains have been identified on Mountain Home AFB (USAF 2004).

3.7 HAZARDOUS MATERIALS AND WASTE

This EA analyzes impacts related to hazardous materials, toxic substances, hazardous waste, and contaminated sites. Specifically, it analyzes the potential for hazardous materials to be introduced to Mountain Home AFB during the course of site development and construction activities; for toxic and hazardous wastes to be generated as a result of construction and demolition activities; and for encounter with contaminated media during the course of site preparation and construction/demolition activities.

This EA also analyzes impacts related to the continuing use of hazardous materials and generation of hazardous wastes associated with the proposed increase of up to 18 F-15SA aircraft with associated operations and maintenance requirements. Operational changes (increases/decreases in flying time) affect the amount of hazardous materials used and stored at the base, as well as the amount of hazardous waste generated. In addition, changes in maintenance activities and schedules could result in

a change in the use of hazardous or toxic substances or generation of hazardous wastes compared to existing conditions.

Hazardous Materials

Hazardous materials are chemical substances that pose a substantial hazard to human health or the environment. Hazardous materials include hazardous substances, extremely hazardous substances, hazardous chemicals, and toxic chemicals. In general, these materials pose hazards because of their quantity, concentration, physical, chemical, or infectious characteristics. The Resource Conservation and Recovery Act (RCRA) (42 USC 6903[5]) defines a hazardous waste as a solid waste, or combination of solid waste, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: 1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or 2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Hazardous substances are defined and regulated under the laws administered by OSHA, USEPA, and U.S. Department of Transportation (DOT). Each of these agencies incorporates hazardous substance terminology in accordance with its unique Congressional mandate: OSHA regulations categorize substances in terms of their impacts on employee and workplace health and safety; U.S. DOT regulations categorize substances in terms of their safety in transportation; and USEPA regulations categorize substances in terms of protection of the environment and the public health. With regard to environmental impacts, hazardous substances are regulated under several federal programs administered by the USEPA, including Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Emergency Planning and Community Right-to-Know Act, Toxic Substances Control Act (TSCA), and RCRA. DoD installations are required to comply with these laws along with other applicable federal, state, and DoD regulations, as well as with relevant EOs.

In addition to the agencies listed above, hazardous materials and waste at Mountain Home AFB are also regulated by the State of Idaho DEQ per the Idaho Hazardous Waste Management Act of 1983, Idaho Code § 39-4401 et. seq. and the Environmental Protection and Health Act, Idaho Code § 39-101 et. seq. The state of Idaho is authorized under the Federal RCRA to administer its own hazardous waste program under the Idaho Administrative Act 58, Title 1, Chapter 5, “Rules and Standards for Hazardous Waste”.

In regulations promulgated under RCRA, the USEPA defines hazardous waste as a solid waste that is not excluded from regulation as a hazardous waste under 40 CFR § 261.4(b) and exhibits any of the characteristics (ignitability, corrosivity, reactivity, toxicity) described in 40 CFR § 261; or is listed in 40 CFR § 261 Subpart D; or is a mixture containing one or more listed hazardous wastes. Hazardous wastes may take the form of solid, liquid, contained gaseous, semi-solid wastes (e.g., sludges), or any combination of wastes that pose a substantial present or potential hazard to human health or the environment and have been discarded or abandoned. For the purposes of this EA, hazardous wastes include solid wastes that are regulated as hazardous based on either direct listing by USEPA or

characteristics (ignitability, reactivity, corrosivity, and toxicity), as well as those contaminants present in environmental media (e.g., soil or groundwater).

Toxic Substances

The promulgation of TSCA (40 CFR §§ 700-766) represented an effort by the federal government to address those chemical substances and mixtures for which it was recognized that the manufacture, processing, distribution, use, or disposal may present unreasonable risk of personal injury or health of the environment, and to effectively regulate these substances and mixtures in interstate commerce. The TSCA Chemical Substances Inventory lists information on more than 62,000 chemicals and substances. Toxic chemical substances regulated by USEPA under TSCA include asbestos and lead, which for the purposes of this EA, are evaluated in the most common forms found in buildings, namely asbestos-containing materials (ACM) and lead-based paint (LBP). TSCA also establishes management obligations for the cleanup of polychlorinated biphenyls (PCBs).

ACMs have been classified as a hazardous air pollutant by the USEPA in accordance with Section 112 of the CAA. Surveys are conducted for ACMs, as required by 40 CFR § 61.145, during the design phase of each project and prior to demolition or renovation of any structure. Any located ACM is characterized, managed, transported, and disposed according to applicable state and federal requirements for protecting human health and safety and the environment.

Similar to ACMs, LBP surveys are conducted on structures to be modified or demolished during the design phase of each project and prior to structure demolition or renovation. LBP sampling is conducted on the structures to be removed and analyzed in accordance with USEPA approved Toxicity Characteristic Leaching Procedure methodology. Based on this federal testing methodology, the paint is considered hazardous if lead is detected at concentrations greater than 5 micrograms per liter. If LBP is detected at hazardous concentrations, these materials are removed. LBP is characterized, managed, transported, and disposed according to applicable state and federal requirements for protecting human health and safety and the environment.

Beginning in the 1920s, PCBs had many common household uses, including applications in electrical transformers, as coolants in refrigeration machinery, and in oil and hydraulic fluids. PCBs are toxic and have been classified as a persistent organic pollutant, acting as carcinogens that do not break down easily in the environment. Thus, the manufacture and use of PCBs in the U.S. was banned by Congress in 1979 and cleanup actions are regulated through TSCA (USEPA 2010a).

Contaminated Sites

Potential hazardous waste contamination areas are being investigated as part of the Defense Environmental Restoration Program (DERP). DoD developed the DERP to identify, investigate, and remediate potentially hazardous material disposal sites on DoD property prior to 1984. As part of DERP, DoD created the Environmental Restoration Program (ERP) and the Military Munitions Response Program (MMRP). These programs were instituted to satisfy the requirements of CERCLA and RCRA for former and current hazardous waste sites.

3.7.1 Mountain Home AFB and Vicinity

3.7.1.1 Hazardous Materials

Hazardous materials are used at Mountain Home AFB for aircraft operations support and maintenance, including petroleum, oils, and lubricants (POL) management and distribution (Mountain Home AFB 2008a). Types of hazardous substances found on Mountain Home AFB include hydraulic fluid, engine oil, JP-8 and other fuels, antifreeze and deicing fluids, solvents, corrosive liquids, paints and adhesives, and contaminated solids.

Hazardous materials used by USAF and contractor personnel on Mountain Home AFB are controlled through the Hazardous Materials Pharmacy Program (HAZMART) pollution prevention process (Mountain Home AFB 2011c). This process centralizes procurement, handling, storage, and issuing of hazardous materials and their turn-in, recovery, reuse, or recycling. The HAZMART process includes review and approval by USAF personnel to ensure users are aware of exposure and safety risks. The Pollution Prevention Management Plan specifically outlines the goal of continuous hazardous material reduction across the installation, and effective management of the HAZMART substantially reduces the quantities of hazardous materials purchased (Mountain Home AFB 2010b).

The HAZMAT Emergency Planning and Response Plan (Mountain Home AFB 2010e) addresses on-base storage locations and proper handling procedures of all hazardous materials to minimize potential spills and releases at the point of use. The plan further outlines activities to be undertaken to minimize the adverse effects in the incidence of a spill, including notification, containment, decontamination, and cleanup of spilled materials. The Quick Reference Spill Response Guide (Red Plan) is contained within the *Integrated Contingency Plan for Oil Spill Prevention and Response*. The Emergency Planning and Response Plan contains shop specific contingency plans and is distributed to all generation areas for first responder emergency assistance. All containers are stored in accordance with Material Data Safety Sheet instructions and have appropriate secondary containment per Spill Prevention Control and Countermeasure regulations (40 CFR 112). Purchasing, designing, installing, and removing storage tanks are coordinated with the Mountain Home AFB Environmental Office and the Fire Prevention Office.

3.7.1.2 Hazardous Waste

Mountain Home AFB is regulated as a large quantity hazardous waste generator under RCRA. The Mountain Home AFB Hazardous Waste Management Plan (Mountain Home AFB 2011c) governs the Mountain Home AFB Hazardous Waste Management Program. There is one central accumulation site (less than 90 day storage area) and 155 satellite accumulation points near work locations. In addition, AFI 32-7042, "Waste Management," Section 2.2, requires a Waste Analysis Plan to describe procedures to identify all hazardous waste streams and those streams needing detailed hazardous waste determination (Mountain Home AFB 2011a).

3.7.1.3 Toxic Substances

Regulated toxic substances typically associated with buildings and facilities include asbestos, LBP, and PCBs. In coordination with the Asbestos Program Officer, qualified civil engineering personnel at Mountain Home AFB will determine the presence of ACM in facilities scheduled for maintenance, repair, and construction or demolition. The Bioenvironmental Engineer Office is responsible to determine the presence of LBP prior to any construction activities. Materials, especially discarded oil products, may be screened for PCB contamination prior to disposal. Building 1296 is a PCB storage area (Mountain Home 2008, 2010e).

3.7.1.4 Environmental Restoration Program

Thirty-three ERP sites have been identified since the ERP began at Mountain Home AFB (Mountain Home AFB 2011), as shown in Figures 3.7-1, 3.7-2, and 3.7-3. Unlimited Use/Unrestricted Exposure has been achieved for 25 closed ERP sites (FT-04, FT-05, FT-06, FT-07, DP-09, OT-10, SD-12, ST-13, RW-14, OT-15, OT-16, DP-18, ST-22, SD-24, SD-25, SS-26, SD-27, SS-28, SS-29, SS-30, ST-31, ST-32, ST-34, ST-35, and ST-39). Land use controls are in place at LF-01, LF-02, LF-03, and LF-23 to restrict access and ensure no digging or dumping within these areas occurs. The remedy for ERP Site ST-38, POL Yard Area, is protective of human health and is being monitored under a POL Risk Based Corrective Action. The selected remedy for OU-3, regional groundwater, Long-Term Monitoring for trichloroethene, is not protective of human health and the environment for Unlimited Use/Unrestricted Exposure. Further action continues for bedrock vapor extraction in support of source removal for OU-3. Active sites include site ST-11, fuel vapor extraction under B Ramp (aircraft parking); FT-08, vapor extraction at a former fire training area to clean up soil contamination; and OU-3, long term monitoring of regional groundwater (personal communication, Roller 2011; Mountain Home AFB 2011d).

Under the on-base MMRP, two former skeet ranges (1940s Skeet Range TS876 and 1970s Skeet Range TS877) and one former Explosive Ordnance Disposal proficiency range (ED879) were assessed (refer to Figure 3.7-3). Soils were found to be contaminated with polynuclear aromatic hydrocarbons from clay pigeon debris and removal actions for contaminated soils are programmed at each skeet range. At the Explosive Ordnance Disposal proficiency range, subsurface investigation and removal action is needed to properly close the site. Also, under MMRP two areas at the Saylor Creek Range buffer zone have been identified as requiring munitions debris removal. Under the Compliance Restoration Program, two former oil/water separator sites require further investigation and removal of contaminated soils (personal communication, Roller 2011; Mountain Home AFB 2011d).

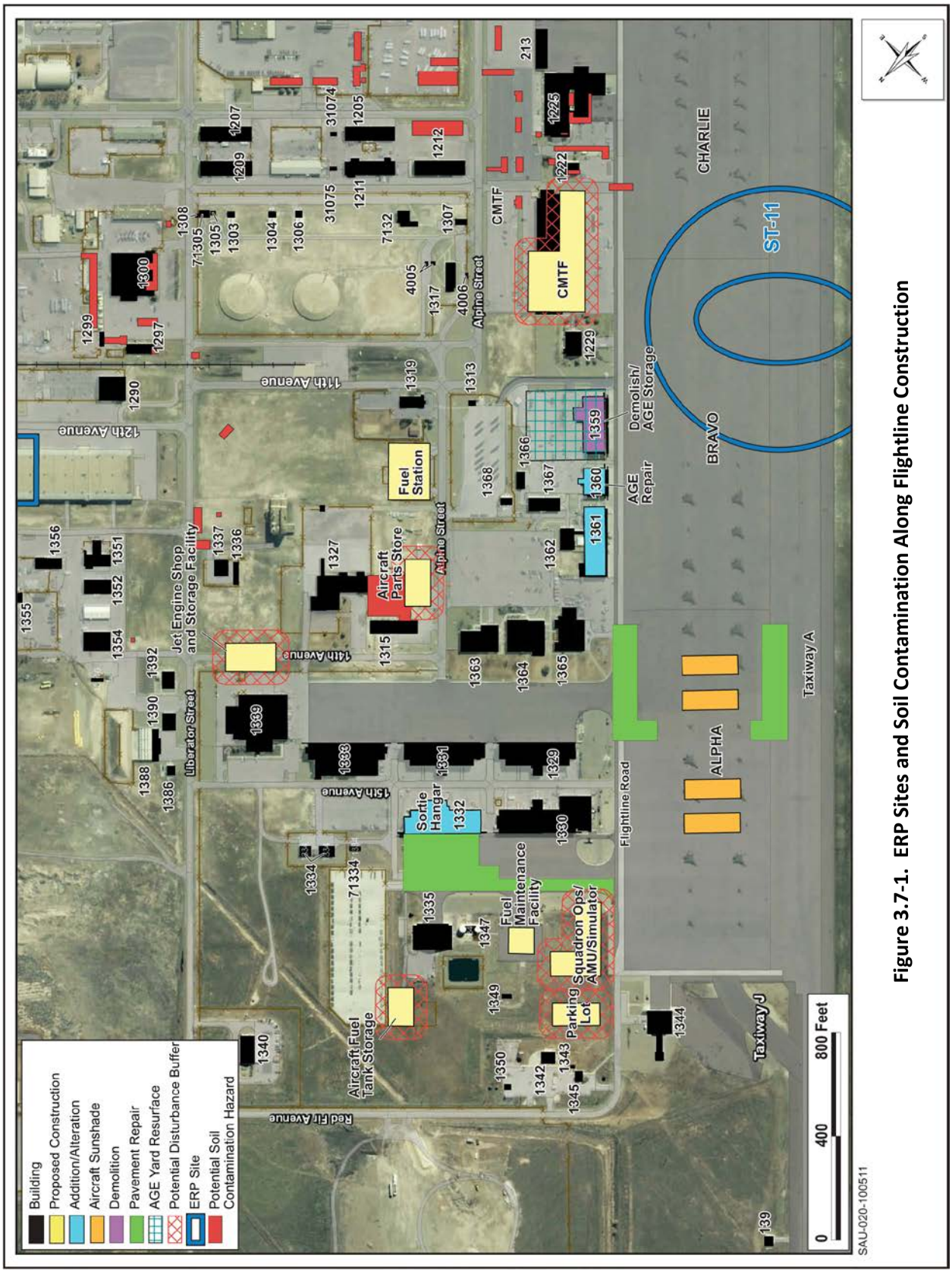

Figure 3.7-1. ERP Sites and Soil Contamination Along Flightline Construction

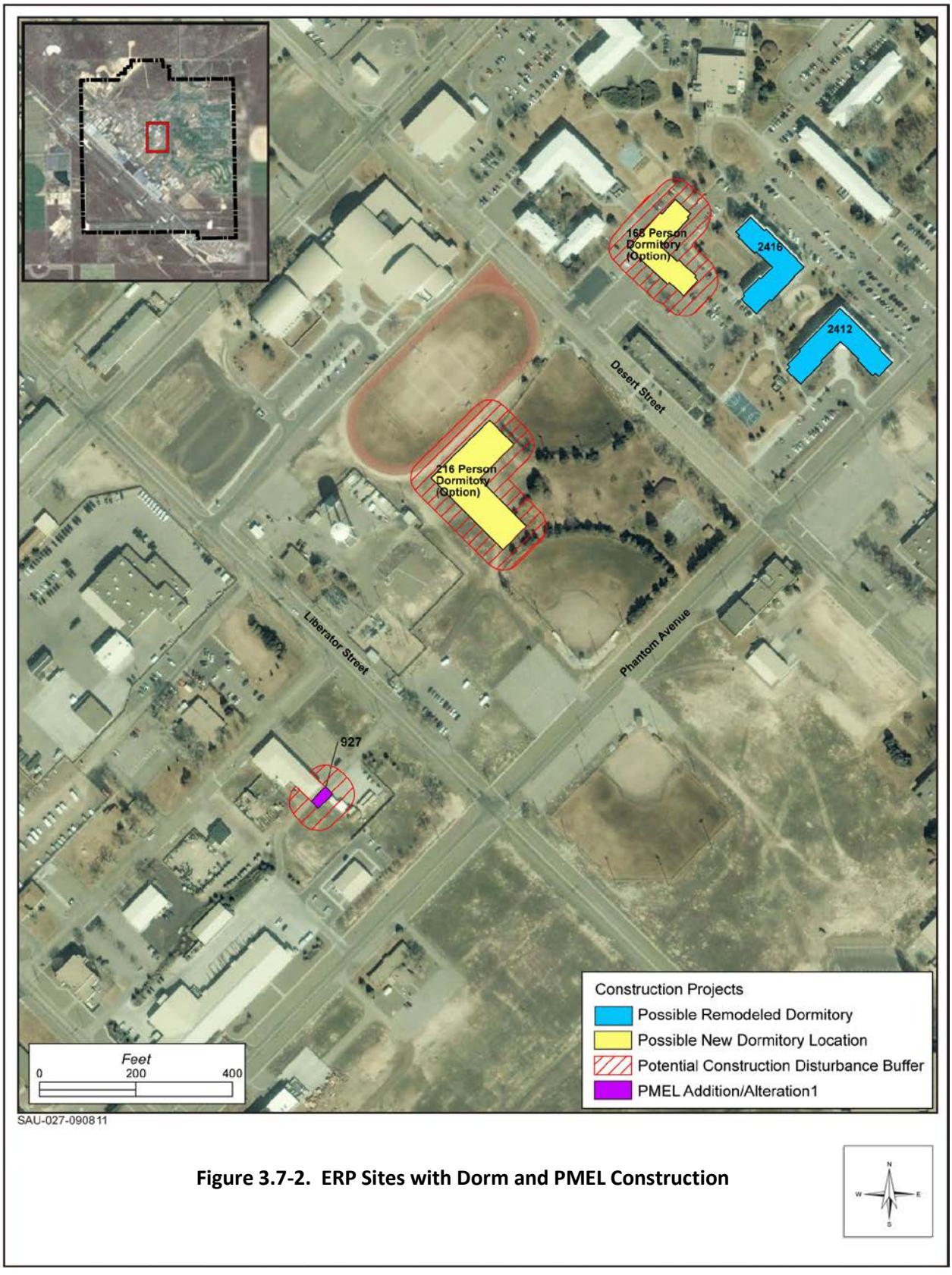

Figure 3.7-2. ERP Sites with Dorm and PMEL Construction

Figure 3.7-3. ERP and MMRP Sites near Proposed Washrack Construction

In 1996, Mountain Home AFB began a phased redevelopment of its military family housing areas. The Idaho DEQ was notified that during the construction phase of the housing areas, excavated soils were found to contain chlordane and/or heptachlor (and its epoxides), pesticide constituents both considered potentially hazardous waste. Concentrations of these pesticides were found to be above hazardous waste toxicity characteristics per Idaho DEQ *Rules* and *Standards for Hazardous Waste* (IDAPA 58.01.05) and *Idaho Water Quality Standards* (IDAPA 58.01.02). Mountain Home AFB entered into a Consent Order regarding management of these sites on July 15, 2009 with the Idaho DEQ pursuant to the Idaho Hazardous Waste Management Act of 1983 and the Environmental Protection and Health Act (Idaho DEQ 2009). In keeping with the Consent Order, Mountain Home AFB assesses the potential for contaminated soils on all construction projects. As the proposed construction area on the flightline has had construction in the past, there have been a number of areas identified that may contain soil contamination. These areas may contain pesticides around the foundation perimeter similar to that found at the military family housing areas, as it was a common construction practice until these pesticides were banned. The areas of potential soil contamination are shown in Figure 3.7-1.

3.8 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE/PROTECTION OF CHILDREN

Socioeconomics describes the basic attributes and resources associated with the human environment, particularly population and economic activity. Economic activity typically encompasses employment, personal income, housing availability, and public schools.

The affected area for socioeconomics is defined as the area in which the principal effects arising from implementation of the proposed action or alternatives are likely to occur. The proposed action has the potential to cause socioeconomic impacts to the communities around the base through construction and changes or relocation of personnel. The counties of Ada, Elmore, and Owyhee, whose economies are closely associated with Mountain Home AFB, comprise the socioeconomic affected environment (Figure 3.8-1). Socioeconomic data for the state of Idaho is provided as a general comparison. Data presented have been collected from a variety of sources including the U.S. Census Bureau 2000 Census, 2010 Census, American Community Survey 2005-2009, and Mountain Home AFB (2009a). These data present the most current information on local and regional social and economic factors. The 2010 Mountain Home AFB Economic Impact Report is pending final review prior to release (personal communication, Giles 2011).

3.8.1 Socioeconomics

3.8.1.1 Mountain Home AFB and Vicinity

Employment and Earnings

The largest contributions to employment in 2010 in the three affected counties were made by educational services, health care, and social assistance (18 percent); retail trade (10 percent); and professional and management services (10 percent). These compared strongly with the state's contributions to employment: educational services, health care, and social assistance (21 percent); retail trade (12 percent); and professional and management services (10 percent). The sectors of the

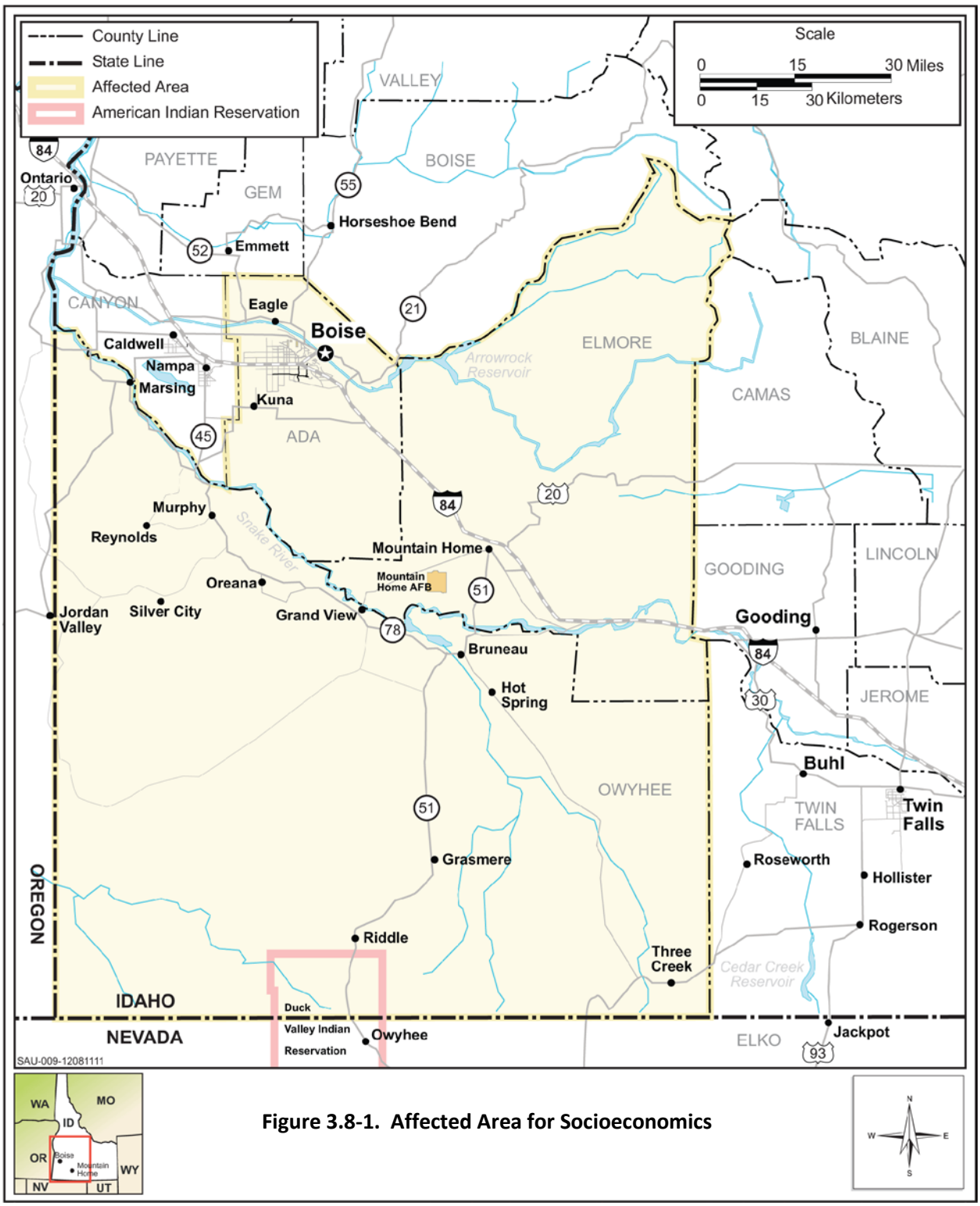

Figure 3.8-1. Affected Area for Socioeconomics

economy that exhibited the greatest addition of jobs in Idaho over the period 2000 to 2010 were services, construction, and real estate.

In Idaho, the total employed civilian labor force increased by 19 percent from 2000 to 2010 (U.S. Census Bureau 2011a). Mountain Home AFB is one of the largest employers in the region. The number of active duty military personnel stationed at Mountain Home AFB in 2009 was 4,173, with an additional 908 civilian workers comprised of appropriated and non-appropriated fund civilians and private business employees (refer to Table 2-7). Active duty military dependents totaled 5,321. The value of payrolls associated with military and appropriated fund civilians at the base reached over $226.5 million in 2009. In addition, Mountain Home AFB purchases considerable quantities of goods and services from local and regional firms. In 2009, annual construction and procurement expenditures by the base were over $171 million. The USAF estimates that the economic stimulus of Mountain Home AFB created approximately 1,583 secondary jobs in the civilian economy. Also generating substantial economic activity are about 7,265 retired personnel spending payrolls exceeding $146 million in the region (Mountain Home AFB 2009a).

Population

The population of the tri-county region increased by 26.5 percent between the years 2000 and 2010, reaching 430,929 in 2010. By comparison, the population of Idaho increased by 21.2 percent during the same period, reaching 1,567,582 in 2010 (U.S. Census Bureau 2011b, 2011c). Nearly 83 percent of the 2010 population of the three counties resides in incorporated communities. These cities and towns range in size from Boise with 205,671 persons to Grand View with 452 persons. The three largest cities are Boise with 205,671 persons, Meridian with 75,092 persons, and Mountain Home with 14,206 persons (U.S. Census Bureau 2011c).

Housing

There were 176,414 total housing units in the tri-county region in 2010, of which approximately 63 percent were owner-occupied. The region had a homeowner vacancy rate of approximately 3 percent and a rental vacancy rate of nearly 8 percent. Of the vacant units, 9 percent were for seasonal, recreational, or occasional use. The City of Mountain Home is the only significant population and housing center within a 30-minute commute of the base. In 2010, there were 601 vacant housing units in the City of Mountain Home and the vacancy rate for the city was nearly 10 percent. The majority of the vacant housing units were rentals (12 percent vacancy rate) while the vacancy rate for homeowner units was much lower at approximately 4 percent (U.S. Census Bureau 2011c).

Housing on Mountain Home AFB consists of military family housing units, dormitories, and billeting facilities. A total of 767 two-, three-, and four-bedroom homes are available to Mountain Home AFB personnel and their families. An additional 869 beds are available in base dormitories and temporary living quarters. In 2009, approximately 33 percent of the active duty personnel assigned to Mountain Home AFB resided on-base; the remaining personnel relied on off-base housing (Mountain Home AFB 2009a).

Public Schools

School age children of active duty military personnel assigned to Mountain Home AFB usually attend school in Mountain Home School District (MHSD) 193. MHSD 193 consists of one high school, one junior high school, one middle school, and three elementary schools in addition to an elementary school located on the base. A remote elementary school is located in Pine, Idaho within Elmore County. The MHSD 193 student capacity is approximately 4,500 students. The student enrollment for school year 2010-2011 was 3,937 students. Enrollment for school year 2011-2012, as of August 18, 2011 is 3,656 students; this total is strongly influenced by the activities of Mountain Home AFB and is anticipated to increase slightly after Labor Day (personal communication, Henderson 2011).

MHSD 193 receives impact aid from the government for each child of a U.S. military family that attends school off-base. MHSD 193 received impact aid for years 2007, 2008, and 2011. The average impact aid for each dependent student with an active duty military parent who lived on Mountain Home AFB for the three year period was $2,648 (personal communication, Ogborn 2011).

3.8.2 Environmental Justice and Protection of Children

Environmental justice addresses the disproportionate effect a federal action may have on low-income or minority populations. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* ensures 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. Because children may suffer disproportionately from environmental health risks and safety risks, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires the identification and assessment of environmental health risks and safety risks that may affect children, and ensures that federal agency policy, programs, activities, and standards address environmental risks and safety risks to children.

In accordance with USAF guidance on Environmental Justice analysis (USAF 1997), the analysis only needs to be applied to adverse environmental impacts. Based on this guidance, areas with noise levels exceeding 65 dB DNL around airfields or with perceptible changes in noise levels in the airspace are analyzed. Other resource areas such as air quality and hazardous waste and materials do not have an adverse impact due to any of the proposed actions. No analysis was conducted for airspace with less than 5 percent of the operations.

3.8.2.1 Mountain Home AFB and Vicinity

Minority and Low-Income Populations

Mountain Home AFB is located in southwestern Idaho approximately 8 miles southwest of Mountain Home, Idaho in Elmore County. Ada and Owyhee Counties are located to the northeast and south of the Base, respectively. Table 3.8-1 displays the total population, total minority population, percentage minority, total low-income population, low-income percentages, number of children, and the percentage of the population represented by children for the affected areas in the vicinity of Mountain

Home AFB. This information is derived from the 2000 U.S. Census of Population, which is the latest source of information at the required level of detail.

Table 3.8-1. Total Minority and Low-Income Populations in the Vicinity of Mountain Home AFB

Geographic Area	*Total Population*	*Minority Population*	*Percent Minority*	*Low-Income Population*	*Percent Low-Income*[1]	*Children Under Age 18*	*Percent Children*
City of Mountain Home	11,143	1,349	12.1	1,183	10.6	3,298	29.6
Elmore County	29,130	4,261	14.6	2,814	9.7	8,142	28.0
Ada County	300,904	21,477	7.1	22,471	7.5	82,054	27.4
Owyhee County	10,644	2,462	23.1	1,781	16.7	3,398	31.9
State of Idaho	1,293,953	116,649	9.0	148,732	11.5	369,030	28.5

Source: U.S. Census Bureau 2000.
Note: [1]The percentage of low-income persons is calculated as a percentage of all persons for whom the Bureau of the Census determines poverty status, which is generally a lower number than the total population because it excludes institutionalized persons, person in military group quarters and college dormitories, and unrelated individuals under 15 years old.

Only three individuals and no minorities or low-income individuals are currently located under the Mountain Home AFB airfield contours with baseline noise greater than 65 dB DNL.

Protection of Children

In 2000, the number of children under the age of 18 living in Elmore County was approximately 8,142 (28.0 percent of the population) (refer to Table 3.8-1). The City of Mountain home also has a higher percentage population of children than the County (29.6 percent), while the State has a slightly higher percentage than the County (28.5 percent). The housing units and a child care center on Mountain Home AFB are located in the northeast corner of the base. Currently, there is one primary school, two child care centers, Boise State University campus, and an education facility located on the northeast portion of the base. All of these are located within noise contours above 65 dB DNL. There are no off-base schools that are exposed to aircraft noise of 65 dB DNL or above.

3.8.2.2 Mountain Home Range Complex and Associated Airspace

Under baseline conditions, noise levels in all of the airspace units remain below the threshold of 65 dB DNL, although both the Jarbidge North and Owyhee North reach 64 dB $L_{dnmr.}$ Nevertheless, population under these airspace units is very sparse, since the BLM manages most of the land and few residences exist. Data indicate that the population density for the lands under these two airspace units is roughly 1 person per 2 square miles. However, most of the area likely supports a much lower density because population "clusters" on the Duck Valley Indian Reservation, which underlies the southern portions of Jarbidge North and Owyhee North airspace. The reservation contains approximately 1,200 residents, with about 20 percent (or 240) scattered throughout the area under these airspace units. Flight restrictions essentially exclude the reservation from overflights and limit the noise levels below those characteristic of the central portions of these airspace units. Despite adherence to these restrictions that reduce noise substantially on the reservation, ongoing issues with noise remain part of government-to-government consultation.

Ranges proposed for use under the proposed action include Saylor Creek and Juniper Butte in Idaho. As military ranges, residential land uses and populations are prohibited. As a result, minority and low-income populations are not present within these areas.

Areas located under the other airspace units consist primarily of undeveloped with very little residential areas present. However several very small communities occur including Paradise Valley and Orovada in Nevada. The Fort McDermitt Indian Reservation lies under the Paradise North and South airspace as well. The reservation is located on the Oregon-Nevada border, approximately 75 miles north of Winnemucca, NV. The town of McDermitt, NV is adjacent to the northern part of the reservation. According to the tribal census in 2005, the Fort McDermitt Indian Reservation contains 335 residents, with most clustered along roads east of the town of McDermitt.

Protection of Children

Since population density is extremely low in the airspace units over these areas, and they contain few small communities, few children are exposed to aircraft overflights. The few communities where most children would reside underlie Jarbidge South and Owyhee South airspace where noise levels do not exceed 45 dB L_{dnmr} and present no risk to health or safety.

3.9 TRANSPORTATION

Ground traffic and transportation refer to roadway and street systems, the movement of vehicles on roadway networks, and mass transit. Roadway operating conditions and the adequacy of existing roadway systems to accommodate vehicle use are often described in terms of average daily traffic (ADT) volumes and Level of Service (LOS) ratings. LOS is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, maneuverability, delay, and safety. The LOS is designated with a letter, A to F, with A representing the best operating conditions and F representing the worst. Generally, roadways or intersections with LOS values from A to D are considered functional, whereas E and F are considered to have degraded functionality. There are many methods available to calculate the LOS for various types of roadways and intersections. The Transportation Research Board's 2000 *Highway Capacity Manual* contains guidelines and procedures for computing capacity and LOS methods for freeways, multilane highways, signalized intersections, and unsignalized intersections across the U.S. This manual is used as the basis for this analysis.

The ground traffic and transportation analysis assesses potential impacts to LOS at Mountain Home AFB as a result of changes in personnel associated with the proposed action. Based on the *Highway Capacity Manual* (Transportation Research Board 2000), the LOS ratios used applied to signalized intersections, as these are typical types of roadways within and surrounding military installations. The degree of effect on LOS thresholds for signalized intersections forms the basis of assessing the magnitude of impacts; the greater the increase in traffic, the more potential impact to LOS. The analysis of potential impacts are based on the fact that the lower the existing LOS value is for roadways around a given facility, then the increase in traffic volume required to exceed existing LOS thresholds is also smaller. It should be noted that LOS D is considered to be an acceptable LOS. For LOS E and F, the capacity of the roadway, lane, or intersection is exceeded and the traffic is considered unacceptable.

Signalized intersection LOS is defined in terms of the average total vehicle delay of all movements through an intersection. Vehicle delay is a method of quantifying several intangible factors, including driver discomfort, frustration, and lost travel time. Specifically, LOS criteria are stated in terms of average delay per vehicle during a specified time period. Vehicle delay is a complex measure based on many variables, including signal phasing (i.e., progression of movements through the intersection), signal cycle length, and traffic volumes with respect to intersection capacity. LOS criteria for signalized intersections are presented in Table 3.9-1.

Table 3.9-1. Level of Service Criteria for Signalized Intersections

LOS	*Average Control Delay (seconds/vehicle)*	*V/C Ratio*	*General Description*
A	≤ 10	< 0.60	Free Flow
B	> 10 – 20	0.60 to 0.69	Stable Flow (slight delays)
C	> 20 – 35	0.70 to 0.79	Stable flow (acceptable delays)
D	> 35 – 55	0.80 to 0.89	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	> 55 – 80	0.90 to 0.99	Unstable flow (intolerable delay)
F	> 80	≥ 1.00	Forced flow (jammed)

Source: Transportation Research Board 2000.
Notes: LOS = Level of Service; V/C = volume-to-capacity.

3.9.1 Mountain Home AFB and Vicinity

3.9.1.1 Regional and Local Circulation

The primary roadway network that serves the City of Mountain Home and provides access to Mountain Home AFB includes Interstate 84, its associated business loop (Interstate 84B), State Route (SR)-67 (Airbase Road/Grandview Road), SR-51, and various collector streets (refer to Figure 1-1, Regional Location of Mountain Home AFB). Interstate 84 carries the greatest amount of traffic volume in the area with an ADT between 13,500 and 20,500 vehicles in the vicinity of Mountain Home (Idaho Transportation Department [ITD] 2010). This four-lane, limited access, divided highway traverses the City of Mountain Home along the northeast boundary of the city and is approximately 10 miles east of the base at its nearest point. Three exits along Interstate 84 provide access to Mountain Home AFB: Exit 90, the Interstate 84B business loop to West Mountain Home; Exit 95, U.S. Highway 20 to Mountain Home and Fairfield; and Exit 99, Bennett Road to East Mountain Home (ITD 2010). Interstate 84B provides a business loop through the central business district of Mountain Home and has an ADT volume of 5,700 (ITD 2010). Both I-84 and I-84B have LOS ratings of A (USAF 2001), indicating no traffic problems.

SR 67 is a four-lane, undivided road that traverses northeast-southwest along the northern boundary of the base and leads directly to the Main Gate of Mountain Home AFB. For the majority of its span, SR 67 has a fairly low ADT volume between 1,000 and 2,000 (ITD 2010). SR 51 runs parallel to the eastern boundary of the base and connects with SR 67 in the City of Mountain Home. At the point where these two roads meet, the ADT volume on SR 67 increases to 11,000 (ITD 2010), as this is the primary access route from the City of Mountain Home to the base and an important business district road in Mountain Home. Both SR 67 and SR 51 have LOS ratings of A (USAF 2001).

3.9.1.2 Circulation at Mountain Home AFB

The roadway network within Mountain Home AFB is essentially independent from the City of Mountain Home (Figure 3.9-1). The Main Gate is the primary entrance gate to the base and is accessed via SR 67 on Main Avenue. The Main Gate provides three inbound lanes for peak service times, while one lane is provided during off-peak periods. In addition, there is a secondary access gate off of SR 67 (the Grandview Gate) at the northwest corner of the base. This gate serves commercial and contractor vehicles and has helped to alleviate congestion issues at the Main Gate (Mountain Home AFB 2010a).

Once commuters enter the base from SR 67, they must either merge right onto Aardvark Avenue or continue straight on Main Avenue, which transitions into Gunfighter Avenue. Aardvark Avenue, Gunfighter Avenue, and Red Fir Avenue are the major collector streets on the base. The remaining roads on the base form a small grid network of minor collectors (Mountain Home AFB 2006c). The primary areas serving the proposed RSAF beddown would be accessed from the central portion of the base primarily through Liberator Street with secondary access through Alpine Street (Mountain Home AFB 2011a).

The primary areas serving the RSAF beddown are within relatively remote areas of the base; consequently, there is only moderate traffic associated with those areas (Mountain Home AFB 2011a). Truck traffic using the secondary access gate north of this portion of Mountain Home AFB passes through the area via Liberator Street. While there are existing parking lots in the area of the beddown, available parking spaces could be expended during high use times, particularly if any facilities are constructed north of 15th Avenue, and during surge periods when added training or special events occur (Mountain Home AFB 2011a). The roadway system at Mountain Home was rated adequate during a recent Infrastructure Condition Assessment (Mountain Home AFB 2011b). The assessment included paved roads, parking lots, traffic safety, and intersection design. Recommendations for improvement in regard to intersection design and traffic flow include: re-alignment of intersection at Phantom Avenue and Gunfighter Avenue to improve intersection angles; elimination of a portion of the western side of Falcon Road (by-pass), Fairway Road, Ironwood Road, and 11th Avenue; and re-alignment or removal of Alder Street, Main Avenue, Fir Street, and 3rd Avenue (Mountain Home AFB 2011b).

Figure 3.9-1. Roads and Gates at Mountain Home AFB

3.10 COMMUNITY AND INFRASTRUCTURE

Community facilities and infrastructure include on- and off-base potable water systems, wastewater treatment systems, electric and natural gas utilities, and solid waste management. This section describes and evaluates the range of community facilities and public services associated with Mountain Home AFB and the surrounding communities, primarily Elmore County and the City of Mountain Home. The affected area for community facilities and infrastructure is defined as the area in which the principal effects arising from implementation of the proposed action are likely to occur. This area can vary in scope according to the type of utility or community service being analyzed, from localized to regional impacts.

3.10.1 Mountain Home AFB and Vicinity

3.10.1.1 Potable Water

The public drinking water system for the City of Mountain Home is comprised of eight active groundwater wells within the Bruneau Formation Aquifer that serve approximately 14,000 people. The wells are located in Elmore County, with locations in and around the City of Mountain Home, and have a total pumping capacity of 12,300 gallons per minute (17.712 million gallons per day [mgd]) (City of Mountain Home 2011; personal communication, Gross 2011).

Mountain Home AFB relies solely on groundwater to supply its potable water. Potable water is acquired through six active base-owned groundwater wells that also tap into the Bruneau Formation Aquifer. Four additional groundwater wells on Mountain Home AFB are currently not in use (Mountain Home AFB 2011b). In addition, the installation has five water storage tanks that provide a total of 2.95 million gallons of available storage capacity. The water distribution system at Mountain Home AFB was originally built in 1943; it is estimated that over 50 percent of the water lines have been replaced with polyvinyl chloride pipe within the past 10 years. Additional upgrades will occur within the military family housing area as old units are replaced (Mountain Home AFB 2010a). A recent Infrastructure Condition Assessment (Mountain Home AFB 2011b) rated Mountain Home's potable water infrastructure (distribution and storage) as adequate.

According to the Water Resources Sustainability Analysis report for Mountain Home AFB (2010c), the maximum day demand for potable water at Mountain Home AFB ranged from a low of 4.47 mgd in 2007 to a peak of 9.33 mgd in 2005 (average of 6.9 mgd) between years 1999 through 2007. The available pumping capacity of the installation supply wells is approximately 10.7 mgd. As described in the 2010 Report, the Bruneau Formation Aquifer is currently being over-pumped throughout the region. Ground water levels in the regional aquifer beneath Mountain Home AFB have declined 50 to 60 feet during the past 35 years (Mountain Home AFB 2010c). Current rates of water level decline average 2 feet per year, and it is estimated that the existing water supply wells will support Mountain Home AFB water needs up to 30 years. A recent Infrastructure Condition Assessment (Mountain Home AFB 2011b) rated Mountain Home's potable water source as unsatisfactory. Mountain Home AFB is considering a number of measures to reduce irrigated areas, repair wastewater piping, and obtain other water sources. A water quality study, Alternate Water Supply Feasibility Study, is currently being conducted to determine if the

Snake River can provide potable and non-potable sources of water to augment existing Mountain Home AFB supplies (personal communication, Kendall 2011).

Additionally, nitrate levels are expanding in the groundwater due to wastewater (in addition to chloride, sulfate, and traces of human pharmaceutical compounds) resulting in an increase in the number of abandoned wells on base. Nitrate levels in the aquifer beneath Mountain Home AFB are higher than levels found in the surrounding communities, which indicates a local source (Mountain Home 2011b).

3.10.1.2 Wastewater Treatment

The City of Mountain Home operates a waste water treatment plant composed of eight active lagoons which hold wastewater, totaling approximately 190 acres (City of Mountain Home 2011). The treatment plant capacity is 1.7 mgd with a current utilization rate of 0.9 mgd. The city owns property necessary for expansion of the treatment plant, if required in the future (personal communication, Sheppard 2010).

Mountain Home AFB generates wastewater from sanitary, stormwater, and industrial processes. This effluent is currently treated at the installation's wastewater treatment and collection system, consisting of a pipeline collection system, a wastewater treatment plant, 16 lift stations, and 11 septic tank systems. The wastewater treatment plant has a design flow of 0.85 mgd; the plant averages 450,000 gallons per day discharge with peak days up to 650,000 gallons usually occurring during the summer (Mountain Home AFB 2006b). These discharges are regulated by a National Pollutant Discharge Elimination System Permit (Permit No. ID-002764-2) and Idaho Recycle Water Rules (IDAPA 58.01.17) and Idaho Wastewater Reuse Permit (Permit No. LA-000154-03). A recent Infrastructure Condition Assessment (Mountain Home AFB 2011b) rated Mountain Home's wastewater system as adequate with the exception of the collection piping. Significant improvements have been made to repair piping throughout the base; however, a 2010 study identified additional pipe mains and manholes that are deteriorating. The leaking associated with this deterioration has been identified as the source of high nitrate levels found in the groundwater used by the base (Mountain Home AFB 2011b).

3.10.1.3 Electric Power

Electricity at Mountain Home AFB, the City of Mountain Home, and most of Elmore County is provided by Idaho Power Company. Idaho Power service territory covers approximately 24,000 square miles in southern Idaho and eastern Oregon, with an estimated population of one million. The all-time system peak demand was 3,214 megawatts, on June 30, 2008, and the all-time winter peak demand was 2,527 megawatts on December 10, 2009 (Idaho Power Company 2010).

Idaho Power Company provides power to Mountain Home AFB through two sources: the main source enters the installation from the northwest and an alternate source enters the installation from the northeast. Both incoming power sources terminate in a substation located near the installation water plant. A third power line enters the installation from the east and supplies power to the public school on the installation. The existing distribution system is approximately 90 percent overhead and 10 percent underground. Upgrades to the system will occur within the military family housing area as old units are replaced bringing the percent underground to 30 percent. A recent Infrastructure Condition

Assessment (Mountain Home AFB 2011b) rated Mountain Home's electrical distribution system as adequate, with the exception of some of the underground distribution components which were rated as degraded.

3.10.1.4 Natural Gas

Intermountain Gas Company distributes natural gas to the installation, the City of Mountain Home, and all of Elmore County serving approximately 305,000 residential, commercial, and industrial customers in southern Idaho. Based on a 2010 Intermountain Gas Company Annual Report, natural gas supplies are adequate to meet proposed demand for the next decade (Intermountain Gas Company 2010).

The gas distribution system within Mountain Home AFB is owned and operated by the installation and consists of approximately 149,000 linear feet of gas mains/lateral lines on the main installation and 36,000 linear feet of gas mains/lateral lines in military family housing areas. A recent Infrastructure Condition Assessment (Mountain Home AFB 2011b) rated Mountain Home's natural gas distribution system as degraded. This assessment was due to aging buried steel pipe infrastructure and the number of leaks found during the last system survey (Mountain Home AFB 2011b).

3.10.1.5 Solid Waste Management

Municipal solid waste at Mountain Home AFB is managed in accordance with the Solid Waste Management Plan for Mountain Home AFB and guidelines specified in AFI 32-7042, *Waste Management* (2009). This AFI incorporates, by reference, the federal standard for solid waste regulations contained within 40 CFR, Subtitle D, *Non-hazardous Waste*, and other applicable federal regulations, AFIs, and DoD Directives. Mountain Home AFB generates solid waste in the form of office trash, non-hazardous industrial wastes, normal municipal wastes, and construction debris. These nonhazardous solid wastes are collected in dumpsters located throughout the installation, picked up by a contractor, and delivered to Simco Road Regional Landfill. The landfill currently has a permitted capacity of 210 million tons. In FY 2009, Mountain Home AFB generated 2,251.25 tons per year of municipal solid waste (personal communication, Binder 2010).

A contractor collects curbside recyclables in the military family housing areas. The installation collects more than 1 million pounds of recyclable products per year. The Mountain Home AFB pollution prevention and recycling programs are governed by the Pollution Prevention Management Plan through the Environmental Office and Base Civil Engineer Squadron (Mountain Home AFB 2011c, 2010b). Mountain Home AFB recycles cardboard, wood, paper (white bond, newsprint, computer paper, packing paper, phonebooks, magazines), plastics, aluminum cans, steel cans, and scrap metal (Mountain Home AFB 2011).

3.11 BIOLOGICAL RESOURCES

Biological resources include living, native, or naturalized plant and animal species and the habitats within which they occur. Plant associations are generally referred to as *vegetation* and animal species are referred to as *wildlife*. Habitat can be defined as the resources and conditions present in an area that produces occupancy of a plant or animal (Hall *et al.* 1997). Although the existence and preservation

of biological resources are intrinsically valuable, these resources also provide aesthetic, recreational, and socioeconomic values to society. This analysis focuses on species or vegetation types that are important to the function of the ecosystem, of special societal importance, or are protected under federal or state law or statute. For purposes of this EA, these resources are divided into four major categories: vegetation, wildlife, special status species, and wetlands.

Vegetation types include all existing terrestrial plant communities as well as their individual component species. The affected environment for vegetation includes only those areas potentially subject to ground disturbance.

Wildlife generally includes all fish, amphibian, reptile, bird, and mammal species with the exception of those identified as special status species, which are treated separately. Wildlife also includes those bird species protected under the federal Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and other species-specific conservation legal authorities. Assessment of a project's effect on migratory birds places an emphasis on "species of concern" as defined by EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*. Additional assessment of potential impacts on migratory birds that are regionally rare occurs under the special status species category.

Special status species are defined as: 1) federally listed plant and animal species and their habitats that are protected under the Endangered Species Act; and 2) other special status species, including state-listed species that are not federally listed, and other species of special concern identified by state and federal agencies. This analysis focuses on species that are important to the function of the ecosystem, are of special societal importance, or are protected under federal or state law or statute.

Wetlands are considered sensitive habitats and are subject to federal regulatory authority under Section 404 of the CWA and EO 11990, *Protection of Wetlands*. Jurisdictional wetlands are defined by the U.S. Army Corps of Engineers as those areas that are inundated or saturated by surface or groundwater 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 (Environmental Laboratory 1987). Areas meeting the federal wetland definition are under the jurisdiction of the U.S. Army Corps of Engineers. Wetlands generally include swamps, marshes, bogs, and similar areas. Like vegetation, the affected environment for wetlands includes only those areas potentially subject to ground disturbance.

3.11.1 Mountain Home AFB and Vicinity

3.11.1.1 Vegetation

Mountain Home AFB includes landscaped/developed areas planted with turf, shrubs and trees, and undeveloped areas with native or non-native vegetation. The majority of the open space on base is dominated by exotic weedy annual grasses and invasive species such as cheatgrass (*Bromus tectorum*), tumble mustard (*Sisymbrium altissimum*), Russian thistle (*Salsola kali*), and bur buttercup (*Ceratocephala testiculata*). Small patches of Wyoming big sagebrush (*Artemesia tridentata wyomingensis*), totaling approximately 380 acres, occur along the northern and eastern boundaries of

the base; however, these areas are disturbed and have a weedy understory (Mountain Home AFB 2009b).

3.11.1.2 Wildlife

Wildlife species common on base include those that are typical of disturbed environments and have habituated to noise and human presence. As discussed in the Integrated Natural Resources Management Plan for Mountain Home AFB (Mountain Home AFB 2009b), approximately 60 wildlife species have been identified on base. Common bird species found on base include American robin (*Turdus migratorius)*, black-billed magpie (*Pica hudsonia)*, mourning dove (*Zenaida macroura)*, sage sparrow (*Amphispiza belli)*, sharp-shinned hawk (*Accipiter striatus)* and short-eared owl (*Asio flammeus)*, great-horned owl (*Bubo virginianus*), red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk, (*Buteo swainsoni*), and American kestrel (*Falco sparverius*). Common mammals include coyote (*Canis latrans)*, mountain cottontail (*Sylvilagus nuttallii)*, deer mouse (*Peromyscus maniculatus*), and badger (*Taxidea taxus).* Common reptiles and amphibians include common garter snake (*Thamnophis sirtalis)*, western fence lizard (*Selophorus occidentalis*), Great Basin gopher snake (*Pituophis catenifer deserticola*), western rattlesnake (*Crotalus viridus*), desert horned lizard (*Phrynosoma platyrhinos)*, Pacific tree frog *(Hyla regilla)*, and sagebrush lizard (*Sceloporous graciosusa)* (Mountain Home AFB 2009b).

3.11.1.3 Threatened, Endangered, and Special Status Species/Communities

No federally listed threatened or endangered species have been observed on base. Three special status species occur on the base. These include burrowing owl (*Athene cunicularia*), long-billed curlew (*Numenius americanus*), and Davis' peppergrass (*Lepidium davisii*). The burrowing owl is a state protected non-game species and a USFWS Birds of Conservation Concern. It inhabits dry, open grasslands, often times in urban highly disturbed areas and nest in burrows excavated by mammals such as badgers, ground squirrels or coyotes. Burrowing owls have been observed immediately adjacent to the flightline (Figure 3.11-1), in the northern portion near the Environmental Flight building, the southwestern areas adjacent to Mountain Home AFB exercise area, the retired Explosive Ordnance Disposal proficiency range, the golf course, and in an undeveloped lot in the center of the base.

The long-billed curlew is a state protected non-game species and a USFWS Birds of Conservation Concern. It prefers prairies, open shrub-steppe, and grassy wet meadows. On Mountain Home AFB, the long-billed curlews can be found near the golf course, rapid infiltration basin, and the annual grasslands near the north end of the flightline.

Davis' peppergrass is a rare plant categorized by the Idaho Native Plant Society as a Priority One species. It is a small perennial herbaceous forb found within a playa northeast of the hospital (USAF 2004).

No special status communities occur on base.

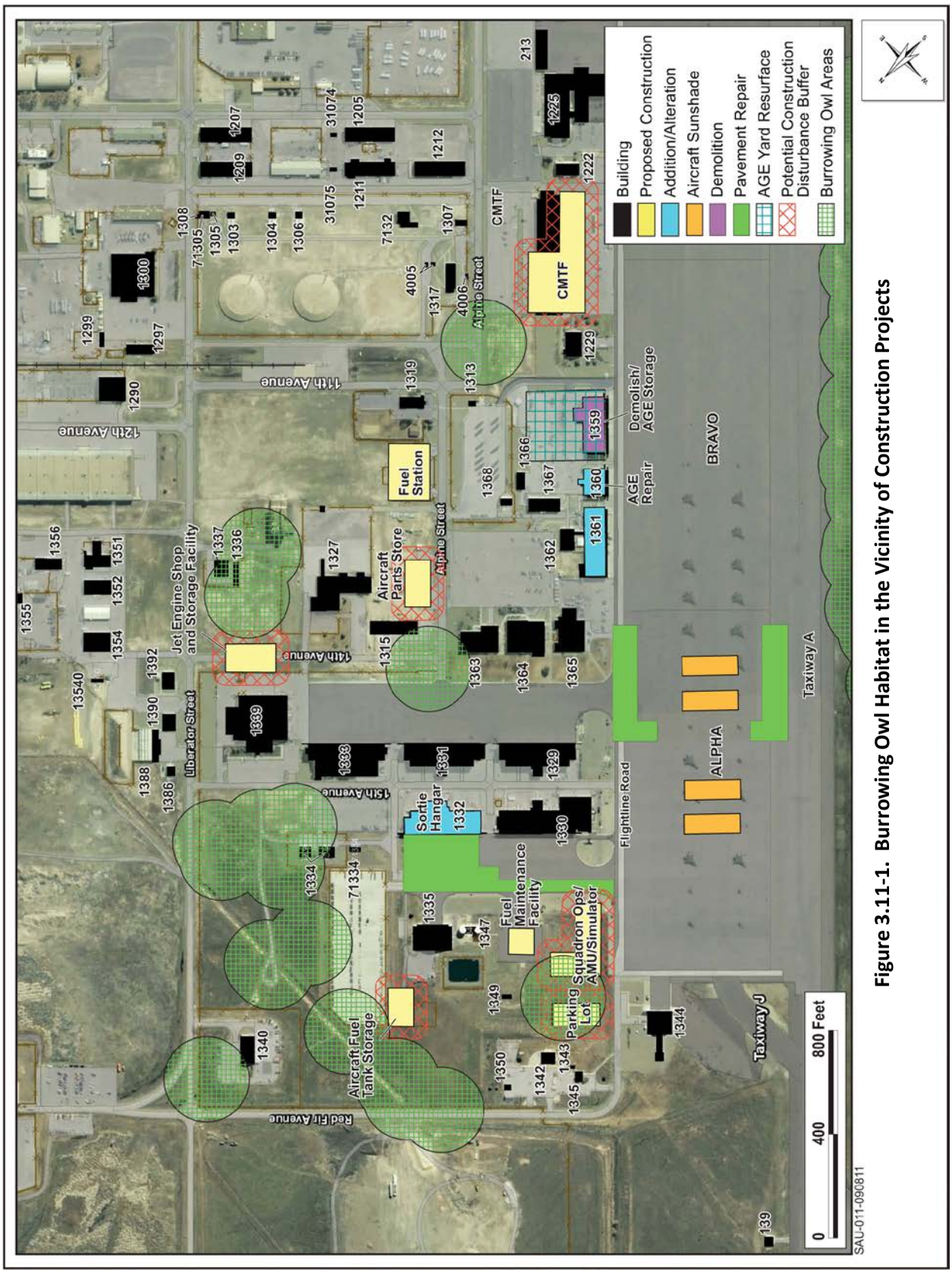

Figure 3.11-1. Burrowing Owl Habitat in the Vicinity of Construction Projects

3.11.1.4 Wetlands and Aquatic Communities

No jurisdictional wetlands have been found on base. However, nine small isolated playas and several storage lagoons have been identified on the installation. Desert playas are open expanses that are periodically flooded to form playa lakes. These wetland areas and aquatic communities provide habitat for waterfowl species such as Canada geese (*Branta canadensis*), blue-winged teal (*Anas discors)*, bufflehead (*Bucephala albeola)*, and mallards (*Anas platyrhynchos),* as well as red-winged blackbirds (*Agelaius phoeniceus*) and loggerhead shrikes (*Lanius ludovicianus)* (Mountain Home AFB 2009b).

3.11.2 Mountain Home Range Complex and Associated Airspace

3.11.2.1 Vegetation

Training ranges and airspace associated with the proposed action cover over 12,373 square miles and occur within the Intermountain Sagebrush Province/Sagebrush Steppe ecosystem (Bailey 1995). Vegetation at the ranges of particular management concern includes the sagebrush and slickspot peppergrass (discussion of slickspot peppergrass is found in Section 3.11.2.3) (Mountain Home AFB 2009b). Under baseline conditions, this habitat is managed for preservation to the maximum extent practicable. Aircraft operational restrictions include the altitude from which flares may be dispensed; during low fire risk periods flares are deployed at and above 2,000 feet AGL (Mountain Home AFB 2002). When fire risk is at high/very high and extreme, flare use is stopped. In this manner, the potential for wildfire ignition is minimized. Ground-based activities (e.g., range and emitter site operations and maintenance) are also conducted in a manner consistent with procedures outlined in the Mountain Home Integrated Natural Resource Management Plan (INRMP) (Mountain Home AFB 2009b). For instance: driving heavy vehicles only on existing trails and roads, designation of "firing areas" in cleared areas only, and performing ordnance clearing when the soil is sufficiently dry to avoid creating ruts by tire tracks. Over the years, Mountain Home AFB has made a concerted effort to replant with native vegetation, exterminate noxious weeds and invasive species, and conduct prescribed burning to promote native habitat regeneration (Mountain Home AFB 2009b).

Under the airspace, a large variety of vegetation communities is found, from sagebrush to pinyon-juniper woodlands and grasslands. Within the native sagebrush areas are large expanses of non-native annual grasslands dominated by cheatgrass and crested wheatgrass (*Agropyron desertorum* and *A. cristatum*), the result of fires and rehabilitation practices. Deep, narrow rocky rhyolite canyons cut north to south though the sagebrush flats, and provide the highest diversity in grassland and shrubland species. In lower elevations, salt desert shrub habitat dominates. The Owyhee and Jarbidge Mountains run along the borders between the states, providing high elevations and forest-type cover.

3.11.2.2 Wildlife

Wildlife found at the ranges and under the training airspace includes a variety of birds (including migratory birds and hawks), mammals, reptiles, and amphibians. At the ranges, 71 species have been identified on Saylor Creek Range, 60 species on Juniper Butte Range, and over 75 species on the emitter sites (Mountain Home AFB 2009b). Several species of concern are found within the MHRC and managed

through procedures proscribed in the INRMP. They include the western burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), long-billed curlew (*Numenius americanus*), Brewer's sparrow (*Spizella breweri*), loggerhead shrike (*Lanius ludovicianus*), sage sparrow (*Amphispiza belli*), sage thrasher (*Oreoscoptes montanus*), and kit fox (*Vulpes macrotis*).

Common mammal species include those found on base, in addition to species such as elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), feral horses (*Equus caballus*), cougar (*Puma concolor*), mink (*Mustela vison*), river otter (*Lutra canadensis*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethica*), bobcat (*Lynx rufus*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), badger coyote, kit fox (*Vulpes macrotis*), skunk (*Mephitis mephitis*), long-tailed weasel (*Mustela frenata*), and black bear (*Ursus americanus*). Common bird species include mourning dove , mountain quail (*Oreortyx pictus*), blue grouse (*Dendragapus obscurus*) prairie falcon (*Falco mexicanus)*, red-tailed hawk, western meadowlark (*Sturnella neglecta)*, and vesper sparrow (*Pooecetes gramineus)*. Common reptiles and amphibians include the bullfrog (*Rana catesbeiana*), Pacific tree frog, Great Basin spadefoot (*Spea intermontana*), Woodhouse's toad (*Bufo woodhousii*), gopher snake (*Pituophis melanoleucus*), racer (*Coluber constrictor*), western fence lizard, sagebrush lizard, and western rattlesnake) (Mountain Home AFB 2009b). Again, this area has been overflown by aircraft since the 1940s and it can be assumed that wildlife underlying this airspace have become habituated to the noise levels and sonic booms as presented in Figure 3.3-2. Under existing conditions, noise levels in Owyhee North and Jarbidge North are measured at 64 $L_{dnmr,}$ whereas noise levels within the other airspace units are less than 45 L_{dnmr}. As for supersonic noise, under baseline conditions, Owyhee North averages 42 booms per month and Jarbidge North 44 booms.

3.11.2.3 Threatened, Endangered, and Special Status Species/Communities

Lands under the MHRC and associated airspace and within existing ranges include habitat for several state and federally protected species. Due to the nature of the actions proposed within the airspace, invertebrates and fish were excluded from review and analysis as they are not likely be impacted by the proposed action.

There is one special status species found within the land-based MHRC. The slickspot peppergrass *(Lepidium papilliferum)* is listed as a threatened species under the ESA and is found on Juniper Butte Range. This species is already managed for preservation at this active range through measures outlined in the Mountain Home AFB INRMP (Mountain Home AFB 2009b). These measures include (but are not limited to): preventing noxious weed invasion, rotating grazing to minimize effects, maintaining target and emitter sites without impacting the plant and its habitat, and conducting ordnance clean up in a manner to avoid impacts to slickspots and slickspot peppergrass. In addition, Mountain Home AFB trains range and fire suppression personnel on these protective measures and conducts annual monitoring to ensure that these measures are followed. To date, slickspot peppergrass has not been adversely impacted by range activities (including ordnance deployment and cleanup).

Under training airspace, three federal candidate species are found: the Great Basin population of the Columbia spotted frog (*Rana luteiventris*), the yellow-billed cuckoo (*Coccyzus americanus*), and the

greater sage grouse (*Centrocercus urophasianus*). The greater sage grouse prefer large, relatively open and undisturbed sagebrush dominated communities. Breeding activity occurs in what is called a lek, which usually is found in open areas such as ridges, rocky knolls, or bare openings (like those found at active ranges and the emitter sites). There are five sage grouse leks (two of the five are considered active) at Saylor Creek Range. No active leks have been observed at Juniper Butte Range, although sage grouse do use the habitat during all seasons. Leks have been observed both at and near several emitter sites and suitable habitat is found around most of the emitter sites. Countless leks and extensive habitat exists under the broad expanse of airspace (Mountain Home AFB 2009b). Under baseline conditions, Mountain Home AFB has taken pro-active management efforts to preserve sage grouse habitat through planting/revegetating ranges with native vegetation (including sagebrush), conducting prescribed burning to enhance the habitat, and working with agencies for the preservation of this species and its habitat. For instance, the Air Force, in cooperation with Idaho Fish and Game, conducted sage grouse capture, collaring, and telemetric tracking projects to better understand sage grouse movement and habitat use (Mountain Home AFB 2009b).

The USFWS recognizes the yellow-billed cuckoos that occur in the western U.S. (generally west of the crest of the Rocky Mountains) as a Distinct Population Segment. The yellow-billed cuckoo is found in disjunctive fragments of dense riparian habitats, usually consisting of cottonwood and willow (Utah Division of Wildlife Resources 2010). None are found at the ranges, but do occur under the airspace.

The Great Basin population of the Columbia spotted frog, a federal Candidate species, is found under the airspace in eastern Oregon, southwestern Idaho, and northern drainages of Nevada. The Columbia spotted frog lives in spring seeps, meadows, marshes, ponds, and streams (USFWS 2010b).

3.12 CULTURAL RESOURCES

Cultural resources are prehistoric and historic sites, buildings, districts, or objects that are important to a culture or community. Cultural resources are divided into three categories: archaeological resources, architectural resources, and traditional cultural resources.

Archaeological resources are places where people changed the ground surface or left artifacts or other physical remains (e.g., arrowheads or bottles). Archaeological resources can be classed as either sites or isolates and may be either prehistoric or historic in age. Isolates often contain only one or two artifacts, while sites are usually larger and contain more artifacts.

Architectural resources are standing buildings, dams, canals, bridges, and other structures.

Traditional cultural resources are associated with the cultural practices and beliefs of a living community that link that community to its past and help maintain its cultural identity. Most traditional cultural resources in the affected environment are associated with American Indians. Traditional cultural resources may include, but are not limited to, archaeological resources, locations of historic events, sacred areas, sources of raw materials for making tools, sacred objects, or traditional hunting and gathering areas.

Under the National Historic Preservation Act (NHPA) and various federal regulations, only significant cultural resources are considered when assessing the possible impacts of a federal action. Significant archaeological, architectural, and traditional cultural resources include those that are eligible or are recommended as eligible for inclusion in the National Register of Historic Places (National Register).

The significance of archaeological and architectural resources is usually determined by using specific criteria (listed in 36 CFR 60.4), including: association with important events, association with a famous individual, embodiment of the characteristics of a period, and ability to contribute to scientific research. Cultural resources must usually be at least 50 years old to be considered eligible for listing.

However, more recent structures, such as Cold War-era resources, may warrant protection if they manifest "exceptional significance." Traditional cultural resources can be evaluated for National Register eligibility as well. However, even if a traditional cultural resource is determined to be not eligible for the National Register, it may still be significant to a particular American Indian tribe. In this case, such resources may be protected under the Native American Graves Protection and Repatriation Act, and EO 13007 addressing sacred Indian sites. The significance of an American Indian traditional cultural resource is determined by consulting with the appropriate American Indian tribes.

The area of analysis for cultural resources considers Mountain Home AFB, associated ranges, and areas under the associated airspace. However, resources examined are those most likely to be affected by aircraft operations or noise. Areas that will be affected by construction elements of the proposed action are also examined.

3.12.1 Mountain Home AFB and Vicinity

As shown in the 2006 Mountain Home AFB Integrated Cultural Resource Management Plan (USAF 2006b), Mountain Home AFB has been intensively surveyed for archaeological resources. These surveys have identified five sites on Mountain Home AFB proper, none of which are eligible for or listed in the NRHP (USAF 2006b).

Several architectural surveys have been conducted at Mountain Home AFB to include all buildings 50 years old or older and have been evaluated for NRHP eligibility (USAF 2006b) as well as Cold War-era structures built before 1990 (USAF 2006a, 2006b, 2009). Five World War II structures (Buildings 201, 204, 205, 208, and 211) were found to be eligible for listing in the NRHP (Watts 1991). All of the structures are hangars and have birchwood type bowstring roof trusses. Their architectural integrity reflects their World War II origins. Four Cold War-era buildings at Mountain Home AFB, Buildings 291 (the Bomber Alert Facility), 4473, 4476, and 4478, have all been found eligible for listing in the NRHP. The USAF also considers 18 additional buildings eligible for listing in the NRHP: 1329, 1330, 1331, 1332, 1333, 3000, 3002, 3003, 3004, 3005, 3006, 3007, 3008, 3009, 3010, 3011, 3012, and 3015.

No traditional resources are known from Mountain Home AFB. Given the extensive development on the base, the potential for undisturbed traditional cultural resources is extremely low (USAF 2006b).

3.12.2 Mountain Home Range Complex and Associated Airspace

Seven NRHP-listed properties have been identified under Mountain Home AFB airspace the Camas and Pole Creeks Archaeological District, the Wickahoney Post Office and Stage Station, the Sheep Ranch Fortified House, Camp Three Forks, the Silver State Flour Mill, the Gold Creek Ranger Station, and the Birch Creek Ranch Historic Rural District. In addition, many more eligible or potentially eligible cultural resources associated with the history of the region are likely to underlie airspace.

Two American Indian reservations underlie MHRC associated airspace. The Fort McDermitt Indian Reservation lies under Paradise North and South in Nevada and Oregon (Bureau of Indian Affairs 1998). Duck Valley Indian Reservation underlies the Owyhee North and South MOAs.

No formal traditional cultural properties have been identified under the airspace. However in previous studies, representatives of the Shoshone-Paiute Tribes have expressed concern regarding the potential interference in tribal ceremonies and rituals by noise and visual impacts of USAF overflights; disturbance to the solitude of certain areas; and the possible adverse effects of aircraft noise on wildlife resources in the region (USAF 2006b).

Mountain Home AFB offers to consult with local American Indian Tribes depending upon proposed activities. Consultations are conducted on a recurring basis, to include non-scheduled consultations when required. For this EA, letters initiating government-to-government consultation were sent to the following American Indian groups informing them about the proposed project: Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, Shoshone-Bannock Tribes, Northwestern Band of the Shoshone, Paiute-Shoshone Tribes of the Fort McDermitt Indian Reservation, and Burns Paiute Tribe (see Appendix A). None of these tribes responded to the initial letter. Six Government-to-Government consultation meetings were held between the Air Force and the Shoshone-Paiute Tribes on the following dates: November 8, 2010; December 1, 2010; January 18, 2011; March 11, 2011; May 2, 2011; and August 17, 2011. Additionally, on April 20, 2011, representatives from the 366 FW and the ACC visited the Duck Valley Indian Reservation. The tribes were given an advanced review (30-day) copy of the draft EA on March 7, 2012 and no comments were received. All tribes were sent copies of the draft EA for review on April 10, 2012. No formal opposition to the proposed action has been received by any of the tribes.

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CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

Chapter 4 presents the scientific and analytical basis of the potential environmental consequences of the proposed action and no-action alternative. To define the potential consequences, this chapter overlays the components of the proposed action described in Chapter 2 onto the affected environment described in Chapter 3. Each of the environmental resources described in Chapter 3 is affected to a different degree and has a different method of analysis. The National Environmental Policy Act (NEPA) requires a comparative analysis that allows decision-makers and the public to differentiate among the alternatives. This Environmental Assessment (EA) focuses on those resources that would be affected by the proposed basing of a United States (U.S.) Air Force (USAF)-lead squadron of Royal Saudi Air Force (RSAF) F-15SA aircraft at Mountain Home Air Force Base (AFB), Idaho.

Cumulative effects of the proposed action with other past, present, and foreseeable future actions are presented in Chapter 5. Irreversible and irretrievable effects are also discussed in Chapter 5.

4.2 AIRSPACE MANAGEMENT AND SAFETY

This section evaluates the proposed action to determine its potential to affect airspace management and safety. Changes in the aircraft inventory under the proposed action would alter the number of operations in Mountain Home AFB's airfield environment and sortie-operations in the associated training airspace. As such, the potential to affect airspace management and structure warrants evaluation. Similarly, the potential effects on risks to military personnel, the public, and property are examined. Fire and ground safety are assessed for the potential to increase risk, as well as the USAF's capability to manage that risk by limiting exposure, responding to emergencies, and fire management and suppression both at the base and at the ranges. Analysis of aircraft flight risks correlates projected Class A mishaps and Bird/Wildlife-Aircraft Strike Hazard (BASH) with current use of the airspace to consider the magnitude of the change in risk associated with the proposal. Changes to the use of munitions are also compared to current conditions.

4.2.1 Proposed Action

4.2.1.1 Airspace Management

Mountain Home AFB and Vicinity

Implementation of the proposed action would not measurably affect airspace management at Mountain Home AFB or in the associated training airspace. Changes in the aircraft inventory under the proposed action would result in a 34 percent increase relative to baseline operations at the airfield. Such an increase would not be adverse and would not cause any shifts in the management or structure of the local airspace. Total operations at the base would remain below those generated in the last decade (USAF 1998a and 2002). Furthermore, the types of aircraft using the airfield environment would remain consistent with those flying there for the past 10 years and more. Although the F-15SA includes improvements in avionics and other systems, it essentially remains an F-15E. No changes in approach or

departure routes would be required to accommodate the changed aircraft inventory under the proposed action.

Mountain Home Range Complex and Associated Airspace

Changes in sortie-operations and the addition of F-15SA aircraft resulting from the proposed action would not require changes to the management or structure of the affected training airspace. The F-15SAs would conduct operations in a fashion identical to the USAF F-15E/F-15SG squadrons at Mountain Home AFB. No different maneuvers, change in the use of airspace, or other actions would occur. Under the proposed action, sortie-operations in the seven Military Operations Areas (MOAs) would increase 32 percent over baseline conditions. Such increases would not affect the capabilities of these MOAs to accommodate all training needs and would not cause a need for structural changes to the airspace. Total sortie-operations within each MOA would remain below historic levels within the last decade (USAF 1998a).

Sortie-operations on Instrument Route (IR)-300/313, IR-303 and IR-304 would increase by 34 to 36 percent under the proposed action. Increases in sortie-operations on the three affected Military Training Routes (MTRs) would not affect the management of these airspace units. Accommodating the changes in use would be accomplished through standard scheduling procedures. Since the type of aircraft using the MTRs would not differ from the no-action conditions, procedures for training operations would not require modification or enhancement under the proposed action.

Overall, the proposed increases in Mountain Home Range Complex (MHRC) use would not affect civilian/commercial air traffic along the adjacent jet routes and would have little effect on the low-density general-aviation operations throughout this area. Civilian pilots can access real-time MOA information by contacting Cowboy Control for radio equipped aircraft, or calling (208) 828-4804 prior to flight. Continued coordination between Mountain Home AFB and agencies (Bureau of Land Management [BLM] and Idaho Department of Fish and Game) conducting land and wildlife management flights would minimize any impacts military operations could have on these agency flights. Considering that the operations would represent a continuation of current activities, no significant impacts on airspace use or management would be expected, despite the aforementioned increases.

No changes would occur to airspace management at the airfield or in the airspace. The increase in use would not exceed the amount of use in the recent past and would be accommodated by existing airspace management. Therefore, no significant impacts would result to airspace management and use due to increases in operations at Mountain Home AFB and the associated airspace under the proposed action.

4.2.1.2 Safety

Mountain Home AFB and Vicinity

Operations and Maintenance

Although the proposed action would add up to 18 operational aircraft to the base, the change would not alter safety for operations and maintenance. First, the base has supported, without safety issues, similar

numbers and a greater diversity of aircraft in the recent past. As recently as the late 1990's, Mountain Home AFB supported 72 aircraft (USAF 1998a). The addition of the proposed RSAF squadron would bring the based aircraft total to 74. Even though total operations would increase, it would not affect airspace management and use within the local air traffic environment. No changes to the Mountain Home AFB terminal airspace or base arrival and departure procedures would be required to accommodate the F-15SA aircraft performance or operations. The increased operations would not exceed the capabilities of Mountain Home AFB Approach Control or its control tower for handling air traffic within the local airspace. Second, the F-15SA aircraft and the existing F-15E/F-15SG aircraft would not require any different safety procedures. Lastly, all maintenance and operations would be under USAF control, ensuring adherence to requirements and standards.

Fire and Crash Response

For the reasons cited above, addition of RSAF aircraft and personnel to the base would not adversely affect fire and crash response. Given that the Mountain Home AFB Fire Department meets all staffing and equipment requirements under USAF guidelines, the changes resulting from the proposed action would not place any greater demand on equipment, personnel, or procedures.

Aircraft Mishaps

There is no generally recognized threshold of air safety, such as an acceptable number of accidents per 100,000 flight hours, above which the hazard to public safety is considered to be unacceptable and below which it is considered acceptable. Instead, the focus of airspace managers is to reduce risks through a number of measures. These include, but are not limited to, providing and disseminating information to airspace users, requiring appropriate levels of training for those using the airspace, setting appropriate standards for equipment performance and maintenance, defining rules governing the use of airspace, and assigning appropriate and well-defined responsibilities to the users and managers of the airspace. When these measures are implemented, risks are minimized, even though they can never be eliminated.

Overall, aircraft safety conditions would not change measurably as a result of implementing the proposed action. In the Mountain Home AFB airfield environment, an increase in total airfield operations associated with the proposed action would increase overall flying hours and the predicted potential for Class A mishaps. Addition of the 18 F-15SAs would increase flying hours in the airfield environment by about 1,800 annually. This increase would drop the statistically projected rate of a Class A mishap from once every 31.3 years to once every 25.0 years. With this change, the probability of a mishap would increase, but one mishap every 25 years does not represent a significant probability and the overall mishap rate at Mountain Home AFB, if current safety trends persist, the expected mishap rate would be less than for the F-15 aircraft USAF-wide. No changes to the CZs or APZs would be necessary since the existing zones already account for the aircraft types proposed for the base. Therefore, no significant impacts are anticipated to safety due to aircraft mishaps under the proposed action.

BASH

With fewer than 10 BASH incidents annually at Mountain Home AFB, bird strikes do not present a frequent occurrence. The small increase in operations under the proposed action would not be expected to significantly increase bird/wildlife aircraft strikes. Several factors support this conclusion. First, the BASH program would remain in force for the base. Second, the increases in airfield operations would not substantively change the opportunities for bird/wildlife aircraft strikes, particularly with respect to the recent past. Third, the F-15SA would operate like all other fighters that have used Mountain Home AFB and rarely encounter bird/wildlife aircraft strikes. Lastly, no aspect of the proposed action would increase concentrations of birds on or near the base, or in the training airspace.

Munitions Handling

No new weapons or storage facilities are proposed to support the RSAF beddown. No requirements for safety waivers or changes to the Q-D arcs would be necessary, and thus no adverse impacts would result due to the proposed action.

Mountain Home Range Complex and Associated Airspace

BASH

For the same reasons as described for the base, bird- aircraft strikes in the MHRC and associated airspace would not likely increase. Moreover, the additional F-15SA sortie-operations projected for the proposed action in the training airspace would fly over 70 percent of the time above altitudes (i.e., 5,000 feet above ground level [AGL]) where almost all bird strikes occur. As described in Chapter 3, Mountain Home AFB has stringent procedures in effect to prevent bird-aircraft strikes. These procedures would continue with the implementation of the proposed action along with best management practices outlined in the Mountain Home AFB Integrated Natural Resources Management Plan. Although migratory bird routes are known to occur in the airspace, many more aircraft operations have occurred in this area in the recent past and mishap rates are low.

Additional sortie-operations on the MTRs would minimally increase the potential for bird/wildlife aircraft strikes since these routes involve low altitude flight. Nevertheless, continued application of the BASH program avoidance procedures would limit the potential for bird- aircraft strikes.

Aircraft Mishaps

Within the MHRC, the increases in total sortie-operations associated with the proposed action would negligibly affect the potential for Class A mishaps. The amount of change would be no more than the yearly variations resulting from deployments and exercises at other bases (e.g., Red Flag at Nellis AFB). No changes in flight altitudes or maneuvers would occur, thereby maintaining the current low level of risk.

Fire Risk and Management

Within the ranges and under the MOAs, current procedures to minimize fire risks associated with training would continue. Operations and maintenance activities on ranges and associated facilities

would continue to be conducted using current processes and procedures. All actions would be accomplished by technically qualified personnel and would be conducted in accordance with applicable USAF requirements and fire management plans. The additional sortie-operations, ordnance use, and flare deployment by the F-15SAs would not raise total activity substantially above recent or historical levels (Mountain Home AFB 2010a). Indeed, the RSAF would employ less than 15,000 additional flares in the airspace and about 7,000 inert munitions with spotting charges. All restrictions guiding the use of these munitions would continue to be strictly enforced; fire response and suppression capabilities would continue to meet all requirements.

Training Ordnance Use

Use of training ordnance would continue on the ranges. Although use of bomb dummy unit (BDU)-33s would increase substantially over baseline conditions, the increase would not fall outside levels of recent use. Furthermore, all safety and fire restrictions would apply and no new ordnance would be employed. Only trained and qualified personnel would handle ordnance in accordance with all explosive safety standards and detailed published technical data.

Weapons employment procedures are detailed in Air Force Instruction (AFI) 13-212. Additionally, operational constraints pertaining to use of specific delivery tactics, ordnance type, or aircraft headings are published in Mountain Home AFB supplemental instructions to mitigate any potentially unsafe conditions and ensure that ordnance remains within the applicable safety footprint. These procedures would continue to be employed. No degradation of public safety is expected from release of ordnance by F-15SAs. Weapons safety footprints for ordnance delivery by F-15Es are well established and proven.

Chaff and Flares

Under the proposed action, 28,880 bundles of chaff and 14,880 flares would be released annually by F-15SAs, contributing about 40 percent of the total chaff and about 24 percent of the total flare use for the MHRC and associated airspace area. These percentage changes relative to baseline are not small, but the total is not excessive for the MHRC area. For example, in 2005 total chaff use was nearly 92,000 bundles annually (Mountain Home AFB 2010a), or about 9,000 bundles less than under the proposed action. All safety measures and restriction on chaff and flares use, including seasonal and altitude restrictions, would continue to apply, ensuring protection of the environment and human safety.

Current procedures would ensure quick response in the event of a crash or fire and aircraft mishap rates would increase slightly over current conditions. BASH incidents would remain low and no new munitions would be stored at the installation. All existing procedures for handling munitions and use of ordnance and chaff and flares would continue under the proposed action. Therefore, no significant impacts would result to safety due to increases in operations at Mountain Home AFB and the associated airspace under the proposed action.

4.2.2 No-Action Alternative

Airspace use and management conditions would not change under the no-action alternative. All existing procedures and structures would remain as under baseline conditions. Sorties under the no-action

alternative also fall below recent and historical levels. The airspace structure and management procedures would accommodate that level of activity without issue.

Airfield operations and MOA sortie-operations under the no-action alternative would remain within historical averages. As such, no impacts to airspace management would be anticipated. No changes to the potential for bird/wildlife aircraft strikes would occur under the no-action alternative. Under the no-action alternative, munitions handling would not change and no increase in stored munitions would occur. The no-action alternative would not increase fire risk or management requirements over current conditions. Safety risks associated with chaff and flare use would remain minimal.

4.3 NOISE

4.3.1 Proposed Action

Implementation of the proposed action would not substantially change the noise conditions at the base or in the MHRC. Slight increases in noise levels would occur; however, most changes would not be perceptible to human hearing.

4.3.1.1 Mountain Home AFB and Vicinity

The proposed action would beddown and operate up to 18 F-15SA aircraft at Mountain Home AFB, adding to the existing inventory and operations. F-15SA operations would total 11,209 annually, with more than 86 percent during the environmental daytime hours (between 7:00 a.m. and 10:00 p.m.). About two-thirds of these proposed operations would consist of departures and arrivals; the remaining one-third would involve pattern work in the vicinity of the airfield. Annual operations generated by the F-15SA, when added to existing and transient military aircraft activities (32,612) would total 43,821. This action would produce a 34 percent increase in operations. Figure 4.3-1 depicts the noise contours under the proposed action; baseline contours are also presented for comparison purposes.

Table 4.3-1 presents noise exposure in terms of estimated acreage, population, households, and on- and off-base representative receptors. When compared to baseline conditions, the proposed action noise levels of 65 decibels (dB) Day-Night Average Sound Level (DNL) or greater would affect 3,407 more acres. Most of this area consists of open or agricultural lands. One receptor that was previously not affected by noise levels of 65 dB or greater would be affected under the proposed action.

Table 4.3-1. Noise Exposure under Proposed Action on and near Mountain Home AFB Proposed/Baseline

Contour Band (dB DNL)[1]	*Acreage*	*Population*	*Housing Units*	*Receptors*
65 – 70	11,396/9,628	0/0	0/0	2/1
70 – 75	5,906/5,267	0/0	0/0	3/3
75 – 80	3,115/2,467	3/3	1/1	4/4
80 – 85	1,095/869	0/0	0/0	0/0
85+	1,140/1,014	0/0	0/0	0/0
Total	**22,652/19,245**	**3/3**	**1/1**	**9/8**

Source: Wyle 2011.
Note: [1]Exclusive of upper bound for all bands.

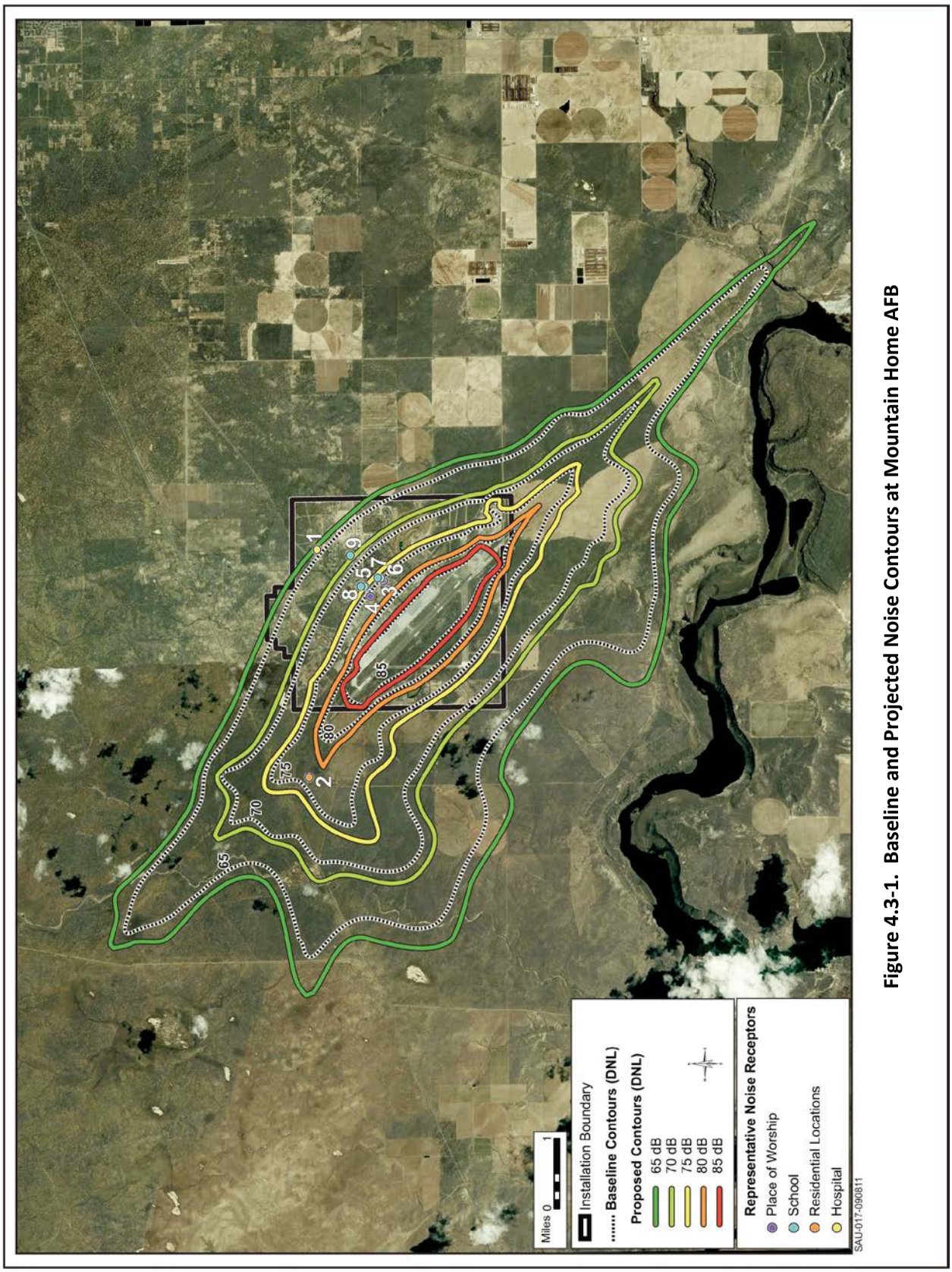

Figure 4.3-1. Baseline and Projected Noise Contours at Mountain Home AFB

Decibel levels for representative receptors on or near Mountain Home AFB are provided in Table 4.3-2. Under the proposed action, noise levels for eight of nine receptors would experience a 1 to 2-dB increase. Noise levels at one receptor (366th Fighter Wing [366 FW] hospital) would now be within the 65-dB band.

Table 4.3-2. Decibel Levels under Proposed Action at Representative Locations on and near Mountain Home AFB Proposed/Baseline

Location ID Number	*Receptor*[1]	*Type*	*Decibel Level (dB DNL)*
1	366 FW Hospital	Hospital	65/<65
2	Residential	Residential	77/77
3	Liberty Chapel	Worship	77/75
4	Chapel Annex	Worship	77/76
5	Boise State University (annex)	School	75/73
6	Child Care Center	School	76/75
7	Child Care Center	School	75/74
8	Education Facility	School	74/73
9	Base Primary School	School	69/68

Source: Wyle 2011.
Note: [1]Receptors 1 and 3 through 9 are on base.

Speech Interference

Table 4.3-3 presents the average daily indoor daytime (7:00 a.m. to 7:00 p.m.) events per hour for receptors that generally would experience indoor maximum sound levels of at least 50 dB with windows closed and open. Under the proposed action, the mean number of speech interfering events across all receptors would be 5.3 and 2.8 per hour for windows open and closed, respectively, with an average increase of 1 event per hour relative to baseline.

Table 4.3-3. Indoor Speech Interference at Representative Locations on and near Mountain Home AFB

Location ID Number	*Receptor*[2]	*Average Daily Indoor Events per Hour*[1] *Daytime (7:00 a.m. to 10:00 p.m.)*			
		Windows Closed	*Windows Open*	*Change from Baseline*	
				Windows Closed	Windows Open
1	366 FW Hospital	2	3	1	1
2	Residential	3	6	1	1
3	Liberty Chapel	3	6	1	1
4	Chapel Annex	3	6	1	1

Source: Wyle 2011.
Notes:
[1]Assumed a noise level reduction of 15 dB (windows open) and 25 dB (windows closed).
[2]Receptors 1, 3, and 4 located on Mountain Home AFB.

Classroom Speech Interference

Table 4.3-4 presents the potential speech interference impacts for classrooms at schools under the proposed action. For four of the five on-base schools, the equivalent noise level (L_{eq}) noise levels would increase by 1 dB and the number of events would increase by 1 to 2 per hour. For the base primary

school, L_{eq} noise levels would increase by 0.4 dB only, although the number of events would increase by 1 per hour.

Table 4.3-4. Classroom Speech Interference for Schools on Mountain Home AFB

Location ID Number	*Receptor*	*Outdoor L_{eq}*	*Number of Events Above a Maximum Outdoor Noise Level of 75 dB ($NA75L_{max}$)[1]*	
			Windows Closed	*Windows Open*
5	Boise State University (annex)	70	3	6
6	Child Care Center	71	4	7
7	Child Care Center	71	4	7
8	Education Facility	69	3	6
9	Base Primary School	64	2	4

Source: Wyle 2011.
Note: [1]Assumed a noise level reduction of 15 dB (windows open) and 25 dB (windows closed).

Sleep Disturbance

Table 4.3-5 lists the probabilities of indoor awakening for receptors from daily averaged nighttime (10:00 p.m. to 7:00 a.m.) events with windows closed and open. For the single affected off-base residence, the probability of awakenings would increase by 1 percent only with windows open. The probability of awakening with windows closed would not change.

Table 4.3-5. Indoor Sleep Disturbance at Representative Locations near Mountain Home AFB

Location ID Number	*Receptor*	*Average Nightly (10:00 p.m. to 7:00 a.m.) Probability of Awakening (%)[1]*			
		Windows Closed	*Windows Open*	*Change from Baseline*	
				Windows Closed	Windows Open
2	Residential	22%	31%	0%	1%

Source: Wyle 2011.
Note: [1]Assumed a noise level reduction of 15 dB (windows open) and 25 dB (windows closed).

Potential for Hearing Loss

No on-base or off-base residences would be exposed to noise levels greater than 80 dB DNL under the proposed action. Therefore, Potential for Hearing Loss (PHL) is not an issue.

Occupational Noise

USAF occupational noise exposure prevention procedures such as hearing protection and monitoring would be implemented under the proposed action. These procedures would comply with all applicable Occupational Safety and Health Administration (OSHA) and USAF occupational noise exposure regulations.

4.3.1.2 Mountain Home Range Complex and Associated Airspace

Despite increases in the number of sortie-operations by aircraft, subsonic (Onset Rate-Adjusted Monthly Day-Night Average Sound Level [L_{dnmr}]) noise levels arising from the implementation of the proposed action would remain low and not increase or decrease perceptibly in the airspace used for training (the smallest change in average noise level which can be detected by the human ear is about 3 dB). In

Owyhee North and Jarbidge North, the subsonic noise level would increase by about 1 dB under the proposed action and would not be perceptible. In Saddle, Jarbidge South, and Owyhee South, and Paradise North and South, noise levels would remain below 45 L_{dnmr} (Figure 4.3-2).

The USAF-lead RSAF F-15SAs would employ supersonic flight within the Owyhee North and Jarbidge North MOAs above 10,000 feet AGL, resulting in an increase of about 10 sonic booms per month or one per three days. Supersonic noise levels in Owyhee North and Jarbidge North would increase an imperceptible 1 dB C-weighted DNL (CDNL). Additionally, F-15E/F-15SG/F-15SAs would fly, on average, 70 percent of the time above 5,000 feet AGL. Since the same aircraft have used the MHRC in the past, Sound Exposure Levels (SELs)/maximum sound level (L_{max}) would not change. Despite slight increases, the overall noise levels would remain low; therefore, the noise environment would not perceptibly change.

The greatest proposed increase in use on an MTR is 35 sortie-operations per year (IR-300/313). Due to this minimal increase in use (one sortie-operation every 7 days), noise on all MTRs would remain at or below current levels and overflight SEL/L_{max} would remain unchanged. No perceptible change to noise levels would occur along these routes. Additionally, for those portions of the MTRs that overlap with the MOAs, noise levels would not increase perceptibly.

Overall, noise levels would increase, but would not be perceptible to the human ear. Noise levels greater than 65 DNL around Mountain Home AFB would affect the same number of people (3) as under baseline. One additional sensitive receptor (366 FW hospital) would be exposed to noise of 65 DNL or greater. No additional off-base sensitive receptors would be exposed to noise of 65 DNL or greater. Increases to subsonic and supersonic noise levels in the airspace would be imperceptible. Therefore, no significant impacts would result from noise due to increases in operations at Mountain Home AFB under the proposed action.

4.3.2 No-Action Alternative

If the no-action alternative were selected, the proposed beddown of the RSAF F-15SA aircraft at Mountain Home AFB would not occur. Existing conditions, as described in section 3.3, would remain unchanged, and no additional operations would occur at Mountain Home AFB or in the MHRC airspace. Consequently, implementation of the no-action alternative would have no impacts on noise.

4.4 LAND USE, RECREATION, AND VISUAL RESOURCES

This analysis examines the extent to which the beddown would be consistent with state, regional, and local conservation and development plans and zoning regulations. Changes in land use from new construction are analyzed to determine compatibility with existing and planned uses. In addition, the analysis assesses changes in aircraft noise levels around the bases and in the airspace as a result of the proposed action and alternatives. When compared to baseline conditions, land use plans, and land use regulations, the magnitude of the change represents the level of impacts. Compatibility standards such as those established by the U.S. Department of Housing and Urban Development and Air Installation Compatible Use Zone (AICUZ) program provide the means to evaluate impacts.

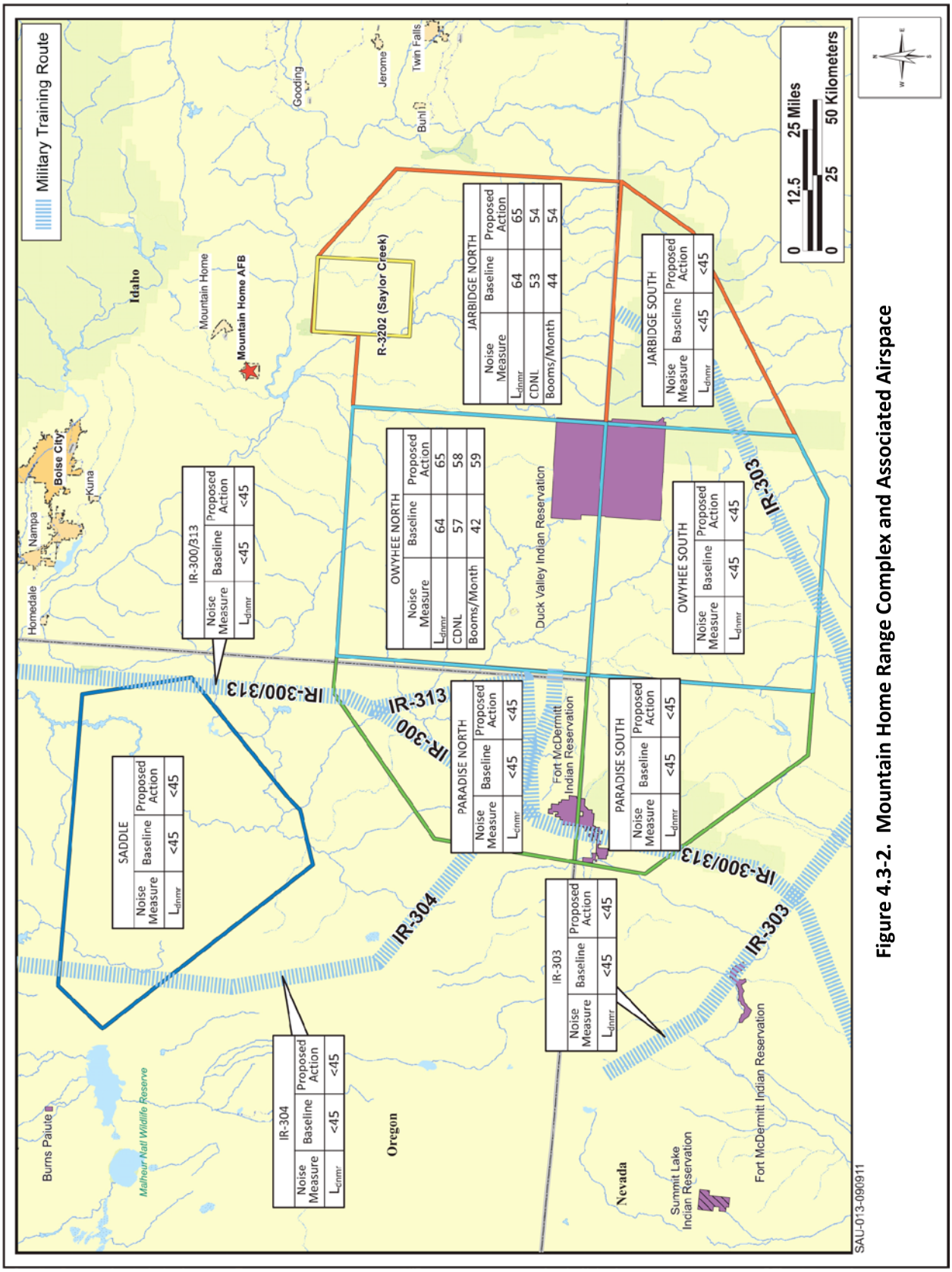

Figure 4.3-2. Mountain Home Range Complex and Associated Airspace

4.4.1 Proposed Action

4.4.1.1 Mountain Home AFB and Vicinity

The proposed beddown of the RSAF squadron of F-15SA aircraft would require new facility construction, an increase in personnel, and an increase in airfield operations. However, none of these factors would adversely effect on-base land use. New facilities, including a new dormitory to house trainees, would be designed and sited to be compatible with the existing base master plan, airfield safety guidelines and planning documents. New construction projects would not affect surrounding communities since proposed development would be contained within existing military lands on the base, and no change to the existing airfield-related Accident Potential Zones (APZs) and Clear Zones (CZs) would occur. Therefore, changes in noise conditions on- and off-base represent the focus of this analysis of impacts. Effects of noise on lands designated for residential use are the most common concerns associated with land use. No areas zoned for residential, commercial, or industrial use occur within the region of impact under the proposed action (Figure 4.4-1). Like under baseline conditions, this area is primarily land managed by the BLM (Figure 4.4-2).

Under the proposed action, the off-base area affected by noise levels equal to or greater than 65 dB DNL would increase by 3,197 acres, a 23 percent increase over baseline conditions (Table 4.4-1). However, this area occurs primarily within the Air Base Hazard Zone (Figure 4.4-3). The proposed action, therefore, would result in no incompatible off-base land use.

Table 4.4-1. Off-Base Difference Between Baseline and Proposed Action in Acres

Land Use Category: Agriculture and Open Space	*65-69 DNL*	*70-74 DNL*	*75-79 DNL*	*80-84 DNL*	*85+ DNL*	*Totals*
Proposed	10,387	4,514	1,844	257	0	17,002
Baseline	8,504	3,874	1,292	135	0	13,805
Difference	**+1,883**	**+640**	**+552**	**+122**	**0**	**+3,197**

On-base, the proposed action would result in an overall increase in noise levels equal to or greater than 65 dB DNL (Table 4.4-2). The 75-79 dB DNL contour band of the proposed action would affect 96 additional acres, including additional dormitory areas. The 70 dB DNL contour, while it decreases in size overall, shifts to include additional residential areas. On-base sensitive receptors affected by new noise levels are discussed in Section 4.3, Noise.

Table 4.4-2. On-Base Difference Between Baseline and Proposed Action in Acres

Land Use Category: Military	*65-69 DNL*	*70-74 DNL*	*75-79 DNL*	*80-84 DNL*	*85+ DNL*	*Total Area Affected*
Baseline	1,124	1,393	1,175	734	1,014	5,440
Proposed	1,009	1,392	1,271	838	1,140	5,650
Difference	**-115**	**-1**	**96**	**104**	**126**	**210**

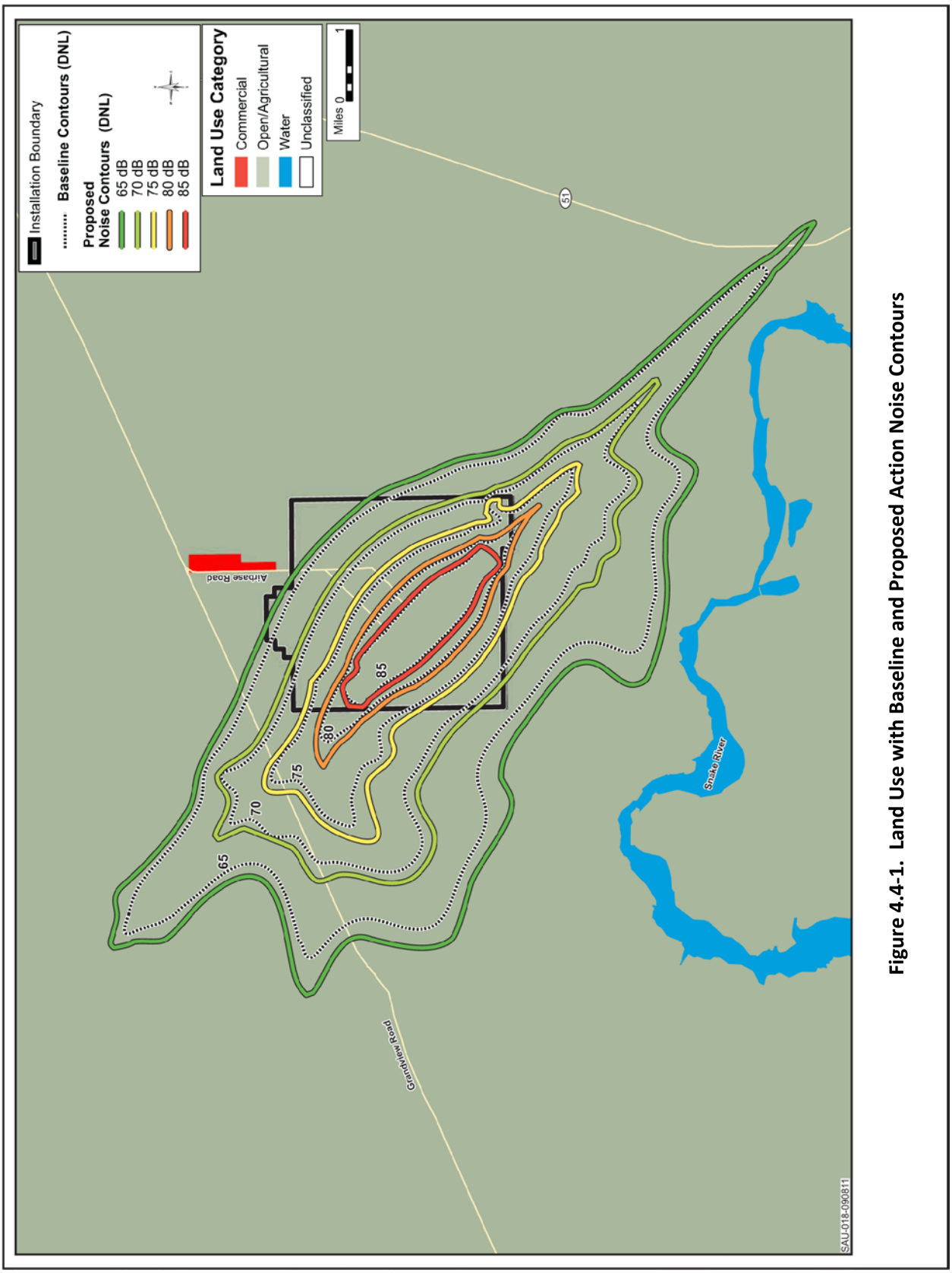

Figure 4.4-1. Land Use with Baseline and Proposed Action Noise Contours

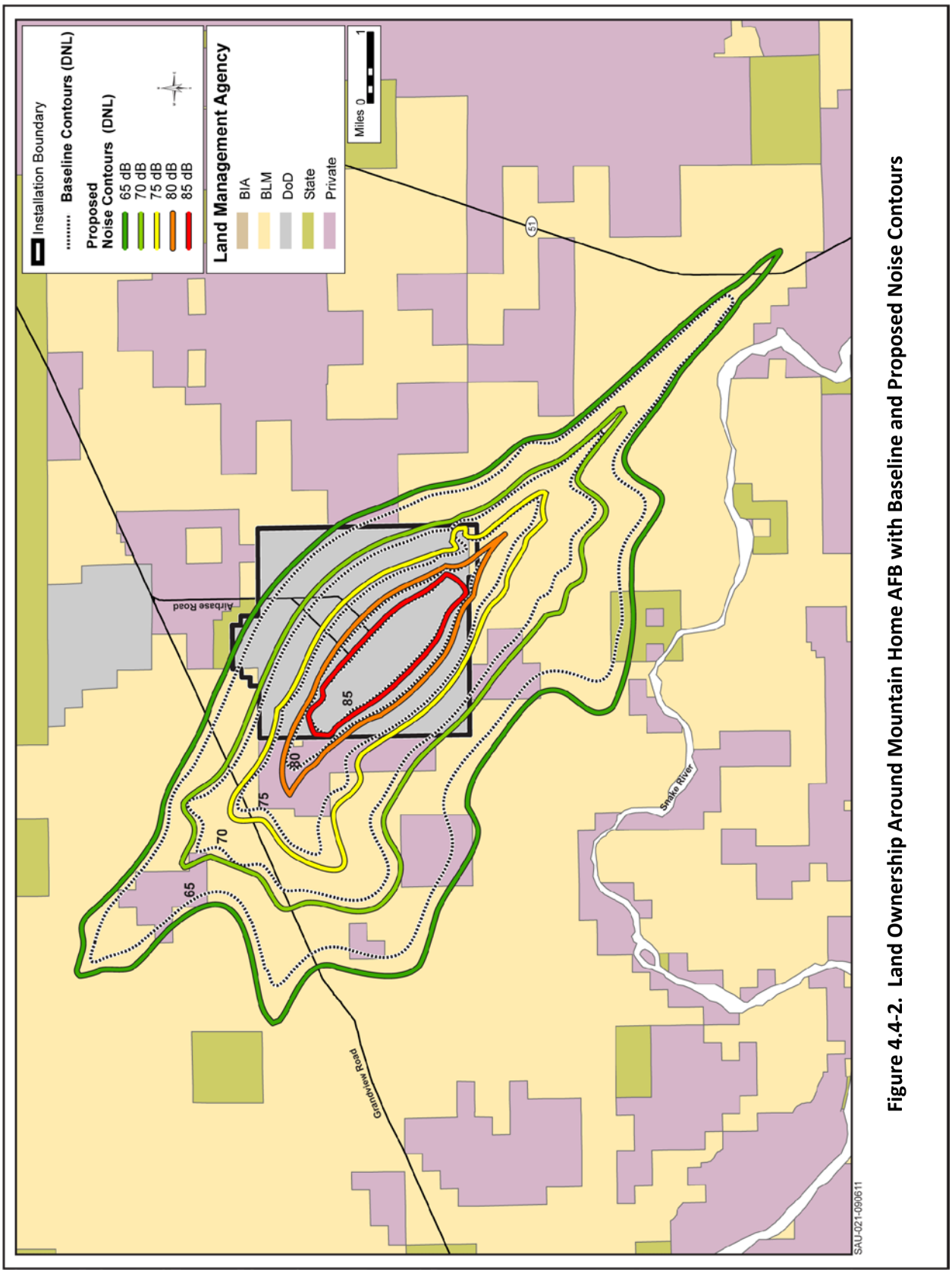

Figure 4.4-2. Land Ownership Around Mountain Home AFB with Baseline and Proposed Noise Contours

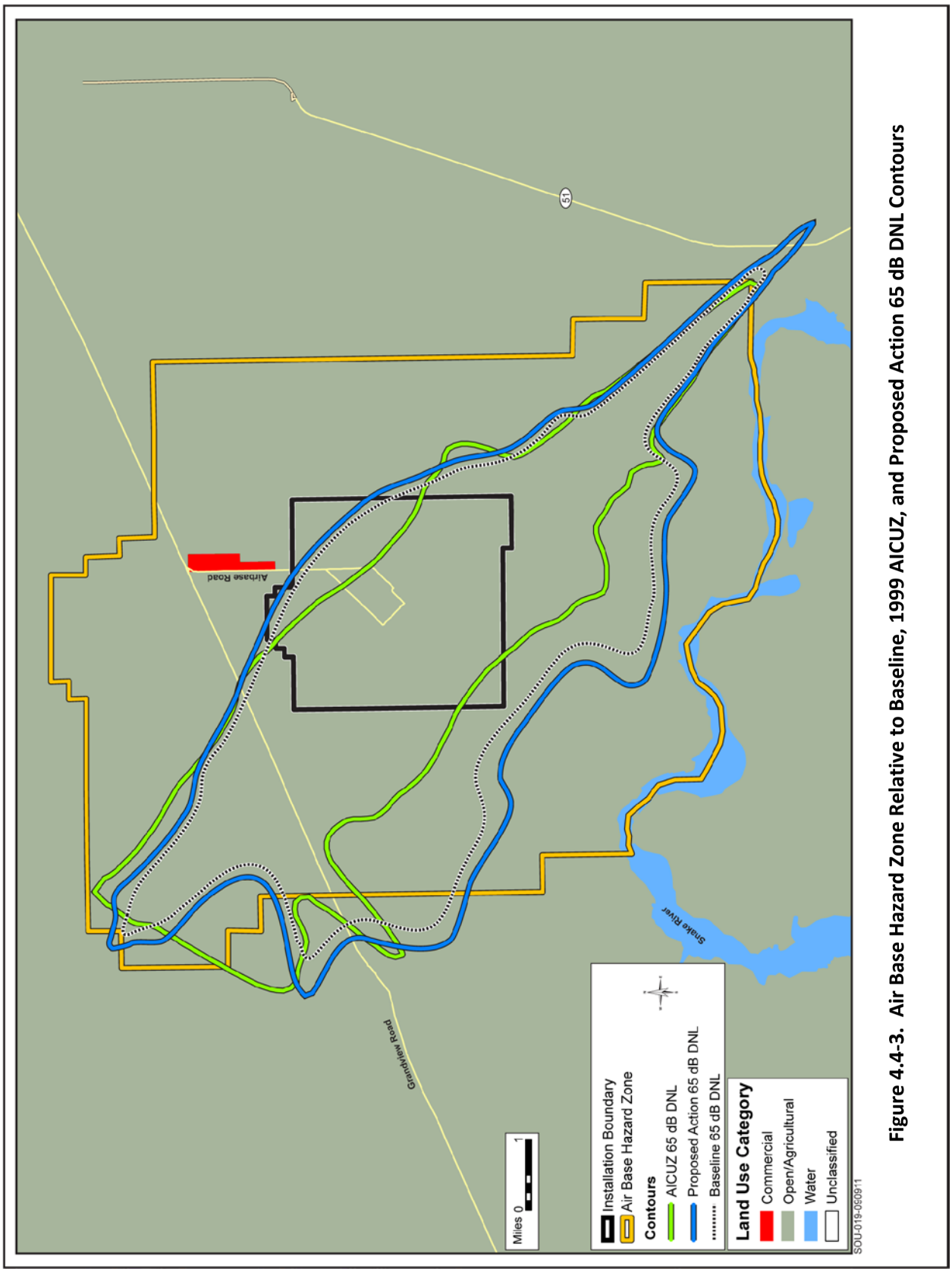

Figure 4.4-3. Air Base Hazard Zone Relative to Baseline, 1999 AICUZ, and Proposed Action 65 dB DNL Contours

Figure 4.4-3 shows the location of the AICUZ 65 dB DNL contour compared to baseline and proposed action 65 dB DNL contours. While the proposed action would increase the noise contour area by 3,372 acres, the contours would be compatible with regulated land use for the area.

4.4.1.2 Mountain Home Range Complex and Associated Airspace

The baseline subsonic noise levels under all affected airspace would increase by an imperceptible 1 dB L_{dnmr}. Under the Jarbidge and Owyhee South, Paradise North and South, Saddle River A and B airspace, subsonic noise levels would remain below 45 dB L_{dnmr}. Under the Jarbidge North and Owyhee North airspace, noise levels are expected to increase 1 dB to 65 dB L_{dnmr}, a level compatible with all land uses under the airspace.

The RSAF F-15SAs would employ supersonic flight within the Owyhee North and Jarbidge North above 10,000 feet AGL, resulting in a slight increase in boom incidence (but increase on average less than one per day). The RSAF also would fly at supersonic speeds in Paradise North and South, and Jarbidge and Owyhee South Air Traffic Control Assigned Airspaces (ATCAAs) above 30,000 mean sea level (MSL), with no perceptible impact to lands beneath the airspace. Changes to subsonic and supersonic noise levels would not change land use patterns, ownership, or management plans and policies. Therefore, the proposed action would result in no incompatible land use.

Individual aircraft overflight can adversely affect the solitude of the wilderness experience for some individuals. The proposed action would add more training operations; however, such overflights are dispersed and transitory in nature. Standard flight rules require all pilots to avoid direct overflight of populated areas by 1,000 feet and people or structures by 500 feet in isolated areas. Mountain Home AFB also restricts most low altitude overflights of canyons and supersonic flights below 15,000 feet AGL in southwest Owyhee County during the months of April through June (see Figure 3.2-2). Furthermore, the Federal Aviation Administration (FAA) and Department of Defense (DoD) have identified and published avoidance criteria for specific aviation-related or noise sensitive areas. While these noise impacts can intrude momentarily on the wilderness solitude, it does not change the basic wilderness characteristics of the area nor would it endanger future wilderness designation.

The Omnibus Public Land Management Act of 2009 (11) MILITARY OVERFLIGHTS does not restrict or preclude—(A) low-level overflights of military aircraft over the areas designated as wilderness by this subtitle, including military overflights that can be seen or heard within the wilderness areas; (B) flight testing and evaluation; or (C) the designation or creation of new units of special use airspace, or the establishment of military flight training routes, over the wilderness areas (P.L. 111-11). In a previous EA regarding the effects of USAF training overflights on the suitability of special land use areas such as WSAs, and possible designation as Wilderness Areas, the BLM stated in the Idaho Wilderness Study Report: “BLM recognizes the importance of these military training operations for the national defense preparedness of this country, but did not consider the impacts of the overflights as sufficient to warrant a non-suitable recommendation for any of the WSAs within the designated flight operation area” (BLM 1991, in Mountain Home AFB 2010a). Therefore, special use areas (i.e., Wild and Scenic Rivers, Wilderness Areas, Wilderness Study Areas [WSAs], Wildlife Management Areas, and Research Natural

Areas) would not be affected substantially by implementation of the proposed action. Changes to noise levels would not result in changes to land use patterns, ownership, or management plans and policies. In summary, the proposed action would result in no incompatible land use.

Recreational use of the area under the airspace would not change and increases in noise levels (both subsonic and supersonic) would not be a perceptible change from baseline conditions to recreational users in the area.

Visual intrusions under all alternatives would be minimal and would not represent an increase over baseline conditions sufficient to cause adverse impacts. On rare occasions, contrails may be formed behind operating aircraft at high altitudes. These contrails could be visible but would not alter BLM visual classifications (see Section 3.4) because they would not be permanent alterations to landscape and the degree of contrast would be considered "none" as not attracting attention to itself.

No portion of the proposed action would alter the structure, size or operation of DoD lands, nor would the acquisition of new non-DoD lands be required. The proposed action would not generate changes to the status or use of underlying lands, nor would it affect existing plans or policies implemented for land management. Neither changes to noise levels or the frequency of sonic booms would result in changes to land use patterns, ownership, or management plans and policies. Therefore, no significant impacts to land management or use, visual or recreational resources would occur due to the proposed action.

4.4.2 No-Action Alternative

Under the no-action alternative, there would be no establishment of the RSAF F-15As at Mountain Home AFB and current operations in the vicinity of Mountain Home AFB and in the MHRC would remain the same. Implementation of the no-action alternative would not affect land management or use. Access to and availability of recreational resources would remain unchanged. Also, noise would not increase and visual resources would remain unchanged. Therefore, under this alternative, no impacts to land use or recreation and visual resources would occur.

4.5 AIR QUALITY

Air quality impacts within the affected environment were reviewed for significance in light of federal, state, and local air pollution standards and regulations; please refer to Section 3.5 for detailed discussion of air quality resource definitions and analytical methodology for evaluating impacts. For purposes of this analysis, 250 tons per year per pollutant was used as a threshold to trigger further evaluation of potential air quality impacts. This particular threshold is used by the U.S. Environmental Protection Agency (USEPA) in their New Source Review standards as an indicator for impact analysis for listed new major stationary sources in attainment areas. Per this standard, any major new stationary sources that exceed 250 tons per year for any listed pollutant must conduct further analysis to demonstrate that these impacts would not cause a substantial degradation of air quality under the Prevention of Significant Deterioration regulations.

The aircraft inventory of based aircraft at Mountain Home consists of 42 F-15Es operated by 366 FW personnel and 14 F-15SGs operated by the Republic of Singapore Air Force. Under the proposed action,

the RSAF would beddown and operate up to 18 F-15SA aircraft. Under the proposed action, both construction and operational activities would result in air pollutant emissions.

4.5.1 Proposed Action

4.5.1.1 Mountain Home AFB and Vicinity

Construction

Several facility projects at Mountain Home AFB are required to support the beddown of the RSAF squadron (Table 2-8). A total of 22 construction, modification, or infrastructure improvement projects directly related to the beddown would be implemented beginning in 2012 under the proposed action. In total, the construction, modifications, and infrastructure improvements would affect more than 474,315 square feet of building space. The potential area of ground disturbance includes the actual construction footprints for the new construction or additions and the surrounding lands where construction-related clearing and grading could occur (the construction buffer areas). A construction buffer area of 50 feet around all construction footprints was added to the area of potential ground disturbance. This area comprises a total of approximately 14.08 acres for all projects. As yet undefined Infrastructure upgrades, such as connecting new facilities to water and power systems would also add to the affected areas on base.

Table 4.5-1 summarizes the annual construction emissions associated with the proposed action. Data presented in the table below indicate that proposed annual construction emissions would not exceed 250 tons-per-year for any criteria pollutant. Indeed, the total emissions would be fractions of this threshold. Therefore, it is not anticipated that implementing these construction activities would affect regional air quality.

Table 4.5-1. Proposed Construction Emissions

Construction Year	*Pollutants in Tons per Year*					
	CO	*NO_x*	*VOC*	*SO_x*	*PM_{10}*	*$PM_{2.5}$*
2012	4.88	6.75	0.87	0.83	3.03	≤3.03
2013	14.42	21.32	2.62	2.54	11.27	≤11.27
2014	2.21	1.62	0.23	0.18	0.81	≤0.81
Major Source Threshold	**250**	**250**	**250**	**250**	**250**	**250**

Operations

Air quality impacts from operations were determined by evaluating the net increase in emissions associated with the addition of 18 F-15SA aircraft at Mountain Home AFB. Operational emissions would primarily be produced by mobile sources. Mobile sources include: 1) aircraft operations on and above the airfield (includes runways, taxi areas, and overlying airspace), 2) vehicle (government-owned vehicles and privately-owned vehicles) operations, and 3) Aerospace Ground Equipment (AGE) used for airfield operations. Stationary sources include (but are not limited to) emissions generated by engine shops, paint booths, and boilers. Emissions from government-owned vehicles were assumed to remain unchanged and therefore would not differ from baseline conditions. This assumption is justified

because no new types or increases in the number of government-owned vehicles would be needed to implement the action.

Once construction reaches completion, operations would commence, with resultant stationary source emissions associated with boilers, emergency generators, and fuel storage, as examples. Operational emissions associated with these sources located in new facilities would be evaluated to determine if they would require inclusion in the installation's Tier I Operating Permit.

Table 4.5-2 presents a summary of annual emissions generated under the proposed action in comparison with baseline conditions. The beddown of 18 F-15SA aircraft at Mountain Home AFB would result in net emission increases for all pollutants when compared to baseline. However, these emissions would remain below the major source threshold. The proposed action would not introduce emissions that would affect regional air quality since no listed pollutants would exceed 250 tons.

Table 4.5-2. Proposed Annual Operational Emissions

Activity	*Pollutants in Tons per Year*						
	CO	*NO_x*	*VOCs*	*SO_x*[1]	*PM_{10}*	*$PM_{2.5}$*	*CO_2e*[2]
Aircraft	91.3	80.4	17.9	34.4	7.8	≤7.8	16,636
Privately-Owned Vehicles	47.6	5.9	3.9	8.2	3.6	≤3.6	4,816
AGE	33.3	1.4	1.6	0.0	0.1	≤0.1	1,492
Engine Run-Ups	25.9	16.8	3.1	0.0	0.9	≤0.9	1,256
Total Emissions due to the Proposed Action	**198.1**	**104.5**	**26.6**	**42.7**	**12.3**	**≤12.3**	**24,199**
Baseline Annual Emissions	448.2	383.6	48.8	132.2	44.5	≤44.5	67,371
Total Annual Emissions (Baseline + Proposed)	**646.3**	**487.5**	**75.4**	**174.9**	**56.8**	**56.8**	**91,570**
Net Change	**198.1**	**104.5**	**26.6**	**42.7**	**12.3**	**≤12.3**	**24,199**
Major Source Threshold	250	250	250	250	250	250	-
GHG Threshold	-	-	-	-	-	-	**25,000**
Net CO_2e Life Cycle Change in metric tons (based on 28-yr lifetime of F-15SA)							**600,632**

Notes:
[1]The emission factor for SO_x is based on the maximum possible sulfur content allowed in JP-8 by the fuel specification MIL-DTL-83133G (April 2010). Use of JP-8 with lower sulfur content directly translates to reductions in SO_x emissions.
[2]CO_2e = carbon dioxide equivalent, is presented in metric tons per year.

Emissions due to operations activities would incrementally increase regional emissions of carbon dioxide (CO_2). The net change in operational emissions exceed the 25,000 metric tons per year threshold for greenhouse gas (GHG) emissions. Lifecycle emissions for the operation of 18 F-15SA aircraft over 28 years are also presented in Table 4.5-2.

Climate Change Adaptation

In addition to assessing the GHG emissions that would come from the proposed action and impact on climate change, the analysis must also assess how climate change might impact the proposed action and mission. It must also identify what adaptation strategies could be developed in response. This is a global issue for DoD. As is clearly outlined in the Quadrennial Defense Review Report of February 2010, the DoD would need to adjust to the impacts of climate change on our facilities and military capabilities. DoD already provides environmental stewardship at hundreds of installations throughout the U.S. and

around the world, working diligently to meet resource efficiency and sustainability goals as set by relevant laws and executive orders. In 2008, the National Intelligence Council judged that more than 30 U.S. military installations would face elevated levels of risk from potentially rising sea levels. DoD's operational readiness hinges on continued access to land, air, and sea training and test space. Consequently, the DoD must complete a comprehensive assessment of all installations to assess the potential impacts of predicted climate change on its missions and adapt as required.

The Quadrennial Defense Review Report goes on to illustrate that DoD would work to foster efforts to assess, adapt to, and mitigate the impacts of climate change. Within the U.S., the DoD would leverage the Strategic Environmental Research and Development Program, a joint effort among DoD, the Department of Energy, and the USEPA, to develop climate change assessment tools.

For Mountain Home AFB, adaptation issues requiring evaluation and consideration could revolve around changes in both winter and summer temperatures, as well as drought and aridity in the Northwest. The U.S. Global Climate Research Program report, *Global Climate Change Impacts in the U.S.* (U.S. Climate Change Program 2009) portrayed the potential impacts of predicted climate change for all regions of the U.S., including Idaho and the Northwest. Predicted increases in average temperatures and longer, hotter summers might require Air Combat Command (ACC) to shift training and maintenance schedules to prevent excessive "wear and tear" on aircraft, equipment, and personnel. However, given the requirement for the F-15SA to deploy worldwide, including Southwest Asia where plus 100° Fahrenheit temperatures are common, such conditions would likely fall within a manageable range for fulfilling the mission. Conversely, shorter winters resulting from the same predicted climate change would reduce currently existing issues with cold weather maintenance and operations. It could also reduce the number of days affected by "unflyable" weather. Overall, however, these estimated changes would not pose a risk to any construction, infrastructure, or operations. While overall warmer temperatures may increase demand for air conditioning and power, no need to adapt infrastructure or facilities would arise at the base. Such climate changes could also alter habitats, including those on base.

Predictions from the report suggest that the Northwest could face droughts, scarcity of water supplies, and wildfire. Reduced availability of freshwater is likely to occur, with implications for the base and communities in the arid region encompassing Mountain Home AFB. Water is essential for maintenance and personnel, so strategies dealing with drought would need to be implemented. With drought, temperature increases, and increased potential for invasive (less fire resistant) species associated with climate change, wildfires are predicted to increase by the report. Surrounded by open and agricultural lands, Mountain Home AFB could be subject to increased wildfires and need to employ strategies and policies to prevent and combat them.

As climate science advances and it better determines if and how human-generated factors may affect climate, the DoD would regularly reevaluate climate change risks and opportunities at the bases in order to develop policies and plans to manage its effects on the operating environment, missions, and facilities. Managing the national security effects of climate change would require DoD to work collaboratively, through a whole-of-government approach, with local, state, and federal agencies.

4.5.1.2 Mountain Home Range Complex and Associated Airspace

Increases in all criteria pollutants are anticipated, as the number of aircraft operating in special use airspace would increase. The criteria pollutant that would have the largest increase is nitrogen oxides (NO_x). However, it is not anticipated that flight operations in special use airspace would affect regional air quality under the proposed action. First, the areas under all airspace units in which the aircraft would operate are in attainment for criteria pollutants; second, over 70 percent of operations would occur above 5,000 feet AGL, and thus take place above the mixing height of 3,000 feet AGL; third, emissions would be transitory and spread out over a large area. Under the proposed action, an overall increase in GHG emissions would also be anticipated.

Overall, increases in emissions due to the proposed action would remain below the major source threshold of 250 tons and the proposed action would not introduce emissions that would affect regional air quality. Regional emissions of GHGs would incrementally increase under the proposed action, but impacts to air quality are anticipated to be negligible. Therefore, no significant impact to air quality would occur under the proposed action.

4.5.2 No-Action Alternative

Under the no-action alternative, no beddown of the RSAF F-15SA Formal Training Unit (FTU) squadron would occur. All airfield, airspace, and range use would reflect conditions applicable to the F-15E and F-15SG operations would continue as they do currently. No changes in personnel would occur and no construction or building renovations would be necessary, therefore no changes in air quality would be expected.

4.6 SOILS AND WATER RESOURCES

The protection of unique geological features, minimization of soil erosion, and siting of facilities away from potential geological hazards are considered when evaluating the potential impacts of an action. Generally, impacts can be avoided or minimized if proper construction techniques, erosion control measures, and structural engineering components are incorporated into project design. This section also analyzes changes in hydrologic and water quality parameters resulting from the implementation of the proposed action.

4.6.1 Proposed Action

Under the proposed action, a total of 14.08 acres of land would potentially be disturbed and a total of 3.85 acres of new impervious surface would be added to the base from the construction on areas that are currently undeveloped. Construction would take place in areas that have been previously disturbed, and would not disrupt any completely undeveloped land. No floodplains occur on-base. As such, geology, topography, and soils would not be adversely impacted by the proposed action. Stormwater impacts to surface water would be minimized using best management practices to prevent any erosion to soils exposed during construction. Therefore, there would be no significant impacts to floodplains, surface water, or to groundwater under the proposed action.

4.6.2 No-Action Alternative

Under the no-action alternative, the proposed construction, increase in operations, and the addition of F-15SA aircraft would not occur at Mountain Home AFB. Baseline soil and water resources, as described in Section 3.6, would remain unchanged. Therefore, no impacts to any Soil and Water Resources would occur due to implementation of the no-action alternative.

4.7 HAZARDOUS MATERIALS AND WASTE

A comparative analysis of existing and proposed hazardous materials and waste management practices was performed to evaluate impacts. For each alternative, the analyses include impacts due to proposed construction activities as well as the proposed operational activities for the 18 RSAF F-15SA aircraft. The analysis considers the magnitude of anticipated increases in hazardous waste generation considering historic levels, existing management practices, and storage capacity. For Environmental Restoration Program (ERP) sites, the methodology compares the proximity of the proposed construction actions to ERP sites and considers construction activities and operational uses of the facilities to determine the impacts to the ERP sites.

4.7.1 Proposed Action

The aircraft inventory of based aircraft at Mountain Home AFB consists of 42 F-15Es operated by 366 FW personnel and 14 F-15SGs operated by the Republic of Singapore Air Force. Under the proposed action, the USAF-lead RSAF would beddown and operate up to 18 F-15SA aircraft and all 56 existing aircraft would continue to operate. Operations would be expected to increase by 34 percent under the proposed action. Additionally, as part of the proposed action, a total of 22 construction, modification, or infrastructure improvement projects directly related to the beddown would be implemented beginning in 2012. Refer to Table 2-8 for a listing of the construction projects that would occur under the proposed action.

Under the proposed action, flare use would increase by 24 percent and chaff use would increase by 40 percent over baseline level, and inert ordnance use would increase by 48 percent over baseline. However, military munitions used for their intended purposes on ranges or collected for further evaluation and recycling are not considered waste per the Military Munitions Rule (40 Code of Federal Regulations [CFR] § 266.202). No hazardous wastes are anticipated to be generated at Saylor Creek Range or Juniper Butte Range as a result of the proposed action. In addition, since the F-15SA would use the same amount and type of ordnance as the existing F-15E/F-15SG fleet, no hazardous wastes would be generated within the MOAs or MTRs under the proposed action. Therefore, impacts from hazardous materials and wastes associated with the MHRC and associated airspace requires no further analysis.

4.7.1.1 Mountain Home AFB and Vicinity

Hazardous Materials

The types of hazardous materials needed for maintenance of the F-15SA would be expected to remain similar to those currently used for maintenance of the F-15E/SG fleet (although the F-15SA uses a battery similar to the F/A-18 aircraft, it would be similar in hazardous materials to others already

processed at Mountain Home AFB); however, the quantity of hazardous materials would be expected to increase proportionately by 34 percent (consistent with the increase in operations) from what is currently used.

The quantity of petroleum substances (e.g., fuels, oils) stored and used during operations would be expected to increase approximately 34 percent from what is currently used to maintain the F-15E/F-15SG fleet. Additionally, it is expected that short-term increases would be realized in terms of the quantity of fuel stored and used during construction activities, because various fuels (e.g., diesel, gasoline) would be required to run earth moving equipment and power tools and to provide electricity and lighting as conditions warrant. Procedures for hazardous material management established for Mountain Home AFB would continue to be followed in future operations associated with the proposed action.

Hazardous Waste

The types of hazardous waste streams generated by F-15SA operations are expected to remain similar to those being generated by the existing F-15E/SG aircraft. However, the quantity of hazardous waste streams generated would be expected to increase by approximately 34 percent, corresponding with the increase in operations from the additional 18 aircraft. This increase in hazardous waste streams would also increase the number of sites at Mountain Home AFB storing, using, and handling hazardous materials. The exact amount of hazardous waste that would be generated as a result of the proposed action is unknown; however, Mountain Home AFB would continue to operate within its large quantity generator hazardous waste permit conditions. In addition, established hazardous waste procedures would continue to be followed during future squadron operations and all construction and renovation that may occur in association with the proposed action. Any new hazardous waste generation or handling areas established as a result of the proposed action would be managed in accordance with the installation Hazardous Waste Management Plan (Mountain Home AFB 2008).

Toxic Substances

Any structures proposed for demolition, addition, or retrofit would be inspected for asbestos-containing materials (ACM) and lead-based paint (LBP) according to established Mountain Home AFB procedures prior to any renovation activities. All ACM would be properly removed and disposed of prior to or during demolition in accordance with 40 CFR 61.40 through 157 and established Mountain Home AFB procedures. All LBP would be managed and disposed of in accordance with Toxic Substance Control Act, OSHA regulations, Idaho requirements regarding site work practices for buildings with LBP, and established Mountain Home AFB procedures. Materials, especially discarded oil products, would be screened for PCB contamination prior to disposal.

Environmental Restoration Program

None of the proposed construction projects occur within the existing ERP sites at Mountain Home AFB (refer to Figures 3.7-1, 3.7-2, and 3.7-3).

However, the proposed construction associated with the washrack (refer to Figure 3.7-3) is within close proximity to the 1940s Skeet Range (TS876). Soils within this area are found to contain polynuclear aromatic hydrocarbons from clay pigeon debris and removal actions for contaminated soils are being programmed. The Aircraft Parts Store is within an area designated as a Potential Soil Contamination Hazard, as regulated under the Mountain Home AFB Consent Order (July 15, 2009) with the Idaho Department of Environmental Quality (DEQ) pursuant to the Idaho Hazardous Waste Management Act of 1983 and the Environmental Protection and Health Act (refer to Figure 3.7-1). The proposed Consolidated Maintenance and Training Facility (CMTF) construction buffer is also located adjacent to Potential Soil Contamination Hazard areas. In accordance with standard operating procedures at Mountain Home AFB, any soil disturbance within these areas will follow the procedures outlined in the Consent Order, including placement of disturbed soils back in the original location or, if soil disposition is required, then soils will be tested for pesticides and disposed of in accordance with Mountain Home AFB procedures. If contaminated media (e.g., soil, groundwater) are encountered during the course of site preparation (e.g., clearing, grading) or site development (e.g., excavation for installation of building footers) for proposed construction activities, work would cease until Mountain Home AFB Program Managers establish an appropriate course of action for the construction project to ensure that federal and state agency notification requirements are met. Also, prior to construction activities, the construction contractors will be notified of the nature and extent of known contamination so that they can inform their employees in advance of on-site activities and take appropriate precautions to protect health and safety, and to prevent the spread of contamination. The construction contractors are responsible for ensuring their workers follow appropriate health and safety requirements. With the implementation of these best management practices and standard operating procedures, there would be no significant impact due to hazardous materials and waste management from the proposed action.

4.7.2 No-Action Alternative

Under the no-action alternative, the proposed beddown of the RSAF squadron, the addition of up to 18 F-15SAs, and associated construction activities would not occur. Existing solid and hazardous materials and wastes conditions (as described in Section 3.7) would remain unchanged; therefore, no impacts associated with hazardous materials and wastes would occur.

4.8 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE/PROTECTION OF CHILDREN

The threshold of significance for socioeconomics consists of a combination of several factors to include the potential to increase or decrease employment opportunities, unusual population growth or reduction, and unusual demands on housing or public services (i.e., schools). Analyses indicate that the proposed action would represent short-term beneficial impact to the region through facility construction and modification expenditures. Longer-term beneficial impacts would be expected throughout the duration of the beddown with the addition of personnel to Mountain Home AFB and the support services and consumable goods required for the mission operations.

Executive Order (EO) 12898, *Environmental Justice*, requires analysis of the potential for federal action to cause disproportionate health and environmental impacts on minority and low-income populations.

In accordance with Air Force guidance on Environmental Justice analysis (USAF 1997), the analysis only needs to be applied to adverse environmental impacts. Based on this guidance, areas with noise levels exceeding 65 dB DNL around airfields or with perceptible changes in noise levels in the airspace are analyzed.

4.8.1 Proposed Action

4.8.1.1 Socioeconomics

Table 4.8-1 provides changes to the base population associated with the RSAF beddown. The baseline numbers reflect 2009 Mountain Home AFB military and civilian personnel and dependent totals. To assess the potential effects of the proposed action on the socioeconomic environment, a multiplier of 1.36 has been applied to calculate authorized dependents for military, civilian/contractor and base support personnel.

Table 4.8-1. Comparison of Baseline and Projected Personnel and Dependents at Mountain Home AFB

	Personnel	***Dependents***	***Total***
Baseline[1]	5,026	5,506	10,532
Proposed Action[2]			
U.S. and RSAF Officers	15	20	35
RSAF Pilot/Weapon Systems Officer (WSO) Students	32	44	76
RSAF Maintenance Trainees	161	0*	161
U.S. Civilians/Contractors	279	379	658
TOTAL Mission Personnel	***487***	***443***	***930***
Base Operating Support Personnel	49	67	116
Change in Baseline	**+536**	**+510**	**+1,046**

Sources:
[1]Mountain Home AFB 2009a
[2]ACC IAS 2011
Note: Multiplier 1.36 is applicable only to personnel authorized under the proposed action
Legend: * dependents would not be authorized

4.8.1.2 Employment and Earnings

The proposed action would result in an increase of 487 active duty military personnel and civilian/contractor positions at Mountain Home AFB in tentatively scheduled in 2014 and extending through 2019. This total is comprised of 287 USAF and U.S. civilian contractor personnel and 200 RSAF personnel.

In 2009, active-duty USAF personnel at Mountain Home AFB earned $49,316 per year on average while civilians averaged $44,742 per year (Mountain Home AFB 2009a). Based on this average, and assuming RSAF salaries would be comparable, military personnel associated with the proposed beddown would generate approximately $10 million in payroll disbursements in the tri-county region; U.S. civilian contractors would generate approximately $12.5 million. This total would represent less than 10 percent of the Mountain Home AFB 2009 payroll.

Based on best available data, the combined expenditures for military construction projects under this beddown proposal would total approximately $123 million in years 2012 to 2014, the years of proposed

construction and modification projects. When averaged and compared to annual procurement expenditures of the base, the construction costs under the proposed action would represent approximately 24 percent of the annual construction/procurement costs generated by the base in 2009. The regional labor force would be able to absorb the short-term direct construction, indirect, and induced jobs as a result of this beddown action.

4.8.1.3 Population

USAF and RSAF military personnel and civilians/contractors at Mountain Home AFB would increase the base population by 487; a 10 percent increase over baseline. Combined with their associated 443 dependents, and factoring in base operating support personnel and their dependents, the total regional population would increase by 1,046, representing an increase of less than 1 percent.

4.8.1.4 Housing

Nearly 50 percent of the military positions under this proposal would be required to reside on-base. Student maintainers would be required to live on base in existing facilities and in the proposed new dormitories. However, RSAF officers and U.S. military would have the option to live -on or off-base, pending availability of on-base housing. U.S. contractors would live off-base. Given the current on-base housing supply combined with the projected construction of a new dormitory to accommodate military personnel under this beddown, the need for off-base housing would be greatly reduced. In addition, the vacancy rate for the City of Mountain Home is about 10 percent (601 vacant housing units). With the availability of off-base rental units in the local area and within the region, the short-term impact to the regional housing market when personnel begin to arrive (tentatively scheduled for 2014) would be negligible.

4.8.1.5 Public Schools

Mountain Home School District (MHSD) 193 is currently filled to approximately 80 percent capacity; the district would be able to accommodate the school-age children of active-duty USAF, RSAF, and civilian/contractor personnel under this beddown proposal. RSAF dependent students would be included in the average daily attendance totals reported for MHSD 193. As such, the schools in MHSD 193 with enrolled RSAF dependent students would be eligible to receive impact aid in accordance with Public Law 111-288, sec. 534.

Overall the proposed action would provide a beneficial impact to the City of Mountain Home and the regional economy. Payroll increases and increases to the regional economy from construction jobs would provide a boost to the local economy. Public schools and housing availability would not be adversely impacted by implementation of the proposed action. Therefore, there would be no significant impacts to socioeconomics from the proposed action.

4.8.1.6 Environmental Justice and Protection of Children

For the proposed action, noise levels of 65 dB DNL or greater were identified (see Section 4.3, Noise). The affected population under these areas was determined using 2000 U.S. Census Bureau census block data to calculate the total affected area in each block to obtain a percentage used to achieve population

estimates under each contour. As with the baseline conditions, no minority or low-income people or off-base schools would be affected by noise greater than 65 dB DNL under the proposed action in the vicinity of Mountain Home AFB. Schools and child care centers on-base that are currently affected by noise levels at 65 dB DNL or above, would continue to be affected at the same noise levels.

In the airspace, noise levels would increase slightly and imperceptibly (no more than 1 dB L_{dnmr}) from baseline due to increased operations. However, noise levels in the Jarbidge North and Owyhee North would reach 65 dB L_{dnmr}. Although it would attain the threshold for Environmental Justice impacts, the noise levels are not expected to disproportionately affect minorities or low-income populations. Overall population density is extremely low under these airspace units, so the potential for minority and low-income populations that exceed proportions from communities of comparison (U.S. Census Bureau 2011b) is negligible. The few communities under the airspace, including the Fort McDermitt Indian Reservation and McDermitt, Nevada, lie in areas affected by lower noise levels of 45 dB L_{dnmr} or less. In other areas of the airspace subject to higher noise levels (Jarbidge North or Owyhee North) outside of the Duck Valley Indian Reservation, no documented minority or low-income clusters occur so these large areas would not have the appropriate populations. The areas of the Duck Valley Indian Reservation would not be disproportionately affected since restrictions on overflights and prohibition of supersonic flight would ensure noise levels remained below the 65 dB DNL threshold. Aircraft noise and its perceived effects would, however, likely remain a major issue for the Duck Valley Indian Reservation.

As presented in Section 4.5, emissions from aircraft operations were evaluated for operations below 3,000 feet AGL. Training in the airspace would occur above 5,000 feet MSL; therefore, no air quality impacts to minority or low-income populations or youth populations would occur. Airspace and ground safety is discussed in Section 4.2. Consequently, no disproportionate or adverse impacts related to environmental justice are anticipated, nor would there be any special health or safety risks to children.

4.8.2 No-Action Alternative

4.8.2.1 Socioeconomics

Under the no-action alternative, the RSAF beddown at Mountain Home AFB would not occur and a $22.5 million increase in payroll expenditures associated with the RSAF squadron beddown that would have added to the local economy would not take place. Construction and procurement expenditures of approximately $123 million, representing roughly 73 percent of the base's 2009 expenditures, would not be realized along with secondary jobs within the civilian economy that would not be created. Additionally, the nearly 10 percent housing vacancy rates within the local community would remain unchanged. The no-action alternative would reduce the potential for positive impacts to the socioeconomic resources and opportunities associated with Mountain Home AFB and the affected counties.

4.8.2.2 Environmental Justice/Protection of Children

Under the no-action alternative, the USAF-lead RSAF beddown at Mountain Home AFB would not occur. There would be no change in existing conditions relating to noise levels, air quality or safety that would

disproportionately affect low income or minority populations. Therefore, no impacts associated with environmental justice or protection of children would occur.

4.9 TRANSPORTATION

Impacts to ground traffic and transportation are assessed with respect to the potential for disruption to or improvement of current circulation patterns, deterioration or improvement of existing levels of service on roadways, and changes in existing levels of transportation. An 11.8 percent increase in traffic volume at a signalized intersection is required to degrade a mid-range Level of Service (LOS) D (V/C ratio of 0.85) to a mid-range E (V/C ratio of 0.95). An 11.8 percent increase in traffic volume that degrades LOS D to E is smaller than all higher LOS increment shifts; any increase in volume that does not fully degrade LOS D to E would not degrade A to B, B to C, or C to D. Therefore, an 11.8 percent increase in road, lane, or intersection traffic volume is a primary criterion indicating the threshold of concern for roadway capacity.

A secondary criterion is used that is derived from potential traffic volume increases resulting in the degradation of LOS C to E, or two full levels. Such a decline is associated with a 26.7 percent increase in traffic volume. This secondary criterion is used to indicate the threshold for roadway capacity.

The assumptions in this analysis are that one morning (a.m. peak hour) and one afternoon (p.m. peak hour) vehicle trip is generated for each new employee, and that the distribution of new traffic to the roadway networks would be proportional to the existing conditions. In addition, it is conservatively assumed that each person would drive one car each day to and from the installation, not taking into consideration carpooling or other forms of alternative transportation, personnel away from the base, or those personnel that live on-base and, therefore, would not access the base during peak hours or add to off-base traffic.

4.9.1 Proposed Action

Construction activities would occur between 2012 and 2014 and would take approximately 2 years to complete, resulting in approximately 474,315 square feet of new construction and additions and alterations. Construction equipment would be driven to proposed construction areas and would be kept on-site for the duration of the respective activity. Construction workers would drive daily in their personal vehicles to and from the construction site. In general, construction traffic would result in increases in the use of on-base roadways during construction activities; however, increases would be temporary and intermittent, occurring only during active construction periods.

Personnel and dependents would increase under the proposed action by 1,046 (536 personnel [487 mission personnel and 49 base operating support personnel] and 510 military dependents), approximately 10 percent when compared to the existing population of 10,532 personnel and dependents currently associated with Mountain Home AFB. Total personnel would increase by 536 personnel, from 5,026 to 5,562, potentially generating up to 536 additional one way vehicle trips to and from the base during morning and evening peak periods. Assuming that each person makes two trips per day, the implementation of the proposed action would add an additional 1072 trips onto the

existing roadway network after the construction phase is complete. The proposed increase in personnel and associated travel demand would potentially increase peak period travel demand by 10.7 percent. However, this increase would not exceed any significance thresholds for roadway capacity.

In addition, under the proposed action, the construction of the Jet Engine Intermediate Maintenance facility would permanently close 14th Avenue due to its siting and to promote the use of 12th Avenue and Alpine Street for access into this portion of Mountain Home AFB (Mountain Home AFB 2011a).

Overall, traffic relating to construction and operations under the proposed action would not change the LOS of access roads and would not exceed any significance thresholds for roadway capacity. Therefore, there would be no significant impacts to transportation due to the proposed action.

4.9.2 No-Action Alternative

Under the no-action alternative, the proposed beddown of the RSAF to Mountain Home AFB would not occur. No personnel increase would take place and no additional increase in traffic would occur. Consequently, implementation of the no-action alternative would have no impact on transportation.

4.10 COMMUNITY AND INFRASTRUCTURE

Impacts are assessed with respect to the potential for disruption or exceeding capacity of utility systems or degradation of existing levels of service. Utility system effects may include disruption, degradation, or improvement of existing levels of service or potential change in demand for energy or potable water. Should based personnel and associated dependents decrease from baseline or remain similar to that under the no-action alternative, then use of community facilities and public services would also be expected to decrease. In circumstances where personnel are expected to increase, multipliers were used for each utility to assess how the increase in personnel would potentially impact the surrounding community. The multipliers are published by the U.S. Geological Survey (USGS) and the U.S. Department of Energy and represent the average per capita use or per household use. Each of the multipliers is stated in the community and infrastructure sections upon use.

For the range of community facilities and public services discussed below, the installation is required to proactively plan for and assess all specific infrastructure and utility requirements and other essential services to ensure that the proposed increase in personnel and their dependents would be accommodated under the proposed action. The installation routinely evaluates community facilities and services to account for fluctuations associated with new units assigned to the installation and the deployment of existing units. In addition, the installation identifies infrastructure or utility needs within the scope of each corresponding project. If particular projects require additional infrastructure or utilities, they are incorporated as a part of that project. This process ensures that any infrastructure or utility deficiencies are identified in the initial planning stages.

4.10.1 Proposed Action

Under the proposed action, there would be an overall increase in the number of personnel and dependents located at Mountain Home AFB, as well as construction of the facilities required to support the beddown of the proposed 18 RSAF F-15SA aircraft. Personnel and dependents would increase under

the proposed action by 1,046 (536 personnel [487 mission personnel and 49 base operating support personnel] and 510 military dependents), approximately 10 percent when compared to the existing population of 10,532 personnel and dependents currently associated with Mountain Home AFB.

Student maintainers would be required to live on-base in existing facilities and in the proposed new dormitories. However, RSAF officers and U.S. military would have the option to live -on or off-base, pending availability of on-base housing. U.S. contractors would live off-base. The increase in personnel and dependents would represent an increase of 3.9 percent for Elmore County (United States Census Bureau 2010 population of 27,038) and subsequently, a 3.9 percent increase in demand for services (U.S. Census Bureau 2011a).

4.10.1.1 Potable Water

Water consumption would be expected to increase under the proposed action as a result of the increase in personnel and it is assumed that population impacts would be incurred on and off base. As described in Section 3.10, Community and Infrastructure, potable water is supplied to both the City of Mountain Home and Mountain Home AFB primarily from the Bruneau Formation Aquifer. According to a 2005 water use report by the USGS, the average total domestic per capita use of potable water in 2005 was 187 gallons per day for the state of Idaho (USGS 2005). Therefore, with an increase of 1,046 personnel and dependents, the maximum additional demand on water supply from the Bruneau Formation Aquifer is estimated to be 197,285 gallons per day (0.19 million gallons per day [mgd]). Though it is understood that 536 additional personnel would work on base during the day, it is assumed that the majority of their consumptive water use would occur at their place of residence.

In addition, water consumption would also be expected to increase as a result of the increase in operations from the additional aircraft at Mountain Home AFB. Mission related water consumption (primarily washing aircraft) would be expected to increase by approximately 34 percent, corresponding to the increase in operations.

According to the Water Resources Sustainability Analysis report for Mountain Home AFB (2010c), the Bruneau Formation aquifer is currently being over-pumped throughout the region and the existing water supply wells will support Mountain Home AFB water needs up to 30 years (Mountain Home AFB 2011b). However, Mountain Home AFB has developed a water management plan for landscape and irrigation in addition to implementing water efficiency Best Management Practices to help address overdrafting of the regional aquifer, including: water metering, irrigation audits, new irrigation telemetry and controls, water efficient landscaping, plumbing fixtures replacement, conversion of industrial wash racks to low volume systems, treated wastewater reuse at the golf course, leak detection surveys, and compliance with EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance.* EO 13514 requires federal facilities to reduce potable water consumption intensity by 2 percent annually through Fiscal Year 2020, or 26 percent by the end of Fiscal Year 2020 relative to the Fiscal Year (FY) 2007 baseline. In addition, the Alternate Water Supply Feasibility Study is currently being conducted to determine if the Snake River can provide potable and non-potable sources of water to augment existing Mountain Home AFB supplies (personal communication, Kendall 2011).

The demand for water (e.g., if used as a Best Management Practice to control dust) could also increase during demolition and construction phases. However, this increase would be temporary and intermittent and would not be expected to impact regional water supply.

4.10.1.2 Wastewater Treatment

Wastewater generation would be expected to increase as a result of the increase in personnel, and it is assumed that population impacts would be realized on- and off-base. According to the USEPA, estimated average per capita wastewater flow typical of residential dwellings is 70 gallons per day (USEPA 2010b). The increase of 1,046 personnel and dependents would result in an increase to the municipal waste water treatment plant of 73,220 gallons per day. The existing City of Mountain Home wastewater treatment system has adequate capacity to accommodate additional growth (personal communication, Sheppard 2010).

4.10.1.3 Electric Power

Demand for electricity would be expected to increase as a result of the increase in personnel, and the building space and facilities to be constructed would require additional electricity. However, any new facilities and additions associated with the proposed action would be implemented with more energy efficient design standards and utility systems than are currently in place. In addition, new construction projects would incorporate Leadership in Energy and Environmental Design and sustainable development concepts to achieve optimum resource efficiency, sustainability, and energy conservation. Therefore, average energy consumption would be expected to remain consistent or decrease compared to energy consumption associated with existing facilities.

According to the U.S. Department of Energy State Energy Consumption Estimates, the average annual electricity consumption for a U.S. residential home in 2008 was 11,040 kilowatt hours (Department of Energy 2010). Assuming each personnel member constitutes one household, an increase in 536 personnel would increase electricity use by approximately 5,917,440 kilowatt hours (5.92 gigawatt-hours) per year.

Construction activity associated with the proposed action would result in some temporary interruption of utility services during construction periods. The demand for energy could increase slightly during demolition and construction phases. The energy supply at the installation and in the region is adequate and would not be affected by this temporary increase in demand.

4.10.1.4 Natural Gas

Natural gas consumption would be expected to increase as a result of the increase in personnel. According to the Energy Information Administration, average residential consumption of natural gas within the U.S. in 2008 was 75,000 cubic feet per household (Energy Information Administration 2010). Assuming each personnel member constitutes one household, an increase in 536 personnel would increase capacity of natural gas use by approximately 40.2 million cubic feet. Though it is understood that 536 additional personnel would work on base during the day, it is assumed that the majority of their consumptive natural gas use would occur at their place of residence.

4.10.1.5 Solid Waste Management

The building space and facilities to be constructed would generate construction and demolition debris requiring landfill disposal. Construction activities would occur between FY 2012 and 2014 and would take approximately 2 years to complete, resulting in approximately 301,161 square feet of new construction and 173,154 square feet of additions and alterations. The estimated pounds of waste generated each year from new construction as described in the *Characterization of Building-Related Construction and Demolition Debris in the United States* (USEPA 1998) is:

(Total square footage of new construction per year) x (4.38 pounds/square foot)[1] = X pounds of debris.

As a result of the proposed action, the new construction (301,161 square feet) would generate 1,319,085 pounds (660 tons) of construction debris requiring landfill disposal. The EPA has not established a generation rate for the renovation or addition of structures. As a result, these units were conservatively evaluated using the higher debris generation rate associated with demolition, 115 pounds/square foot (USEPA 1998). Based upon a square footage of 173,154 square feet of additions and alterations, it is estimated that approximately 19,912,710 pounds (9,956 tons) of debris would result. Therefore, the total amount of construction and demolition debris generated as a result of the proposed action would be 10,616 tons.

The solid waste generated under the proposed action could result in impacts to solid waste management facilities in the area. However, sufficient capacity currently exists within the Simco Road Regional Landfill. Furthermore, compliance with the Mountain Home Solid Waste Management Plan and establishment of waste reduction and recycling programs would help to minimize the increase in overall solid waste generation as a result of the scenarios.

Off-installation contractors completing construction projects would be responsible for disposing of waste generated from construction activities. Contractors are required to comply with federal, state, local, and USAF regulations for the collection and disposal of municipal solid waste from the installation. Much of this material can be recycled or reused, or otherwise diverted from landfills, per the USAF Qualified Recycling Program. All non-recyclable construction and demolition waste would be collected in a dumpster until removal off-site and would be hauled away by the contractor to Simco Road Regional Landfill.

Construction and demolition waste contaminated with hazardous waste, ACM, LBP, or other undesirable components would be removed by licensed contractors and disposed of in a local hazardous waste-permitted landfill in accordance with AFI 32-7042, *Waste Management* (2009), federal, state, and local laws and regulations (see also Section 3.7, Hazardous Materials and Waste).

[1] 4.38 pounds per square foot is an estimate of debris generated during new construction based on sampling studies documented in *Characterization of Building-Related Construction and Demolition Debris in the United States* (USEPA 1998).

Overall, water, electric power, and natural gas consumption would increase under the proposed action, but it would be within the current capacity of all utilities and would not require new generation or distribution systems. Wastewater treatment and solid waste would also increase, but would be well within current capacity. Therefore, there would be no significant impacts to community services and infrastructure due to the proposed action.

4.10.2 No-Action Alternative

Under the no-action alternative, the proposed beddown of the RSAF to Mountain Home AFB would not occur. No personnel increase would take place and no additional increase in use of community services and infrastructure would occur. Consequently, implementation of the no-action alternative would have no impact on potable water, wastewater treatment, electric power, natural gas, and solid waste systems.

4.11 BIOLOGICAL RESOURCES

Analysis of impacts focuses on whether and how proposed activities and changes in airfield operations at the bases and in the associated airspace and ranges could affect terrestrial communities. Potential impacts from the RSAF beddown and use of the associated training ranges and airspace include temporary and permanent impacts associated with the construction and use of facilities, disturbance to wildlife from noise and visual effects associated with aircraft overflight, and ground impacts associated with the use of munitions or countermeasures.

4.11.1 Proposed Action

4.11.1.1 Mountain Home AFB and Vicinity

Vegetation

Removal and potential disturbance of vegetation would be required as part of the proposed action at Mountain Home AFB. The proposed action would potentially disturb 14.08 acres, creating 3.85 acres of new impervious surface. However, all of the area is highly disturbed or previously developed, or consists of landscaped or mowed grassy areas. The ecological value of this habitat is low and is further reduced by persistent disturbance as a result of daily activities. Due to its low habitat value and lack of native plant species, construction impacts to native vegetation would not occur as a result of the proposed action.

The removal of non-native plant communities as a result of any of the scenarios would not reduce the regional population numbers and distribution of common wildlife. The areas proposed for development are primarily disturbed or degraded, and common wildlife would be expected to relocate and utilize comparable habitat types both on and off of Mountain Home AFB.

Wildlife

Annual military operations at Mountain Home AFB are proposed to increase for the proposed action. The proposed action would result in an increase of 11,209 airfield operations, or 34 percent. Increased levels of operations would result in an increased opportunity for bird/wildlife aircraft strikes to occur.

Adherence to the existing, effective best management practices described in the BASH program and Mountain Home AFB INRMP (Mountain Home AFB 2009b) would continue to be followed to minimize the risk of aircraft strikes (see Airspace Management and Safety, Section 4.2) and avoid adverse impacts to migratory birds and wildlife.

Construction noise would be temporary in nature and, therefore, would have minor impacts to terrestrial species. Changes in operational noise are not expected to impact terrestrial species in the area because species on and near the installation are likely accustomed to elevated noise levels associated with aircraft and military operations.

Special Status Species

Impacts to potentially occurring threatened, endangered, or candidate species on Mountain Home AFB would be similar to those described for general wildlife. That is, studies indicate that wildlife species, whether they are common or protected species, already occupying lands exposed to airfield noise are generally not affected by slight to moderate increases in ambient noise levels, as they have already habituated to periodic to frequent loud overflight noise. No federally listed species have been observed on base. As a result there would be no impacts to listed species from implementation of the proposed action.

Three special status species occur on base; burrowing owl, long-billed curlew, and Davis' peppergrass. The burrowing owl has been observed within the proposed construction area (refer to Figure 3.11-1). There are 2.2 acres of known burrowing owl habitat that would be disturbed as part of the proposed action. The burrowing owl is a state protected non-game species and a U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern. As this species is not federally or state listed as endangered or threatened, formal consultation is not required with these agencies. To avoid any negative impacts to the burrowing owl, ground nesting surveys should be conducted prior to any ground disturbance. The nesting season of the burrowing owl occurs approximately between April 1st and July 15th of each year (personal communication, Rudeen 2011). No ground disturbance should take place during this time period. As a result there would be negligible impacts to special status species from implementation of the proposed action.

Annual airfield operations at Mountain Home AFB are projected to increase as a result of the proposed action. Noise from proposed construction and operations is not expected to affect the burrowing owl and long-billed curlew since they are likely accustomed to elevated noise levels associated with current aircraft and military operations.

Wetlands

No jurisdictional wetlands have been observed on Mountain Home AFB (USAF 2004). However, nine small isolated playas are located on the installation. No wetlands occur within any areas designated for construction projects under any of the proposed scenarios. Therefore, construction activities under these scenarios would have no impact on wetlands or freshwater aquatic communities.

4.11.1.2 Mountain Home Range Complex and Associated Airspace

Airspace operations within the airspace would increase from baseline by 32 percent of annual operations in MOAs and an average of 35 percent in MTRs. Section 4.2 (Airspace Management and Safety) established that bird-aircraft strikes are currently rare in the airspace and would not be expected to increase substantially under the proposed action. The F-15SA would fly predominantly above 5,000 feet AGL, which is above where 95 percent of strikes occur. Adherence to the current BASH Plan would further reduce the likelihood of bird strike in training airspace (see Airspace Management and Safety, Section 4.2).

Vegetation

At the ranges, inert ordnance use would increase by 48 percent; however, existing range management procedures and ordnance removal guidelines would be adhered to and vegetation management (including sagebrush) measures prescribed in the Mountain Home AFB INRMP would persist. Mountain AFB would continue to follow mitigation and monitoring efforts (as outlined in Section 4.6 and Appendix 9 of the 2009 INRMP and those that will be outlined in the 2012 INRMP) to ensure preservation of sagebrush habitat from grazing, invasive species, wildfires, and routine maintenance activities (Mountain Home AFB 2009b). No adverse or significant impacts are likely to affect vegetation, including sagebrush.

Within the airspace, the only defensive countermeasure employed by the F-15SA that could potentially impact vegetation is flares. Flare use would increase by 24 percent and occur within the same airspace as currently flown by aircraft based at Mountain Home AFB. However, existing restrictions on the altitude from which flares may be dispensed during low fire risk periods (2,000 feet AGL) and cessation of flare deployment during very high and extreme fire risk would continue and preclude adverse impacts to vegetation.

Wildlife

At the ranges and emitter sites, Mountain Home AFB INRMP and BASH plan (see Safety, section 4.2) management procedures would continue to apply under the proposed action; therefore, no adverse impacts are anticipated to wildlife by aircraft, ordnance deployment, or maintenance activities. Impacts to migratory birds protected under the Migratory Bird Treaty Act would be negligible. Under the proposed action, subsonic noise levels would increase by no more than 1 dB (to 65 L_{dnmr}) in the Owyhee North and Jarbidge North MOAs and remain below 45 L_{dnmr} in all other MOAs (refer to Figure 4.3-2). Noise levels for the MTRs would not perceptibly change and sonic booms would increase by less than 1 per day in the Owyhee North and Jarbidge North MOAs. Based on current bird-aircraft collision information, potential bird-aircraft collisions are expected to remain low and have insignificant impacts to migratory bird populations.

For raptors, in studies on low-altitude jet overflights on nesting peregrine and prairie falcons, Ellis (1981) and Ellis *et al*. (1991) found that responses to frequent jet overflights were often minimal and did not result in reproductive failure. Although falcons were alarmed by the noise stimuli in this study, the

negative responses were brief and they quickly resumed normal activities within a few seconds following an overflight. Flights at less than 500 feet from nests and sonic booms greater than 112 dB were most likely to elicit biologically significant responses (Ellis *et al*. 1991). Lamp (1989) found in a study of the impacts to wildlife of aircraft overflights at Naval Air Station Fallon in northern Nevada, that nesting raptors (golden eagle, bald eagle, prairie falcon, Swainson's hawk, and goshawk) either showed no response to low-level flights (less than 3,000 feet AGL) or only showed minor reactions. The flight levels proposed under this action are predominantly at a much higher altitude than those shown by research to affect raptors nesting. Noise modeling results suggest noise levels would be below 65 L_{dnmr}; well below the 112 dB shown to elicit significant biological responses. No long-term significant impacts are anticipated.

In general, animal responses to aircraft noise appear to be somewhat dependent on, or influenced by, the size, shape, speed, proximity (vertical and horizontal), engine noise, color, and flight profile of planes (USAF 2012a, Appendix C). Some studies showed that animals that had been previously exposed to jet aircraft noise exhibited greater degrees of alarm and disturbance to other objects creating noise, such as boats, people, and objects blowing across the landscape. Other factors influencing response to jet aircraft noise may include wind direction, speed, and local air turbulence; landscape structures (i.e., amount and type of vegetative cover); and, in the case of bird species, whether the animals are in the incubation/nesting phase.

Special Status Species

Impacts to the yellow-billed cuckoo, Columbia spotted frog, and the greater sage grouse would not be adverse due to the minor increases in subsonic and supersonic noise levels (see discussion under wildlife) for the following reasons: 1) the probability of an animal or nest experiencing overflights more than once per day would be low due to the random nature of flight within the airspace and the large area of land overflown; 2) the majority (70 percent) of F-15SA operations would occur above 5,000 feet AGL although existing flights by F-15E/F-15SG aircraft would continue at the current rate and altitude; and 3) supersonic flight would only occur above 10,000 feet AGL in Jarbidge North and Owyhee North, avoiding areas that are currently restricted (i.e., Duck Valley Indian Reservation) and above 30,000 feet MSL in the Paradise North and South, and Jarbidge and Owyhee South ATCAAs.

No wetlands would be affected on lands underlying training airspace or within the ranges.

Overall, impacts to vegetation, wildlife, and special status species would be negligible. No threatened, endangered, or candidate species would be adversely affected by the proposed action. Construction best management practices and conservation measures related to burrowing owls would result in less than significant impacts. Operations in the airspace would be sporadic and impacts to wildlife would be minimal. Therefore, there would be no adverse or significant impacts to biological resources due to the proposed action. Mountain Home would continue to adhere to both their existing INRMP and those developed into the future. The USAF has conducted informal consultation with the USFWS as part of the IICEP process and with the submittal of the draft EA. Comments from the USFWS were considered in the preparation of the final EA and the USFWS has responded that no formal section 7 consultation on

threatened and endangered species is need for this proposal (see Appendix A) and that section 7 consultation was therefore completed.

4.11.2 No-Action Alternative

Under the no-action alternative, the proposed construction, increase in operations, and additional F-15 aircraft would not occur at Mountain Home AFB and personnel would continue to operate out of their current facilities with their current aircraft. Baseline Biological Resources, as described in Section 3.11, would remain unchanged. Therefore, no impacts to any biological resources would occur due to implementation of the no-action alternative.

4.12 CULTURAL RESOURCES

Procedures for assessing adverse effects to cultural resources are discussed in regulations for 36 CFR § 800 of the National Historic Preservation Act (NHPA). An action results in adverse effects to a cultural resource eligible to or listed in the National Register of Historic Places (NRHP) (a historic property) when it alters the resource characteristics that qualify it for inclusion in the Register. Adverse effects are most often a result of physical destruction, damage, or alteration of a resource; alteration of the character of the surrounding environment that contributes to the resource's eligibility; introduction of visual, audible, or atmospheric intrusions out of character with the resource or its setting; and neglect of the resource resulting in its deterioration or destruction; or transfer, lease, or sale of the property. In the case of the proposed action, potential effects to cultural resources could result from ground-disturbing activities associated with construction or demolition of significant structures, modification of significant structures, increased noise levels and vibrations, and visual intrusions from overflights.

For this EA, impacts to cultural resources were evaluated for the Area of Potential Effect. The Area of Potential Effect of an undertaking is defined in 36 CFR § 800.16(d) as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist." The Area of Potential Effect consists of **all** areas of ground disturbance associated with proposed construction or remodeling activities and the modifications to the structures themselves. As the viewshed of the historic buildings has been altered over time by construction of military structures, indirect visual impacts to these structures would be minimal. Impacts to ground disturbance at existing ranges is also not analyzed, as these areas are already disturbed and have existing plans for avoiding impacts to NRHP listed or eligible resources. Therefore, the analysis focused on direct impacts due to construction and renovation. The impact analysis also examined the significance of the structure itself and whether the modification affects the characteristics that make the structure eligible for listing in the NRHP.

For airspace actions, only those cultural resources that would reasonably be affected by visual (overflights) and noise intrusions are considered. These include architectural resources; archaeological resources with standing structures, such as historic ranches, ghost towns, American Indian settlements; and traditional cultural properties. Prehistoric and historic archaeological sites lacking standing structures are not included as they are generally ground surface or even subsurface deposits that would not be affected by the proposed action. Some prehistoric archaeological sites could contain natural

structures such as rockshelters or caves. These structures often house petroglyphs or pictographs, which are etched or painted onto the rock surfaces. However, studies have found that these types of natural formations are not affected any more by noise vibrations, such as sonic booms, than by natural erosion, wind, or seismic activity (Battis 1983).

For areas under the airspace, cultural resources with standing structures that are listed on or eligible for listing on the NRHP or State Registers or were listed as known ghost towns were considered. The USAF recognizes that hundreds of other cultural resources, some documented and some not yet discovered, exist under the airspace. However, aircraft operations are most likely to affect historic structures and districts where setting is an important criterion for significance and where noise vibrations from sonic booms could adversely impact those types of resources. These resources are ones typically found on the NRHP or State Register. Conversely, if NRHP-listed properties are not affected by the project elements, then non-listed resources are unlikely to be affected. In an on-going effort to identify traditional cultural properties, the USAF has consulted with American Indian tribes according to the Presidential Memorandum on Government-to-Government Relations with Native American Tribal Governments, EO 13084, 13075, and DoD Policy on Indian and Native Alaskan Consultation. As part of the Government-to-Government consultation process (DoD Instruction 4710.02, Interaction with Federally Recognized Tribes, September 14, 2006), Mountain Home AFB sent letters to five federally-recognized tribes (Shoshone-Paiute Tribes of the Duck Valley Indian Reservation, Shoshone-Bannock Tribes, Northwestern Band of the Shoshone, Paiute-Shoshone Tribes of the Fort McDermitt Indian Reservation, and Burns Paiute Tribe) requesting initiation of consultation, identification of concerns or information on affects to cultural resources within the proposed project area, and requested a meeting at their tribal offices or at Mountain Home AFB in Idaho. Six Government-to-Government consultation meetings were held between the USAF and the Shoshone-Paiute Tribes on the following dates: November 8, 2010; December 1, 2010; January 18, 2011; March 11, 2011; May 2, 2011; and August 17, 2011. Additionally, on April 20, 2011, representatives from the 366 FW and the ACC visited the Duck Valley Indian Reservation. The tribes were given an advanced review (30 day) copy of the draft EA on March 7, 2012 and no comments were received. All tribes were sent copies of the draft EA for review on April 10, 2012. No formal opposition to the proposed action has been received by any of the tribes (see Appendix A).

4.12.1 Proposed Action

4.12.1.1 Mountain Home AFB and Vicinity

Under the proposed action, renovations and repairs would be made to Buildings 1332, 1361, and 1360, and Building 927 would be expanded. Building 1332 is eligible for listing in the NRHP as part of the Strategic Air Command Nose Dock Historic District. There are five nose dock hangars in the district designed by Peter A. Strobel and Luria Engineering of New York that were under construction at Mountain Home from 1952 to 1954. These buildings are an early iteration of a multipurpose wing hangar and are identical to one another. They share an early mission history during 1955 to 1961. The

historic integrity of the exterior of Building 1332 is high, although the interior was modified in 1986 for use as a paint hangar (USAF 2006a).

The repairs to Building 1332 planned under the proposed action would be made to the interior of the structure. These repairs would not affect the characteristics of the building that qualify it for eligibility for listing in the NHRP, and therefore, these modifications would not be an adverse effect to the structure. Buildings 1360, 1361, and 927 are not eligible for listing in the NRHP. Repairs also would be made to existing dorm Buildings 2412 and 2416 under an option to construction the 216 person dormitory. Neither of these buildings is eligible for listing in the NRHP. Therefore, repairs and modifications to all of these buildings would have no effect on historic properties.

Under the proposed action, Building 1359 would be demolished. As this building is not eligible for listing in the NRHP, demolition of this building would have no impact on historic properties.

New construction (the new consolidated Maintenance and Training Facility, the Fuel station, the Jet Engine Shop and Storage Facility, the Aircraft Fuel Tank Storage, and Dorm Location 2) would take place in areas with no NRHP-eligible buildings. The new Fuel System Maintenance Dock and Squadron Operations/AMU/Simulator would be constructed in the vicinity of NRHP-eligible Building 1330. Proposed Dorm Location 1 is located in the vicinity of NRHP-eligible Buildings 1402, 1403, and 1408. As the new construction would be in keeping with the overall military setting of Mountain Home AFB, it would not affect any historic properties.

Since there are currently no NRHP listed or eligible archaeological sites on Mountain Home AFB, none would be affected under the proposed action. Mountain Home AFB has established a Programmatic Agreement (signed 2009) with the Idaho State Historic Preservation Office (SHPO) in lieu of Section 106 consultation on projects not adversely effecting historic properties. In accordance with the Programmatic Agreement, Section 106 consultation for this action would be complete. If any unanticipated archaeological materials were discovered during construction, then procedures stipulated under the Programmatic Agreement (Mountain Home AFB 2010d) would be implemented.

4.12.1.2 Mountain Home Range Complex and Associated Airspace

There would be no adverse impacts to cultural resources due to the implementation of the proposed action. Aircraft operations in the airspace would increase 32 percent under the proposed action. These changes would be a continuation of existing operations within the area and would not result in a change in setting (either visual or auditory) to any eligible or listed archaeological, architectural, or traditional cultural property.

Supersonic operations are permitted in Owyhee North and Jarbidge North MOAs at altitudes above 10,000 feet MSL. The USAF anticipates that approximately 4 percent of the time spent in air combat maneuvers of the F-15E/F-15SGs involves supersonic flight; the F-15SAs would fly supersonic at the same rate. Supersonic flight would continue to be performed under current restrictions, including avoiding the portions of the MOAs overlying the Duck Valley Indian Reservation.

Under this proposal, noise level increases would be imperceptible in airspace associated with Mountain Home AFB. Sonic booms would increase by approximately one every three days under the proposed action. Additional sonic booms would not result in damage to ghost towns or historic structures since overpressures would not exceed 1.9 psf. Impacts to structures are minimal at this level (Battis 1988, Haber and Nakaki 1989).

Mountain Home AFB initiated Section 106 consultation with the Nevada and Oregon SHPOs on this action. Both SHPOs concurred that no historic properties (i.e., eligible for or listed on the NRHP) would be affected. The proposed action under this EA would involve similar activities with similar subsonic and supersonic noise levels, and therefore both SHPOs concurred with a determination of no effect. Consultation with the Idaho SHPO is covered under the Programmatic Agreement they have with Mountain Home AFB; therefore, the Section 106 consultations are complete.

Although American Indian traditional resources are known to underlie the airspace, no specific concerns relating to the proposed action and traditional resources were expressed during the consultation process.

No ground disturbance would occur under the airspace due to the proposed action. Use of defensive countermeasures would occur in areas already used for these activities. Use of ranges would be the same as activities authorized and currently occurring at the ranges (Saylor Creek, Juniper Butte, Utah Test and Training Range). Provisions set forth in the Programmatic Agreement (2010d) between the 366 FW and the Idaho SHPO would be adhered to under the proposed action.

Overall, construction and modification under the proposed action at Mountain Home AFB would not affect historic properties. Operations in the airspace would not adversely impact the visual setting or the integrity of historic properties. Therefore, no significant impacts would result to cultural resources under the proposed action.

4.12.2 No-Action Alternative

Under the no-action alternative, the RSAF F-15SA beddown at Mountain Home AFB would not occur. There would be no change to baseline conditions; therefore, adverse impacts to cultural resources on the base or in the MHRC are not expected to occur.

CHAPTER 5

CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.0 CUMULATIVE EFFECTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

5.1 CUMULATIVE EFFECTS

Council of Environmental Quality (CEQ) regulations stipulate that the cumulative effects analysis within an environmental document should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 Code of Federal Regulations [CFR] 1508.7). Recent CEQ guidance in *Considering Cumulative Effects* affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the proposed action. The scope must consider other projects that coincide with the location and timetable of this alternative. It must also evaluate the nature of interactions among these actions.

In this section, an effort has been made to identify past and present actions in the region and those reasonably foreseeable actions that are in the planning phase at this time. Actions that have a potential to interact with the proposed action are included in this cumulative analysis. This approach enables decision-makers to have the most current information available so that they can evaluate the environmental consequences of the beddown of the Royal Saudi Air Force (RSAF) F-15SA aircraft at Mountain Home Air Force Base (AFB) and training in associated airspace.

Mountain Home AFB is an active military installation that undergoes changes in mission and in training requirements in response to defense policies, current threats, and tactical and technological advances. The base, like any other major institution (e.g., university, industrial complex), requires new construction, facility improvements, infrastructure upgrades, and maintenance and repairs. In addition, tenant organizations may occupy portions of the base, conduct aircraft operations, and maintain facilities. All of these actions (i.e., mission changes, facility improvements, and tenant use) will continue to occur before, during, and after the proposed action is implemented, regardless of which alternative is selected.

Past and Present Actions Relevant to the Proposed Action

Mountain Home AFB has been a military installation since 1942. During this time, it has grown, been developed, and supported numerous kinds of aircraft. Past actions most relevant to assessment of the beddown of F-15SAs started in 1992. To support rapid deployment of a major force to trouble spots around the world, the USAF relocated the 366th Wing (366 WG) to Mountain Home AFB. A new concept for peace-time basing, the 366 WG consisted of F-16, F-15C, F-15E, and KC-135 aircraft that trained and fought together as a unit. Establishment of the 366 WG involved construction and modification of facilities on base, as well as addition of personnel. The 366 WG also increased operations in all of the Military Operations Areas (MOAs) associated with Mountain Home AFB to about 24,000 annually.

In 1996, the USAF relocated the 34th Bomber Squadron and seven B-1B aircraft to Mountain Home AFB as part of the 366 WG. Associated with this addition, 573 personnel were added at the base and a total of $43 million dollars was spent for facility and infrastructure construction.

In 1998, the USAF established the 12,000-acre Juniper Butte Range southeast of Mountain Home AFB (USAF 1998a). This range, located within the Jarbidge North MOA, enhanced the training capabilities of the 366 WG by providing increased realism, flexibility, and quality in training. Use of this range did not alter activities at the base, but did increase total operations in the reconfigured airspace to about 26,500 annually.

In 2002, the USAF implemented force structure changes consisting of drawdowns of seven B-1 and six KC-135 aircraft and a beddown of six F-15E aircraft at Mountain Home AFB and the 366th Wing became the 366th Fighter Wing (366 FW). These actions reduced operations at the airfield, operations in the airspace, and personnel at the base. As a result, noise levels decreased at the airfield and in the airspace, air emissions decreased, fewer low-altitude flights occurred, the general potential for impacts declined.

The 2005 Department of Defense (DoD) Base Realignment and Closure Commission (BRAC) recommended realignment of aircraft for Mountain Home AFB. The final BRAC recommendations called for a departure of all Mountain Home AFB F-16 aircraft (18), loss of all F-15C aircraft (18), and a gain of 18 F-15E aircraft at the base. This action reduced the total inventory of aircraft from 60 to 42.

In 2007, the USAF proposed to beddown a Republic of Singapore Air Force squadron of F-15SG aircraft at Mountain Home AFB. Under this action, the Republic of Singapore Air Force squadron of 10 F-15SG aircraft would be co-located with Mountain Home AFB F-15E aircraft for training support and flight operations with similar aircraft. This action and a proposal to add an additional four F-15SG aircraft in 2009 increased the total aircraft inventory at Mountain Home AFB to 56.

Recent changes in the Mountain Home Range Complex (MHRC) airspace include the Paradise MOA Expansion, which extended the eastern boundary of the Paradise MOA in Nevada and Oregon to the east, and lowered the floor altitude from 14,500 feet MSL to 10,000 feet MSL or 3,000 feet AGL, whichever is higher. These changes provide additional high-altitude Air Traffic Control Assigned Airspace (ATCAA) airspace and lower altitude MOA airspace over prior airspace configurations. Overall, expansion of the ATCAAs atop the laterally extended MOAs provides substantially more training airspace for aircraft between 18,000 and 50,000 feet mean sea level (MSL).

In combination and sequence, these past actions created the current operational and environmental conditions for Mountain Home AFB and its associated training airspace. Despite the establishment of Juniper Butte Range, the general trend reflected reduced aircraft operations, lower noise and emission levels, and less potential for environmental consequences.

Incremental Impacts of the Proposed Action with Reasonably Foreseeable Future Actions

During the timeframe (2012 to 2014) for RSAF facility construction, Mountain Home AFB has proposed a number of actions that are independent of the proposed action and would be implemented irrespective of a decision on the proposed RSAF beddown. These projects could have cumulative impacts on resources within the affected environment. These projects, planned for 2010 through 2013 include those listed in Table 5-1. Other on-going maintenance and repair activities are also likely to occur at the base during this period. Affected areas for these projects total 82.82 acres with 40.20 acres of new impervious surface. All of these projects would occur in areas that have already been developed.

Table 5-1. Current and Reasonably Foreseeable Actions at Mountain Home AFB

Project Name/Description	*Approximate Affected Area (acres)*	*New Impervious Surface (acres)*	*Anticipated Year for Implementation*
B2610 Asphalt Demolition	1.57	0	2010
B2610 Asphalt Construction	0.54	.54	2010
RV/Impound Lot	4.31	4.31	2010
Repair Pavement Around Hangar 205, Pavement Demolition	0.36	0	2010
Repair Aardvark Avenue, Pavement Demolition	3.61	0	2010
Repair Aardvark Avenue, New Pavement	3.61	3.61	2010
Repair B Ramp, Pavement Demolition	1.20	0	2010
Repair B Ramp, New Pavement	1.20	1.20	2010
Repair Liberator Street, Pavement Demolition	9.19	0	2010
Repair Liberator Street, New Pavement	10.27	10.27	2010
Construct Fire Alarm Training Area, New Pavement	4.62	4.62	2010
Demolition of Building 1325	2.63	0	2010
Demolition of Building 1506	0.36	0	2010
Site Pavement Demolition	0.26	0	2011
B1289 Pavement Demolition	0.29	0	2011
New EOD Unit Pavement	0.36	0.36	2011
Demolition B1205 Pavement Demolition	0.14	0	2011
B1211 Pavement Demolition	0.29	0	2011
Repair B1013 Pavement Demolition	0.70	0	2011
Repair B1013 New Pavement	0.70	0.70	2011
Repair B Ramp, Pavement Demolition	2.50	0	2011
Repair B Ramp, New Pavement	2.50	2.50	2011
Realign Perimeter Road, Pavement Demolition	0.66	0	2011
Realign Perimeter Road, New Pavement	0.66	0.66	2011
Repair Parking Lot, Facility 2610, Pavement Demolition	7.11	0	2011
Repair Parking Lot, Facility 2610, New Pavement	6.72	6.72	2011
Sitework Pavement	1.45	1.45	2012
POV Parking	1.28	1.28	2012
Loading Dock	1.23	1.23	2012
B1211 Pavement Demolition	0.29	0	2012
B1212 Pavement Demolition	0.26	0	2012
B1325 Pavement Demolition	2.07	0	2012
Construct Civil Engineering Contractor Yard (gravel)	0.20	0	2012
Repair Taxiway A, Pavement Demolition	0.41	0	2012
Repair Taxiway A, New Pavement	0.41	0.41	2012
Aircraft Shelter (54 shelters)	0	0	2012
Flightline Demolition of Buildings 1229, 1212, and 1224	1.89	0	2012
Renovate Building 1335	0.32	0	2012
Repair Pod Storage, Building 213	0.14	0	2012

Table 5-1. Current and Reasonably Foreseeable Actions at Mountain Home AFB (con't)			
Project Name/Description	***Approximate Affected Area (acres)***	***New Impervious Surface (acres)***	***Anticipated Year for Implementation***
Repair Building 196	0.69	0	2012
Construct Expeditionary Deployment Center	2.95	0	2013
Repair Maintenance Fabrication Shop, Building 1225	0.83	0.34	2013
Renovate Building 1222 for Flightline Dining Facility	0.09	0	2013
Demolition of CE Warehouses (Facilities 1207, 1208, and 1209)	0.70	0	2013
Demolition of Building 1300	0.66	0	2013
Demolition of Building 1301	0.15	0	2013
Demolition of Building 1354	0.17	0	2013
Demolition of Building 1352	0.12	0	2013
Demolition of Building 1351	0.15	0	2013
Total	**82.82**	**40.20**	**-**

Mountain Home AFB is also in the process of privatizing Military Family Housing (USAF 2011). Under this action, Mountain Home AFB would execute agreements with the a private developer to convey real property, lease land, and have the private owner assume responsibility to operate a rental housing development for the benefit of USAF and other personnel. A total of 359 housing units would be demolished and 263 new units constructed over a six year period. Adverse impacts due to the action to air quality, noise, water, biological resources, and hazardous materials and waste would be short-term and minor. Impervious surface would decrease under the action. Given the short-term and minor impacts to the environment, this action in combination with the construction associated with the USAF-lead RSAF F-15SA beddown would not be a significant adverse impact.

While Mountain Home is a growing city, no reasonably foreseeable actions are planned within the area potentially affected by RSAF beddown. Elmore County controls development and land use in the vicinity of the base to prevent encroachment.

Two additional proposed actions are undergoing National Environmental Policy Act (NEPA) analysis and documentation; however, no decisions have been made to date. These proposals include the beddown of the F-35A operational squadrons at Hill AFB, Utah, which includes Mountain Home AFB as one of the four basing alternatives in addition to Hill AFB, the preferred alternative (USAF 2012a). An additional action is the proposed beddown of F-35A training squadrons at Luke AFB, Arizona, which includes Boise Air Terminal Air Guard Station (AGS) as one of the three alternatives in addition to Luke AFB, the preferred alternative (USAF 2012b).

- For the F-35A Training proposal, Boise Air Terminal AGS could receive up to 72 additional F-35A aircraft, if it were to be selected over Luke AFB, the preferred alternative, and over the other reasonable alternative – Holloman AFB, New Mexico and Tucson International Airport AGS.
- Under the F-35A beddown proposal, up to 72 additional aircraft and 1,755 additional personnel could be placed at Mountain Home AFB, if it would be selected over Hill AFB, the preferred alternative, and over the other reasonable alternatives – Shaw AFB, McEntire Joint National Guard Base, Burlington International Airport AGS, and Jacksonville AGS. Construction along the flightline at Mountain Home AFB would affect up to 11.39 acres and add up to 2.81 acres of new impervious surface, and increased use of the training airspace would occur.

- If both the Boise Air Terminal AGS and Mountain Home AFB were chosen over the preferred alternatives and other reasonable alternatives for F-35A aircraft basing, the F-35As would use the MHRC airspace. In addition, F-35As from the Idaho ANG could conduct some airfield training at Mountain Home AFB.

Analysis of Cumulative Effects

The following analysis considers how the impacts of these other actions might affect or be affected by those resulting from the proposed action at Mountain Home AFB and whether such a relationship would result in potentially substantial or consequential additive impacts not identified when the proposed action is considered alone.

Past establishment of the 366 WG, realignment to become the 366 FW, Juniper Butte Range, and the expansion and contraction of the aircraft inventory are integrated into baseline conditions and analyzed under the no-action alternative. Additionally, all aircraft operations are incorporated and analyzed in the relevant resource categories for the proposed F-35A beddown alternatives for Boise Air Terminal AGS and Mountain Home AFB, even though they are deemed to be speculative for the foreseeable future. As such, the analysis of impacts in this section also addresses the cumulative effects of these past, present, and reasonably foreseeable USAF actions, including the potential F-35A alternatives that are considered speculative at this time.

Although some of these actions are undergoing separate environmental analyses, none of the future on-base construction actions would be expected to result in more than negligible impacts individually or cumulatively. All actions affect previously developed, and therefore, disturbed areas, and the magnitude of the actions is minimal. Short-duration, temporary increases in localized noise and air emissions from construction and related vehicles, as well as a minor but temporary increase in on-base traffic would be expected. These effects would generally overlap with those from F-15SA proposed construction. Any conflicts in the locations of construction projects would be resolved by relocating projects to other nearby disturbed (previously developed) areas. Current procedures on avoiding sensitive species and ERP sites would be implemented. Therefore, no adverse impacts would occur due to cumulative construction projects. Given that the proposed F-15SA construction would likewise have a minimal effect on noise, air quality, and traffic, the combined impacts of these actions would remain well below the threshold of significance for all resources.

Two other actions although not reasonable foreseeable at this time, Air Education and Training Command's F-35A Training proposal and the ACC's proposed F-35A operational beddown (USAF 2012a, 2011b), could have a cumulative impact on the environment. However, these impacts are speculative because they would only occur, if either Boise Air Terminal AGS and Mountain Home AFB, or both, were to be selected over the preferred alternatives of Luke AFB and Hill AFB, respectively, as well as selected over the other reasonable alternatives being analyzed.

AETC F-35A Training Beddown

If the Boise Air Terminal AGS were to be selected over the preferred and other reasonable alternatives under the AETC's F-35A training proposal, the F-35As from the Idaho ANG could conduct up to 21,272 annual operations at Mountain Home AFB, particularly pattern work and low approaches and departures. No construction at Mountain Home AFB would be associated with the F-35A training proposal; however, they would use the MHRC airspace for training. The addition of both the Saudi F-15SA airfield operations (11,209) plus the F-35A training addition of 21,272 operations, would add an additional 32,481 airfield operations, a 98 percent increase over baseline conditions. Additional operations would greatly expand noise levels outside of Mountain Home AFB. As under the proposed action alone, open and agricultural lands tend to dominate in the areas around the base and only limited residences and population would be affected. These affected populations do not belong to either minority (including American Indians) or low income groups. The increase in airfield operations would not adversely affect safety. Current airfield scheduling procedures prevent conflicts in the use of the airfield and airspace and these procedures would continue if both actions were to occur. The airfield is not in a nonattainment area for any pollutants, although combined operations could substantially increase local air emissions at the airfield.

If the RSAF beddown and the F-35A beddown at Boise Air Terminal AGS both were to take place, the maximum combined subsonic noise levels in Jarbidge North and Owyhee North would be 68 dB Onset Rate-Adjusted Monthly Day-Night Average Sound Level (L_{dnmr}) and 67 dB L_{dnmr}, respectively. The maximum combined subsonic noise level in Saddle would be 53 dB L_{dnmr}, and the maximum combined subsonic noise levels in Jarbidge South, Paradise North and South, and Owyhee South would remain at or below 45 dB L_{dnmr}. Subsonic noise would increase from 3 to 9 dB over current levels and would be perceptible to local populations; however, noise levels in most of the airspace units would be very low. Few people would be affected by the increase in noise in general as population is low in these areas. Increase in noise would not affect the Duck Valley Indian Reservation under Owyhee North as aircraft do not fly within 5 miles of Owyhee, Nevada and voluntarily do not fly below 15,000 feet above ground level (AGL) over the reservation.

Cumulative noise levels from supersonic activity in the airspace would increase by 1 dB C-weighted DNL (CDNL) in Owyhee North and 2 dB CDNL in Jarbidge North. Sonic booms per day would increase by 24 booms per month (or about 1 per day) in Owyhee North and by 26 booms per month (or about 1 per day) in Jarbidge North. These increases would not be perceptible.

However, this result is speculative given the fact that Luke AFB is the preferred alternative based on a number of relevant factors and the fact that several other alternatives are also being considered for the F-35A training beddown. A Draft Environmental Impact Statement (EIS) is being prepared for that proposed action, and the comparative cumulative impacts for the preferred alternative, Luke AFB, and all of the other reasonable alternatives, including Boise Air Terminal AGS, will be available for the public's and the decision maker's consideration. The Draft EIS is currently projected to be published in

the latter part of 2012 for public review and comment, and a decision is not expected until sometime in early 2013.

F-35A Operational Beddown

If the F-35A OB at Mountain Home AFB were to be selected over the preferred and other reasonable alternatives in combination with the RSAF F-15SA beddown, there would be substantial increases in the number of aircraft based at Mountain Home AFB, in airfield and airspace operations, and in personnel and construction. Eighteen F-15SA aircraft would be brought to Mountain Home AFB for the use of the RSAF, and if ACC Scenario 3 were implemented under the F-35A Operational Basing proposal, another 72 aircraft could be introduced, making 90 additional based aircraft for a total of 146, an increase of 143 percent over the no action. Issues related to adequate ramp space for aircraft and security along the flightline could occur if both actions were to take place. However, this result is speculative given the fact that Hill AFB is the preferred alternative based on a number of relevant factors and the fact that several other alternatives are also being considered for the F-35A operational beddown. A Draft EIS is being prepared for that proposed action, and the comparative cumulative impacts for the preferred alternative, Hill AFB, and all of the other reasonable alternatives, including Mountain Home AFB, will be available for the public's and the decision maker's consideration. The Draft EIS is currently projected to be published in the latter part of 2012 for public review and comment, and a decision is not expected until sometime in early 2013. However, cumulative impacts due to additional airspace operations from basing the F-35 aircraft in combination with the basing of the RSAF aircraft at Mountain Home AFB have been included in the analysis as discussed above.

Construction under ACC Scenario 3 would affect 11 acres, while the RSAF would affect 14 acres along the flightline. However, under both proposals the area would be previously disturbed and no impacts to undisturbed soils would occur. Given that the proposed F-35A construction and the RSAF construction would have a minimal effect on noise, air quality, and traffic, the combined impacts of these actions would remain well below the threshold of significance for all resources. Construction of facilities for both actions would infuse over $177 million into the economy.

Personnel would increase by 2,242, or by 45 percent. However, neither action separately or together would negatively impact on-base or off-base housing, or community and infrastructure, since local services can adequately accommodate this number.

If both these actions were to occur, the number of operations performed at the airfield would increase by 32,481 annually, an increase of nearly 100 percent. Addition of these many operations would expand the area affected by 65 dB DNL or greater. As under the proposed action alone, open and agricultural lands tend to dominate in the areas around the base and only limited residences and population would be affected. These affected populations do not belong to either minority (including American Indians) or low income groups. The increase in airfield operations would not adversely affect safety. Current airfield scheduling procedures prevent conflicts in the use of the airfield and airspace and these procedures would continue if both actions were to occur at Mountain Home AFB.

With the addition of operational F-35As at Mountain Home AFB (up to 72 aircraft) and F-15SA aircraft, total training operations by the USAF in the MHRC and associated airspace would increase by approximately 29,215 annually (increasing 87 percent compared to the no action), assuming that Mountain Home AFB were selected over the preferred alternative and other reasonable alternatives for the F-35A operational beddown. In general, F-35A squadrons would generally use higher altitudes (above 23,000 feet MSL) when compared to the F-15SA aircraft.

For subsonic noise, the maximum combined noise levels in the Jarbidge North and Owyhee North airspace would be 68 L_{dnmr}. All other noise levels would be less than 65 L_{dnmr} (from 46 to 48 L_{dnmr}). The noise increase of 4 to 5 dB would be perceptible under Jarbidge North and Owyhee North; however, although perceptible, noise levels in all other airspaces would be very low. Few people would be affected by the increase in noise in general as population is low in these areas. Increase in noise would not affect the Duck Valley Indian Reservation under Owyhee North as aircraft do not fly within 5 miles of Owyhee, Nevada and voluntarily do not fly below 15,000 feet AGL over the reservation.

Supersonic noise levels in the airspace in Jarbidge North and Owyhee North would increase by 4 to 5 dB. As with subsonic noise, the increase would be perceptible, however, few people would be affected. No change would occur to noise on the Duck Valley Indian Reservation.

In Jarbidge North under ACC Scenario 3 combined with the RSAF proposal, the number of sonic booms would increase, on average, by 40 booms per month, or about 91 percent over no action. In Owyhee North, booms would, on average, increase by 39 per month, or about 87 percent over no action. These changes in the number of booms would be perceptible and likely cause annoyance in people underlying the airspace. No supersonic operations are permitted over the Duck Valley Indian Reservation at any time; therefore, there would be no increase in sonic booms with both proposals at the reservation. However, this result is speculative given the fact that Hill AFB is the preferred alternative, and the fact that several other alternatives are also being considered for the F-35A operational beddown.

Cumulative for All Actions

In the unlikely event that the RSAF beddown, the F-35A operational beddown at Mountain Home AFB, and the AETC F-35A training proposal were to all take place, airfield operations would increase 197 percent (an increase of 64,482 operations) above no action levels to a total of 97,094 operations. Noise levels at the airfield and surrounding areas under all actions would be similar to levels with the AETC F-35A training operations and ACC F-35A operational beddown operations combined. As discussed above, since open and agricultural lands tend to dominate in the area around the base, only limited residences and population would be affected. These affected populations do not belong to either minority (including American Indians) or low income groups. This large increase in airfield operations would not adversely affect safety, although scheduling all aircraft at the airfield may be difficult. Current airfield scheduling procedures prevent conflicts in the use of the airfield and airspace and these procedures would continue if all actions were to occur at Mountain Home AFB.

With the addition of operational F-35As at Mountain Home AFB (up to 72 aircraft), training F-35A aircraft from the Boise Air Terminal AGS (72 aircraft), and 18 F-15SA aircraft, total training operations by

the USAF would increase by approximately 42,000 (increasing 126 percent compared to the no action). Conflicts in scheduling of airspace use and increased noise in the lands under the airspace could also result.

Under all actions, the maximum combined subsonic noise levels in Jarbidge North and Owyhee North would be 69 dB L_{dnmr} and 68 dB L_{dnmr}, respectively. The maximum combined noise level in Saddle and Paradise North and South would be 53 dB L_{dnmr} and 46 dB L_{dnmr}, respectively, and the maximum combined noise level in Jarbidge South and Owyhee South would remain at or below 46 dB L_{dnmr}. These levels would produce perceptible changes from baseline conditions. Few people would be affected by the increase in noise in general as population is low in these areas. However, increase in noise would not affect the Duck Valley Indian Reservation under Owyhee North as aircraft do not fly within 5 miles of Owyhee, Nevada and voluntarily do not fly below 15,000 feet AGL over the reservation.

Cumulative noise levels from supersonic activity in the airspace would increase by 4 dB CDNL in Owyhee North and by 5 dB CDNL in Jarbidge North. Sonic booms per day would increase by 167 percent beneath Owyhee North MOA (approximately 3 per day) and by 180 percent (3.6 per day) in Jarbidge North. These changes in the number of booms would be perceptible and likely cause annoyance in people underlying the airspace. No supersonic operations are permitted over the Duck Valley Indian Reservation at any time; therefore, there would be no increase in sonic booms or supersonic noise.

Overall, these changes in the noise levels would be perceptible. Coordination with affected communities and jurisdictions on potential avoidance procedures could provide some reduction in impacts for selected locations but would not tend to reduce noise to quiet levels. Capacity of various MOAs to support combined operations safely may require further consideration. Higher levels of activity could add to the workload of air traffic controllers and generate a need for additional airspace management personnel. However, this result is speculative given the fact that Luke AFB and Hill AFB are the preferred alternatives based on a number of relevant factors, and the fact that several other additional alternatives are also being considered for the F-35A training and operational beddowns. Draft EISs are being prepared for those proposed actions, and the comparative cumulative impacts for the all of the alternatives, including the cumulative impacts of the RSAF beddown along with the Mountain Home AFB and Boise Air Terminal AGS F-35A alternatives, will be available for the public's and the decision maker's consideration. The F-35A operational and training Draft EISs are currently projected to be published in the latter part of 2012 for public review and comment, and a decision is not expected until sometime in early 2013.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irreversible effects at Mountain Home AFB are associated with construction impacts.

For Mountain Home AFB, most resource commitments are neither irreversible nor irretrievable. Most impacts are short-term and temporary, such as air emissions from construction, or longer lasting, but negligible (e.g., air emissions from mobile sources).

Under the proposed action, construction and renovation of base facilities would occur on up to approximately 15.5 acres of land previously disturbed and would consume limited amounts of material typically associated with paving, and interior renovations (wiring, insulation, windows, drywall) and exterior construction (concrete, steel, sand, brick). An undetermined amount of energy to conduct renovation, construction, and operation of these facilities would be expended and irreversibly lost. Demolition and renovations would generate minimal construction debris that would consume landfill space.

These construction and ground-disturbing activities would occur on previously disturbed lands and would not adversely impact wetlands or terrestrial communities. Irretrievable resource commitments are, therefore, confined to buildings and infrastructure associated with construction.

Training operations would involve consumption of nonrenewable resources, such as gasoline used in vehicles and jet fuel used in aircraft. Use of training ordnance would involve commitment of chemicals and other materials. None of these activities would be expected to substantially affect environmental resources.

CHAPTER 6

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6.0 REFERENCES CITED

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CHAPTER 7

PERSONS AND AGENCIES CONTACTED

7.0 PERSONS AND AGENCIES CONTACTED

Baerman, Paul. 2011. HB&A.

Cartagena, Brent. 2011. USAF HQ ACC/A5BA.

Creasey, Del. 2011. USAF HQ ACC/A5BG.

Czech, Joseph. 2011. Wyle Laboratories.

Downing, Micah. 2011. Blue Ridge Research Consulting.

Gendreau, Robert J. 2010. ACC, Langley AFB, Virginia.

Giles, Trace. 2011. Public Affairs Chief, USAF 366th PA. Mountain Home AFB, Idaho.

Gross, Sue. 2011. City of Mountain Home, Idaho.

Henderson, Bonnie. 2011. Mountain Home School District 193. Mountain Home, Idaho.

Hedrick Sr., Richard C. 2011. Chief, Program Development, 366 CES/CEPD, Mountain Home AFB, Idaho.

Kendall, Thomas. 2011. ACC 366 CES/CEAN. Mountain Home AFB, Idaho.

Mayberry, Scott. 2011. USAF ACC 366 CES/CEP. Mountain Home AFB, Idaho.

Ogborn, Cliff. 2011. Mountain Home School District 193. Mountain Home, Idaho.

Owen, Carneal. 2011. USAF HQ ACC/A7PF.

Richey, Bill (Col. Ret.). 2011. Special Assistant Military Affairs. State of Idaho.

Robertson, Sheri. 2011. Civ USAF ACC 366 CES/CEAN. Mountain Home AFB, Idaho.

Roller, R. 2011. 366 CES/CEAN. Mountain Home AFB, Idaho.

Rudeen, Carl. 2011. USAF ACC 366 CES/CEAN. Mountain Home AFB, Idaho.

Scheuch, Richard. 2011. USAF ACC 366 CES/CEPD. Mountain Home AFB, Idaho.

Schmidt, Byron. 2011. USAF ACC 366 OSS/OSOA. Mountain Home AFB, Idaho.

Sheppard, Wayne. 2011. City of Mountain Home Public Services Director. Mountain Home, Idaho.

Zeller, Jeffrey. 2011. USAF ACC ACC/IAS.

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CHAPTER 8

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8.0 LIST OF PREPARERS AND CONTRIBUTORS

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Christina Cummings, *Production Coordinator*
A.A.S., Administrative Office Technology, Boise State University, 1999
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B.S., English, Central Michigan University, 1980
M.A., Human Resources Development, Webster University, 1985
Years of Experience: 15

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B.S. Biology, James Madison University, 2009
Years of Experience: 2

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B.A., Anthropology, Pomona College, 1975
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Susan Ratliff, *Technical Editor*
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B.A., Anthropology, Florida State University, 1975
M.A., Anthropology, Southern Illinois University, 1981
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Tamara Shapiro, *Land Use, Recreation, and Visual Resources*
B.A., English, Boise State University, 1989
M.L.A., Landscape Architecture, Cornell University, 2003
Years of Experience: 12

Vanessa Williford, *Community Facilities and Services, Transportation, Hazardous Waste*
B.S., Resource and Environmental Studies, Texas State University, 2002
Years of Experience: 8

APPENDIX A

CONSULTATION AND INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING AND PUBLIC INVOLVEMENT

APPENDIX A: CONSULTATION AND INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING

State Historic Preservation Office (SHPO) Consultation

In accordance with Section 106 of the National Historic Preservation Act (United States [U.S.] Code of Federal Regulation 800.3), consultation letters were sent to the Idaho, Nevada, and Oregon SHPOs notifying them that the U.S. Air Force (USAF) was preparing an Environmental Assessment (EA) to address potential impacts resulting from the basing of Royal Saudi Air Force (RSAF) F-15SA aircraft at Mountain Home Air Force Base (AFB). The letters included information on the proposed action and the general locations of the areas of potential effects.

State Historic Preservation Office Consultation Letters		
Addressee	**Date Sent**	**Response Received**
Idaho		
Ms. Janet Gallimore Idaho State Historical Society 2205 Old Penitentiary Road Boise, ID 83712	8/9/2011	Covered under the Programmatic Agreement
Nevada		
Mr. Ronald James Nevada State Historic Preservation Office 901 S. Stewart Street, Suite 504 Carson City, NV 89701	8/9/2011	Concurred with No Effect Finding on 5/24/2012
Oregon		
State Historic Preservation Officer Oregon Parks and Recreation Department 725 Summer Street, NE, Suite C Salem, OR 97301	8/9/2011	Concurred with No Effect Finding on 6/5/2012

American Indian Government-to-Government Consultation

In accordance with Section 106 of the National Historic Preservation Act (United States Code of Federal Regulation 800.3), the Native American Graves Protection and Repatriation Act, and Executive Order 13007, consultation initiation letters were sent to the American Indian Tribes listed in the following table. Letters were sent to five Tribes or Tribal Representatives that had reservations located under or near the airspace for the proposed action or historically had ties to land under the airspace.

American Indian Consultation Letters		
Addressee	**Date Sent**	**Response Received**
Idaho		
Mr. Nathan Small, Chairman Shoshone-Bannock Tribes P.O. Box 306 Fort Hall, ID 83203	8/18/2011	None
Oregon		
Ms. Dianne Teeman, Chairperson Burns Paiute Tribe 100 Pasigo Street Burns, OR 97720	8/18/2011	None
Nevada		
Mr. Terry Gibson, Chairman Shoshone-Paiute Tribes of Duck Valley P.O. Box 219 Owyhee, NV 89832	8/18/2011	Consultation meetings held on November 8, 2010; December 1, 2010; January 18, 2011; March 11, 2011; May 2, 2011; and August 17, 2011.
Mr. Billy Bell, Chairman Paiute-Shoshone Tribes of Fort McDermitt P.O. Box 457 McDermitt, NV 89421	8/18/2011	None
Utah		
Mr. Jason Walker, Chairman Northwestern Band, Shoshone Brigham City Tribal Office 707 N. Main Street Brigham City, UT 84302	8/18/2011	None

Government-to-Government consultation meetings were held between the USAF and the Shoshone-Paiute Tribes on the following dates: November 8, 2010; December 1, 2010; January 18, 2011; March 11, 2011; May 2, 2011; and August 17, 2011. On April 20, 2011 representatives from the 366 FW and the ACC visited the Duck Valley Reservation. The tribes were also given an additional 30-days to review the draft EA. Advanced copies of the draft EA were sent to the tribes on March 7, 2012. All tribes were sent copies of the draft EA for review on April 10, 2012. No responses were received from the letters, nor did the USAF receive comments on the draft EA.

American Indian Tribal Consultation – Other Correspondence			
Addressee	**Date Sent and Method**	**From**	**Subject**
Ronald Buckley, Colonel USAF – Wing Commander	2/9/12 – electronic mail	Mr. Terry Gibson, Chairman Shoshone-Paiute Tribes of Duck Valley	Chairman had not replied to prior e-mails due to medical issues. Will work to arrange consultation in the near future and will get back with workable dates.
Mr. Terry Gibson, Chairman Shoshone-Paiute Tribes of Duck Valley	2/6/12 – electronic mail	Ronald Buckley, Colonel USAF – Wing Commander	Follow up to 29 December 2011 e-mail. Again requesting Government-to-Government consultation meetings by end of February. Stated if unable to have consultation, will send EA by certified mail.
Mr. Terry Gibson, Chairman Shoshone-Paiute Tribes of Duck Valley	12/29/11 – electronic mail	Ronald Buckley, Colonel USAF – Wing Commander	Notification that final decision regarding location will be made after National Environmental Policy Act (NEPA). Desire to schedule Government-to-Government consultation meetings in near future so copy of EA can be delivered conveyed.
Mr. Terry Gibson, Chairman Shoshone-Paiute Tribes of Duck Valley	9/12/11 – electronic mail	Ronald Buckley, Colonel USAF – Wing Commander	Suggested week of 14 -18 November 2011 for next consultation.
Ronald Buckley, Colonel USAF – Wing Commander	7/11 – telephone Call	Mr. Terry Gibson, Chairman Shoshone-Paiute Tribes of Duck Valley	Desire to set up Government-to-Government consultation meeting.
Mr. Terry Gibson, Chairman Shoshone-Paiute Tribes of Duck Valley	7/25/11 – electronic mail	Ronald Buckley, Colonel USAF – Wing Commander	Government-to-Government consultation meetings.
Ronald Buckley, Colonel USAF – Wing Commander	1/10/11 – electronic mail	Shoshone-Paiute Tribes	Government-to-Government consultation meetings – agenda items for 18 January 2011 meeting.

American Indian Tribal Consultation – Other Correspondence (con't)			
Addressee	**Date Sent and Method**	**From**	**Subject**
Shoshone-Paiute Tribes	1/10/11 – electronic mail	Ronald Buckley, Colonel USAF – Wing Commander	Government-to-Government consultation meetings – request for agenda items for 18 January 2011 meeting.
Robert Bear, Shoshone-Paiute Tribes	12/10/10 – electronic mail	Ronald Buckley, Colonel USAF – Wing Commander	Ensure Chairman aware SECAF announced MHAFB as preferred alternative for proposed action.
Ronald Buckley, Colonel USAF – Wing Commander	10/29/10 – electronic mail	Robert Bear, Shoshone-Paiute Tribes	Government-to-Government consultation meetings – agenda items for 8 November 2010 meeting.
Robert Bear, Shoshone-Paiute Tribes	9/29/10 – telephone call	Ronald Buckley, Colonel USAF – Wing Commander	Informed tribe about proposed action.

United States Fish and Wildlife Service Consultation – Section 7

The USAF contacted the United States Fish and Wildlife Service (USFWS) on Jun 25, 2012 regarding Section 7 consultation on slickspot peppergrass (*Lepidium papillierum*), a species listed as threatened under the Endangered Species Act of 1973, as amended. The USAF requested concurrence that no additional Section 7 consultation beyond that which was conducted in 2010 was required for slickspot peppergrass for the proposed action because the proposed action would not result in significant changes to effects on slickspot peppergrass. The USFWS responded pm June 29, 2012 that proposed project is consistent with the Section 7 consultation that was conducted in 2010 for slickspot peppergrass and no additional consultation is required. Correspondence regarding slickspot peppergrass is included in this appendix. Additional correspondence regarding USWFS concerns not covered under Section 7 is also included.

Interagency and Intergovernmental Coordination for Environmental Planning (IICEP)

IICEP is a federally mandated process for informing and coordinating with other governmental agencies regarding proposed actions. Both the NEPA and CEQ regulations require intergovernmental notification prior to making any detailed statement of environmental impacts. Through the IICEP process, concerned federal, state, and local agencies are notified and allowed sufficient time to evaluate potential environmental impacts of a proposed action. In total, 66 IICEP letters were sent to agencies and officials. These letters are included in this appendix. A response requesting copies of the draft and final Environmental Assessments was received from the Stillwater Field Office of the BLM in Nevada.

CONSULTATION LETTERS

SECTION 106 CONSULTATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR COMBAT COMMAND
LANGLEY AIR FORCE BASE, VIRGINIA

AUG 9 2011

FROM: HQACC/A7PS
129 Andrews St., Suite 331
Langley AFB, VA 23665-2769

TO: Mr. Ronald James
Nevada State Historic Preservation Office
901 S. Stewart Street, Suite 504
Carson City, NV 89701

Dear Sir,

The United States Air Force Air Combat Command (Air Force) and Mountain Home Air Force Base (AFB) are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposed action is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with a U.S. Air Force F-15E unit to make use of common facilities and take advantage of joint training opportunities. Under the proposed action, the RSAF squadron would operate as a separate fighter squadron under the operational control of the 366th Fighter Wing (366 FW) at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex in Idaho, Nevada, and Oregon. The squadron would operate as a Fighter Training Unit (FTU) and a maintenance training center for at least five years. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home. There would be no change in the mission for the 366 FW.

The EA will consider the proposal's potential impacts on the human environment, to include historic and culturally significant properties, and we will coordinate related information with your office according to the steps outlined in 36 CFR §800.3 through 36 CFR §800.7.

Please forward any issues or concerns to Ms. Sarah Amthor at the above address, or call her at (757) 764-9228. Though we will consider comments received at any time during the environmental process to the extent possible, we would appreciate comments by September 9, 2011. We thank you in advance for your assistance in this effort, and we look forward to hearing from you.

Sincerely,

SIGNED

LARRY H. DRYDEN, P.E.
Chief, Sustainable Installations

Attachment:
Distribution List

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR COMBAT COMMAND
LANGLEY AIR FORCE BASE, VIRGINIA

AUG 9 2011

FROM: HQACC/A7PS
129 Andrews St., Suite 331
Langley AFB, VA 23665-2769

TO: Ms. Janet Gallimore
Idaho State Historical Society
2205 Old Penitentiary Road
Boise, ID 83712

Dear Madam,

The United States Air Force Air Combat Command (Air Force) and Mountain Home Air Force Base (AFB) are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposed action is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with a U.S. Air Force F-15E unit to make use of common facilities and take advantage of joint training opportunities. Under the proposed action, the RSAF squadron would operate as a separate fighter squadron under the operational control of the 366th Fighter Wing (366 FW) at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex in Idaho, Nevada, and Oregon. The squadron would operate as a Fighter Training Unit (FTU) and a maintenance training center for at least five years. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home. There would be no change in the mission for the 366 FW.

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Sincerely,

SIGNED

LARRY H. DRYDEN, P.E.
Chief, Sustainable Installations

Attachment:
Distribution List

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR COMBAT COMMAND
LANGLEY AIR FORCE BASE, VIRGINIA

AUG 9 2011

FROM: HQACC/A7PS
129 Andrews St., Suite 331
Langley AFB, VA 23665-2769

TO: Oregon Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE, Suite C
Salem, OR 97301

Dear Sir or Madam,

The United States Air Force Air Combat Command (Air Force) and Mountain Home Air Force Base (AFB) are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposed action is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with a U.S. Air Force F-15E unit to make use of common facilities and take advantage of joint training opportunities. Under the proposed action, the RSAF squadron would operate as a separate fighter squadron under the operational control of the 366th Fighter Wing (366 FW) at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex in Idaho, Nevada, and Oregon. The squadron would operate as a Fighter Training Unit (FTU) and a maintenance training center for at least five years. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home. There would be no change in the mission for the 366 FW.

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Please forward any issues or concerns to Ms. Sarah Amthor at the above address, or call her at (757) 764-9228. Though we will consider comments received at any time during the environmental process to the extent possible, we would appreciate comments by September 9, 2011. We thank you in advance for your assistance in this effort, and we look forward to hearing from you.

Sincerely,

SIGNED

LARRY H. DRYDEN, P.E.
Chief, Sustainable Installations

Attachment:
Distribution List

Oregon
John A. Kitzhaber, MD, Governor

Parks and Recreation Department
State Historic Preservation Office
725 Summer St NE, Ste C
Salem, OR 97301-1266
(503) 986-0671
Fax (503) 986-0793
www.oregonheritage.org

June 5, 2012

Chief Larry Dryden
USAF Langley
120 Andrews St STE 331
Langley AFB, VA 23665-2769

RE: SHPO Case No. 12-0835
Mt. Home Air Force Base RSAF(Royal Saudi Air Force) F15SA Beddown Idaho
FOE/EA for a moderization program and training
USAF
, , County

Dear Chief Dryden:

Thank you for the opportunity to provide comment on the draft Environmental Assessment prepared for the above-identified project. We have thoroughly reviewed the contents of the EA, and concur that there will be no adverse effects to the historic built environment within the portion of the proposed project that lies within the state of Oregon. We also concur that there will be no adverse effects to any archaeological resources within the state or Oregon. If there are any changes to the proposed action, please contact our office for further review, if necessary.

Sincerely,

Jason Allen, M.A.
Historic Preservation Specialist
(503) 986-0579
jason.allen@state.or.us

Cummings, Christina G

From: Rebecca Palmer <rlpalmer@shpo.nv.gov>
Sent: Thursday, May 24, 2012 12:40 PM
To: Amthor, Sarah B Civ USAF HQ ACC/A7PS
Subject: RE: RSAF F15SA Beddown, Mt. Home AFB, ID - EA

Sarah, we have reviewed the subject draft Environmental Assessment and support the document as written. In addition, we could concur with a U.S. Air Force determination that the proposed undertaking would not pose an effect to historic properties. Since the air space changes over Nevada have been previously reviewed for compliance with Section 106 of the NHPA, the SHPO believes that additional formal consultation for this undertaking is not needed.

Rebecca Lynn Palmer
Deputy Historic Preservation Officer
901 South Stewart Street, Suite 5004
Carson City NV 89701
Phone (775) 684-3443
Fax (775) 684-3442

Please note, my email is rlpalmer@shpo.nv.gov

-----Original Message-----
From: Amthor, Sarah B Civ USAF HQ ACC/A7PS [mailto:Sarah.Amthor@langley.af.mil]
Sent: Thursday, May 24, 2012 10:34 AM
To: Rebecca Palmer
Cc: Amthor, Sarah B Civ USAF HQ ACC/A7PS
Subject: RSAF F15SA Beddown, Mt. Home AFB, ID - EA

Ms. Palmer,
Per our phone conversation I am the Air Combat Command NEPA project manager for the Royal Saudi Air Force F-15SA Beddown at Mountain Home AFB, ID. Your office was notified of this action in August 2011 and on 10 April 2012 the Draft EA Executive Summary including an electronic copy of the document was delivered. We have not received any correspondence from your office regarding this proposed action and would like your confirmation that there is no need for formal consultation, pursuant to 36 Code of Federal Regulations (CFR) 800.3 for the proposed action. If you have any questions please give me a call. Thanks.

Sarah B. Amthor, P.E., LEED AP BC+D
HQ ACC/A7PS
129 Andrews Street, Room 331
Langley AFB, VA 23665-2769
(757)764-9228 or DSN 574-9228

AMERICAN INDIAN GOVERNMENT-TO-GOVERNMENT CONSULTATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 366TH FIGHTER WING (ACC)
MOUNTAIN HOME AIR FORCE BASE IDAHO

Colonel Ronald D. Buckley
366th Fighter Wing Commander
366 Gunfighter Avenue, Ste 331
Mountain Home AFB ID 83648

18 AUG 2011

Mr. Terry Gibson, Chairman
Shoshone-Paiute Tribes of Duck Valley
P.O. Box 219
Owyhee NV 89832

Dear Chairman

The United States Air Force Air Combat Command (Air Force) and Mountain Home AFB are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposal is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with Air Force F-15E squadrons(s) to make use of common facilities and take advantage of joint training opportunities.

Under the proposed action, the RSAF squadron would operate as a separate fighter squadron under the operational control of the 366th Fighter Wing (366 FW) at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex in Idaho, Nevada, and Oregon. The squadron would operate as a Fighter Training Unit (FTU) and a maintenance training center for at least five years. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home AFB. There would be no change in the mission for the 366 FW.

In accordance with Executive Order 13175 and Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Sections 800.2, 800.3, and 800.4), the DoD American Indian Alaska Native Policy and DOD Instruction 4710.02, the Air Force would like to initiate government-to-government consultation regarding this proposed beddown. The Air Force desires to discuss the proposal in detail with you so that we may understand and consider any comments, concerns, and suggestions you may have.

Please let us know when you would like to meet to discuss the proposal and your expectations on how we should proceed with the consultations. Do not hesitate to call me at (208) 828-2366 to arrange dates and times for consultation.

Respectfully

Ronald D. Buckley

RONALD D. BUCKLEY, Colonel, USAF
Wing Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 366TH FIGHTER WING (ACC)
MOUNTAIN HOME AIR FORCE BASE IDAHO

18 AUG 2011

Colonel Ronald D. Buckley
366th Fighter Wing Commander
366 Gunfighter Avenue Ste 331
Mountain Home AFB ID

Ms. Dianne Teeman, Chairman
Burns Paiute Tribe
100 Pasigo Street
Burns OR 97720

Dear Chairman

The United States Air Force Air Combat Command (Air Force) and Mountain Home AFB are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposal is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with Air Force F-15E squadrons(s) to make use of common facilities and take advantage of joint training opportunities.

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Respectfully

Ronald D. Buckley

RONALD D. BUCKLEY, Colonel, USAF
Wing Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 366TH FIGHTER WING (ACC)
MOUNTAIN HOME AIR FORCE BASE IDAHO

18 AUG 2011

Colonel Ronald D. Buckley
366th Fighter Wing Commander
366 Gunfighter Avenue, Ste 331
Mountain Home AFB ID 83648

Mr. Billy Bell, Chairman
Paiute-Shoshone Tribes of Fort McDermitt
P.O. Box 457
McDermitt NV 89421

Dear Chairman

The United States Air Force Air Combat Command (Air Force) and Mountain Home AFB are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposal is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with Air Force F-15E squadrons(s) to make use of common facilities and take advantage of joint training opportunities.

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Respectfully

Ronald D. Buckley

RONALD D. BUCKLEY, Colonel, USAF
Wing Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 366TH FIGHTER WING (ACC)
MOUNTAIN HOME AIR FORCE BASE IDAHO

Colonel Ronald D. Buckley
366th Fighter Wing Commander
366 Gunfighter Avenue, Ste 331
Mountain Home AFB ID 83648

18 AUG 2011

Mr. Jason Walker, Chairman
Northwestern Band,
Shoshone Brigham City Tribal Office
707 N. Main Street
Brigham City UT 84302

Dear Chairman

The United States Air Force Air Combat Command (Air Force) and Mountain Home AFB are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposal is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with Air Force F-15E squadrons(s) to make use of common facilities and take advantage of joint training opportunities.

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In accordance with Executive Order 13175 and Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Sections 800.2, 800.3, and 800.4), the DoD American Indian Alaska Native Policy and DOD Instruction 4710.02, the Air Force would like to initiate government-to-government consultation regarding this proposed beddown. The Air Force desires to discuss the proposal in detail with you so that we may understand and consider any comments, concerns, and suggestions you may have.

Please let us know when you would like to meet to discuss the proposal and your expectations on how we should proceed with the consultations. Do not hesitate to call me at (208) 828-2366 to arrange dates and times for consultation.

Respectfully

Ronald D. Buckley

RONALD D. BUCKLEY, Colonel, USAF
Wing Commander

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 366TH FIGHTER WING (ACC)
MOUNTAIN HOME AIR FORCE BASE IDAHO

Colonel Ronald D. Buckley
366th Fighter Wing Commander
366 Gunfighter Avenue, Ste 331
Mountain Home AFB ID 83648

18 AUG 2011

Mr. Nathan Small, Chairman
Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall ID 83203

Dear Chairman

The United States Air Force Air Combat Command (Air Force) and Mountain Home AFB are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposal is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with Air Force F-15E squadrons(s) to make use of common facilities and take advantage of joint training opportunities.

Under the proposed action, the RSAF squadron would operate as a separate fighter squadron under the operational control of the 366th Fighter Wing (366 FW) at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex in Idaho, Nevada, and Oregon. The squadron would operate as a Fighter Training Unit (FTU) and a maintenance training center for at least five years. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home AFB. There would be no change in the mission for the 366 FW.

In accordance with Executive Order 13175 and Section 106 of the National Historic Preservation Act (NHPA) (36 CFR Sections 800.2, 800.3, and 800.4), the DoD American Indian Alaska Native Policy and DOD Instruction 4710.02, the Air Force would like to initiate government-to-government consultation regarding this proposed beddown. The Air Force desires to discuss the proposal in detail with you so that we may understand and consider any comments, concerns, and suggestions you may have.

Please let us know when you would like to meet to discuss the proposal and your expectations on how we should proceed with the consultations. Do not hesitate to call me at (208) 828-2366 to arrange dates and times for consultation.

Respectfully

RONALD D. BUCKLEY, Colonel, USAF
Wing Commander

SECTION 7 CONSULATION

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR COMBAT COMMAND
LANGLEY AIR FORCE BASE, VIRGINIA

25 June 2012

FROM: HQACC/A7PS
129 Andrews St., Suite 331
Langley AFB, VA 23665-2769

TO: Mr. Brian T. Kelly, Idaho State Supervisor
U.S. Fish and Wildlife Service
1387 S. Vinell Way, Room 368
Boise, Idaho 83709

SUBJECT: Section 7 Consultation for the Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base Draft Environmental Assessment. Reference: 01EIFW00-2012-CPA-0060

Dear Mr. Kelly

The United States Air Force, Air Combat Command requests your concurrence that additional section 7 consultation on the effects of implementing the Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base as described in the Draft Environmental Assessment dated April 2012 on slickspot peppergrass (*Lepidium papilliferum*) is not needed.

On October 29, 2010, the US Fish and Wildlife Service (FWS) provided the Air Force with a final biological opinion regarding Mountain Home Air Force Base ongoing actions that may affect slickspot peppergrass. This biological opinion considered components of ongoing actions (including conservation measures for slickspot peppergrass).

The description and analysis in the April 2010 Biological Assessment and associated October 2010 Biological Opinion (14420-2010-F-0405) of ongoing actions and associated conservation measures to avoid or minimize effects to slickspot peppergrass at MHAFB are basically identical to the actions as described in the Draft Environmental Assessment (EA) for the Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base. Four of the ongoing actions at Juniper Butte Range which "May Affect, Likely to Adversely Affect" slickspot peppergrass would have an incremental increase. The proposed beddown would increase Military Training-Aircraft Operations by 32%. Military Training-Aircraft use of chaff would increase by 40% and use of flares would increase by 24%. Inert ordnance would increase by 48%. Explosive Ordnance Disposal Clearance frequency would not increase and current Fire Suppression activities would remain the same on the Juniper Butte Range. Military Training-Ground Operations and Maintenance Activities on the Juniper Butte Range, which "May Affect, Not Likely to Adversely Affect" slickspot peppergrass would remain consistent with current operations. In addition, environmental baseline conditions on the Juniper Butte Range have not significantly changed with regards to habitat conditions for slickspot peppergrass since the April 2010 biological assessment was completed.

We feel that the scope and magnitude of effects from the Royal Saudi Air Force beddown will result in no significant difference in effects to slickspot peppergrass from the current conditions due to training and associated activities than are described in the Biological Assessment and Biological Opinion. Therefore, we have concluded that there will be no significant changes in the intensity or duration of any potential beneficial or adverse effects of actions as described in the Draft EA relative to the ongoing actions analyzed in the 2010 Biological Opinion. We do not believe that we have tripped any section 7 consultation reinitiating triggers at this time, and we are requesting your acknowledgement or confirmation of our conclusion.

Based on the findings outlined above, please confirm that you concur with the determination that no further consultation under section 7 of the Endangered Species Act is needed for this action. If you have any questions please contact Ms. Sarah Amthor at (757) 764-9228 or sarah.amthor@langley.af.mil.

Respectfully

SIGNED

LARRY H. DRYDEN, P.E.
Chief, Sustainable Installations (ACC/A7PS)

cc:
Ms. Barbara Chaney, Idaho Fish and Wildlife Office, USFWS

United States Department of the Interior
U.S. Fish and Wildlife Service
Idaho Fish and Wildlife Office
1387 S. Vinnell Way, Room 368
Boise, Idaho 83709
Telephone (208) 378-5243
http://www.fws.gov/idaho

Larry H. Dryden, P.E.
Chief, Sustainable Installations (ACC/A7PS)
HQ ACC/A7PS
129 Andrews Street, Suite 331
Langley AFB, VA 23665-2769

JUN 29 2012

Subject: Mountain Home Air Force Base Royal Saudi Air Force F-15SA Beddown—Elmore, Owyhee, and Twin Falls Counties, Idaho—Technical Assistance
In Reply Refer to: 01EIFW00-2012-TA-0343 Internal Use: COM 241a

This correspondence is in response to your letter received by the U.S. Fish and Wildlife Service (Service), dated June 25, 2012, requesting that the Service confirm the U.S. Air Force's (Air Force) conclusion that additional section 7 consultation is not required for the Royal Saudi Air Force F-15SA beddown at the Mountain Home Air Force Base (MHAFB), Elmore, Owyhee, and Twin Falls Counties, Idaho. We acknowledge your conclusion that the MHAFB Royal Saudi Air Force F-15SA beddown is consistent with the 2010 formal section 7 consultation (USFWS 2010, entire) addressing the effects of military training and associated support activities at the MHAFB (USFWS 2010, entire) on *Lepidium papilliferum* (slickspot peppergrass), a species listed as threatened under the Endangered Species Act of 1973, as amended (Act), and that further section 7 consultation is not necessary at this time. We provide rationales for this conclusion below.

Acknowledgement of Section 7 Consultation for the MHAFB Royal Saudi Air Force F-15SA Beddown

Military training activities that will occur within the range of slickspot peppergrass as described in your June 25, 2012 letter, as well as in the Draft Environmental Assessment for the MHAFB Royal Saudi Air Force F-15SA beddown (Air Force 2012a, entire), include overflights, dropping of ordnance, and deployment of chaff and flares. Effects of these military training activities and associated support activities (including ordnance removal, facilities maintenance, and fire suppression) are described within the existing 2004 MHAFB Integrated Natural Resource Management Plan (INRMP) and the soon to be finalized updated 2012 MHAFB INRMP (Air Force 2004, entire, Air Force 2012b, entire). Effects of MHAFB military training and associated support activities on slickspot peppergrass have previously undergone section 7 consultation (USFWS 2010, entire; USFWS 2012, entire).

Our acknowledgement that additional section 7 consultation for the MHAFB Royal Saudi Air Force F-15SA beddown is not necessary at this time is based on the following rationales.

- There are no significant differences between the MHAFB Royal Saudi Air Force F-15SA beddown and the current military training activities at MHAFB (inclusive of conservation measures contained within the 2004 INRMP) as analyzed in our October 2010 biological opinion.

- The scope and magnitude of effects from the Royal Saudi Air Force beddown will result in no significant difference in effects to slickspot peppergrass relative to current military training and associated activities as described in our October 2010 biological opinion.
- Current environmental baseline conditions have not significantly changed from those described in our October 2010 biological opinion.

We also acknowledge your belief that the Air Force has not tripped any section 7 consultation reinitiation triggers at this time. Therefore, we confirm your conclusion that section 7 consultation has effectively been completed for the MHAFB Royal Saudi Air Force F-15SA beddown; further section 7 consultation on the MHAFB Royal Saudi Air Force beddown is not necessary at this time.

Critical Habitat

In the proposed rule published in the May 10, 2011 Federal Register (76 FR 27184), we proposed critical habitat for slickspot peppergrass. We excluded the MHAFB's Juniper Butte Range as part of this critical habitat proposal; therefore, section 7 conference to address the effects of Air Force actions at Juniper Butte Range on proposed critical habitat is not necessary. We excluded the Juniper Butte Range from proposed critical habitat as it was concluded that conservation efforts identified in the 2004 INRMP "are being implemented, are likely effective, and will provide a conservation benefit to slickspot peppergrass occurring in habitats within or adjacent to the Juniper Butte Range" (76 FR 27201). We anticipate that the final critical habitat designation for slickspot peppergrass will be published in the Federal Register by the end of 2012.

Emergency Consultation

As Federal agencies retain their responsibilities to meet their section 7(a)(2) and 7(d) obligations under the Act during emergency events, additional coordination in the form of emergency section 7 consultation may be required for some actions associated with military training activities, including the MHAFB Royal Saudi Air Force F-15SA beddown. An emergency as described in the Act's section 7 regulations (50 CFR 402.05) is a situation involving an act of God, disasters, casualties, national defense or security emergencies, etc., and includes response activities that must be taken to prevent imminent loss of human life or property. Foreseeable events associated with military training activities at MHAFB, including the Royal Saudi Air Force F-15SA beddown, that would be considered emergencies under this definition include actions to suppress wildland fire at MHAFB's Juniper Butte Range. For additional information on emergency consultation, see the attached general wildfire emergency consultation guidance. We encourage you to contact our office in the instance that fire suppression activities may affect slickspot peppergrass or its habitat to determine if emergency section 7 consultation may be required.

Conclusion

This letter documents that the Air Force has previously addressed requirements for section 7 consultation for the effects of the MHAFB Royal Saudi Air Force F-15SA beddown on slickspot peppergrass under the Act. Our acknowledgement is supported by the following: the current status of slickspot peppergrass, the environmental baseline of the action area, the effects of the beddown, and cumulative effects are essentially identical to those described and considered in

the original MHAFB 2010 consultation (USFWS 2010, entire). In addition, MHAFB's Juniper Butte Range has been excluded from proposed critical habitat, and no critical habitat for slickspot peppergrass has been designated at this time; therefore, none will be affected. We recommend that you retain a copy of this letter as well as our 2010 biological opinion on the effects of MHAFB actions on slickspot peppergrass (14420-2010-F-0405) in your files for future reference.

Thank you for your continued interest in the conservation of threatened and endangered species. Please contact Barbara Chaney at (208) 378-5259 if you have questions concerning this letter or emergency section 7 consultation procedures.

Sincerely,

for Brian T. Kelly
State Supervisor

Attachment

cc: USFWS, Region 1, Portland (Baker, Stavrakas)
Air Force, MHAFB (Rudeen)
Air Force, Langley AFB (Amthor)

References Cited

U.S. Air Force (Air Force). 2004. Final Juniper Butte Range integrated natural resource management plan. 407 pp.

U.S. Air Force (Air Force). 2012a. Draft Environmental Assessment for Proposed Royal Saudi Air Force F-15SA Beddown, Mountain Home AFB. United States Air Force Air Combat Command. April 2012. 200 pp. plus appendices.

U.S. Air Force (Air Force). 2012b. Integrated Natural Resource Management Plan for Mountain Home Air Force Base, Small Arms Range, Saylor Creek Air Force Range, Juniper Butte Range, and Other Mountain Home Range Complex Sites. 976 pp. + appendices.

U.S. Fish and Wildlife Service (USFWS). 2010. Biological Opinion on the Effects of U.S. Air Force Ongoing Actions at Juniper Butte Range and in Owyhee County, Idaho on the Slickspot Peppergrass *(Lepidium papilliferum)*. U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office, Boise, Idaho. October 2010. Tracking Number 14420-2010-F-0405. 110 pp.

U.S. Fish and Wildlife Service (USFWS). 2012. Biological Opinion on the Effects of Mountain Home Air Force Base 2012 Integrated Natural Resource Management Plan in Elmore, Owyhee, and Twin Falls Counties, Idaho on the Slickspot Peppergrass *(Lepidium papilliferum)*. U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office, Boise Idaho. April 2012. Tracking Number 01EIFW00-2012-F-0188. 5 pp. plus attachments.

Emergency Consultation Procedures for
Wildland Fire Events in Southwestern Idaho

Federal agencies retain their responsibilities to meet their section 7(a)(2) and 7(d) obligations under the Endangered Species Act (Act) of 1973, as amended, during emergency events. An emergency as described in the Act's section 7 regulations (50 CFR 402.05) is a situation involving an act of God, disasters, casualties, national defense or security emergencies, etc., and includes response activities that must be taken to prevent imminent loss of human life or property. Wildland fire is considered an emergency under this definition. During a wildland fire, both the fire itself and fire-suppression activities may affect listed species and their habitat. Emergency consultation procedures address the effects from fire suppression activities exclusive of the fire effects, and allow action agencies to incorporate endangered species conservation measures into their actions during the response to an emergency. Impacts of wildfires themselves on listed species or critical habitat are evaluated in terms of changes in baseline conditions.

Regulations addressing section 7 of the Act allow us to expedite administrative aspects of consultations during an emergency response so as not to interfere with response activities that must be taken to prevent imminent loss of human life or property. Emergency consultation is characterized by the steps outlined below that we have adapted specifically for purposes of wildland fire management.

Emergency consultation procedures apply to listed and proposed species and critical habitat under the Act. In addition, candidate species may later be proposed for listing, making conference necessary if future proposed actions are likely to jeopardize the continued existence of such species. We encourage Federal Action Agencies (Agencies) to conserve candidate species, and we encourage the implementation of conservation measures for candidate species during emergency actions to the extent possible.

1. Initial Contact. The Federal Action Agency (Agency) should determine whether wildfire suppression actions may affect listed or proposed species or critical habitat as soon as practicable after initiation of the suppression effort. If the emergency response action had no effect upon listed species or had effects that are fully accounted for in an existing programmatic consultation, no further analysis is needed. If the Agency expects listed species or critical habitat may be affected by fire suppression activities that are not covered by an existing programmatic consultation, the Agency should request emergency consultation with the Service. Any candidate species within an emergency action area that contains listed or proposed species or critical habitat should also be considered in this process. During the initial contact with the Service, as much detail as possible should be provided about the location, severity, and behavior of the fire, the nature of actions being taken to suppress the fire, and any information available at the time about possible effects to listed species or habitat. The Service will provide recommendations for potential avoidance and minimization measures that should be considered to protect listed species that may occur in the area of the emergency response actions. We also

request prompt (during the same work shift) notification of any accidental spills of fire retardant, petroleum fuels, or toxic chemicals that may be associated with fire suppression efforts.

For this initial communication, contact Barbara Chaney of the Idaho Fish and Wildlife Office, at (208) 378-5259. During non-business hours, please leave a message describing the incident, the reporting person's name, and a reply phone number; Service staff will return your call as soon as possible. Given the urgency associated with wildfire suppression and other emergency responses, Mark Robertson may be contacted at (208) 378-5287 in the event that Barbara is not available to receive your request for emergency consultation. After you have requested initiation of emergency consultation, the Service will provide written documentation of our initial recommendations via e-mail to the Agency as soon as possible.

2. Continued Informal Consultation Between the Agency and the Service. Because wildland fire events often extend over days or weeks, subsequent calls, meetings, emails, or letters between the Agency and the Service may be necessary. Periodic briefings may be needed from the Agency (e.g., Resource Advisor, agency biologist) to the Service regarding changes in incident status, suppression actions taken, and any future suppression actions being considered. The Service may provide additional recommendations to minimize or avoid adverse effects based on the situation described in these briefings. Briefings should continue until the Agency determines there are no longer risks of effects to threatened and endangered species from the suppression efforts.

3. Agency Requirements Once the Emergency is Under Control. Regardless of the actions taken or their effects, the Agency must follow up on the initial discussion of emergency consultation with a telephone call, email, or letter to the Service informing us that emergency actions are no longer necessary. The Agency should proceed as follows:

- Provide the Service with copies of any documentation of the emergency and emergency response, such as the Burned Area Emergency Response (BAER) report and plan.
- Inform the Service whether emergency response activities had potential effects on listed or proposed species or critical habitat within the emergency action area, and cite any actions taken to avoid and minimize effects. Provide similar information for candidate species that were potentially impacted, if also located in this emergency action area.
- Determine whether the actions were consistent with any existing applicable programmatic consultation.
- Together with the Service, determine whether emergency response, stabilization, or short-term rehabilitation implementation may have affected listed or proposed species or critical habitat. Provide similar information for candidate species that were potentially impacted, if also located in this emergency action area. Work with the Service to determine whether effects were potentially adverse.
- Identify, in a broad sense, whether the emergency event or associated response actions may have changed baseline conditions for any species.

4. Interagency Process for Follow-up Consultation. Following the completion of all emergency actions, and when response actions can be fully evaluated, emergency consultation should occur as follows:

- If the emergency action had no effect or had effects that were fully accounted for in an existing programmatic consultation, no further consultation is needed. The Agency's determination should be documented in both the Agency's and the Service's files. This documentation may be completed using emails.
- If the action had effects that were not considered in a previous consultation, but were not adverse or were wholly beneficial, the Agency should determine whether existing documents (such as a BAER report) adequately document these effects. If these documents exist, the Service shall provide concurrence using email procedures. The Agency and the Service may opt to develop further documentation, if needed.
- If the action may have had adverse effects on listed or proposed species or critical habitat, the Agency should initiate formal consultation following the direction provided in the Service's 1998 Section 7 Consultation Handbook for formal consultation for emergencies (pages 8-4 and 8-5). This formal consultation should also include an analysis of effects to any candidate species located in the emergency action area. All applicable species should be addressed in a single biological assessment. The Section 7 Consultation Handbook is available on-line at: http://www.fws.gov/endangered/esa-library/index.html#consultations (last accessed June 28, 2012).
- If long-term rehabilitation actions may affect listed or proposed species or critical habitat, consultation should be carried out under existing procedures and timeframes.
- If the emergency resulted in changed baseline conditions for a species or critical habitat, those changes should be accounted for and considered for future consultation. If there are ongoing actions in the area, previous consultations may need to be reevaluated in light of changed conditions to determine if the effects analyses for those actions are still valid.

5. Emergency Biological Opinions. An Emergency Biological Opinion (Emergency Opinion) shall be issued by the Service at the conclusion of formal consultation on an emergency response where Agency actions resulted in adverse effects to listed or proposed species or critical habitat. Timeframes for completion of emergency formal consultation are the same as for non-emergency formal consultation. An Emergency Opinion documents the Service's recommendations to avoid or minimize potential adverse impacts to listed or proposed species or critical habitat. The effects of Agency implementation of these recommendations on listed species and their habitats, including critical habitat, are also described in the Emergency Opinion. The primary purpose of the Emergency Opinion is to determine whether the emergency action may have resulted in jeopardy to listed species or adverse modification or destruction of critical habitat.

As Emergency Opinions are developed after an emergency action has taken place, incidental take statements and conservation recommendations typically vary from those found in standard

Biological Opinions. Components of incidental take statements and conservation recommendations in a typical Emergency Opinion are described below.

Incidental Take Statements in an Emergency Opinion:

- Estimate the amount of take associated with the emergency response actions (e.g., fire suppression, fire rehabilitation);
- Document the Service's recommendations to minimize effects;
- Evaluate Agency success in carrying out these recommendations;
- Determine the ultimate effect on the species of concern through the take;
- Provide no section 7(o) exemption for take as consultation is "after the fact";
- Provide no reasonable and prudent measures;
- Provide no terms and conditions to minimize take unless the emergency action also includes ongoing rehabilitation or restoration actions in addition to the actions that have already occurred.

Emergency Opinion Conservation Recommendations:

- May be provided to help protect listed species and their habitats in future emergency situations; or
- May be provided to initiate beneficial actions to conserve the species.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR COMBAT COMMAND
LANGLEY AIR FORCE BASE, VIRGINIA

24 July 2012

FROM: HQACC/A7PS
129 Andrews St., Suite 331
Langley AFB, VA 23665-2769

TO: Mr. Brian T. Kelly, Idaho State Supervisor
U.S. Fish and Wildlife Service
1387 S. Vinell Way, Room 368
Boise, Idaho 83709

SUBJECT: Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base Draft Environmental Assessment - Response to Comments
Reference: 01EIFW00-2012-CPA-0060 Internal Use: CONS-600a

Dear Mr. Kelly,

Thank you for submitting comments on the draft Environmental Assessment (EA) for the U.S. Air Force's proposed Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base (MHAFB) located in Elmore County, Idaho. We have reviewed your comments in the letter dated May 4, 2012, and have revised the Biological Resources sections of the final EA to address your comments and concerns relating to *lepidium papilliferum* (slickspot peppergrass), *centrocercus urophasianus* (greater sage-grouse), and the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

The comments relating to slickspot peppergrass have been addressed in our agreed upon letter signed on 25 June 2012.

In response to your concerns of the potential effects of increased supersonic noise disturbance and interference with seasonally important behaviors on the greater sage-grouse, it is the Air Force's belief that noise would not be adverse to any seasonal behavior for the following reasons:

1. The probability of a bird, nest, or lek experiencing overflights more than once per day would be low due to the random nature of flight within the extensive airspace and the large area of land overflown.
2. Supersonic flight would only occur above 10,000 feet AGL in Jarbidge North and Owyhee North (producing a projected increase of 10 booms per month) and above 30,000 feet MSL in the Paradise North and South, and Jarbidge and Owyhee South ATCAAs. Under the proposed action, subsonic noise levels would increase by no more than 1 dB (to 65 L_{dnmr}) in the Owyhee North and Jarbidge North MOAs. All other MOAs would experience no perceptible changes in noise levels and remain below 45 L_{dnmr}. Noise levels under the MTRs would not change.

In an effort to mitigate the ground effects on the greater sage-grouse Mountain Home AFB has taken pro-active best management practices on its training ranges and emitter sites to preserve and

restore native habitat. Best management practices include planting/revegetating with native vegetation (including sagebrush), conducting prescribed burning to enhance the habitat, and working with agencies for the preservation of greater sage-grouse and its habitat. Operations outside Air Force property that might have the potential to have ground effects are flares. However, existing restrictions on the altitude from which flares may be dispensed during low fire risk periods (2,000 feet AGL) and cessation of flare deployment during very high and extreme fire risk would continue and preclude adverse impacts to sensitive species and their associated habitats. Mountain Home AFB will continue to identify and implement conservation measures in the future for greater sage grouse local populations, including measures that address the potential effects of increased aircraft noise. This additional information on noise and ground effects on the greater sage-grouse will be inserted in the Biological Resource section 4.11.1.2 of the final EA.

Mountain Home AFB will continue to implement existing natural resources management, mitigation, and monitoring efforts as prescribed in the Mountain Home Integrated Natural Resource Management Plan (INRMP) and the Bird/Wildlife Aircraft Strike Hazard (BASH) Avoidance Plan in an effort to adhere to the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Information on the implementation of measures in the BASH plan has been added to the Safety section 4.2.1.2 and the Biological Resources sections 4.11.1.1 and 4.11.1.2. Information on the continuation of management efforts as outlined in the INRMP has been added to the Biological Resources section 4.11.1.2 of the final EA.

The Unites States Air Force, Air Combat Command requests confirmation that this letter adequately addresses your comments and concerns. If you have any questions please contact Ms. Sarah Amthor at (757) 764-9228 or sarah.amthor@langley.af.mil.

Respectfully

SIGNED

LARRY H. DRYDEN, P.E.
Chief, Sustainable Installations (ACC/A7PS)

cc: Ms. Barbara Chaney, Idaho Fish and Wildlife Office, USFWS

United States Department of the Interior
U.S. Fish and Wildlife Service
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1387 S. Vinnell Way, Room 368
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Larry H. Dryden, P.E.
Chief, Sustainable Operations
HQACC/A7PS
129 Andrews Street, Suite 331
Langley AFB, VA 23665-2769

AUG 0 1 2012

Subject: Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base Final Environmental Assessment—Elmore, Owyhee, and Twin Falls Counties, Idaho—Response to Comments

In Reply Refer to: 01EIFW00-2012-CPA-0097 Internal Use: CONS-600a

This correspondence is in response to your letter received by the U.S. Fish and Wildlife Service (Service) dated July 24, 2012, requesting confirmation that the U.S Air Force, Air Combat Command (Air Force) adequately addressed Service comments on the draft environmental assessment (DEA) for the proposed Royal Saudi Air Force F-15SA Beddown (RSAF Beddown) at the Mountain Home Air Force Base (MHAFB). The Service acknowledges that the Air Force has adequately addressed our comments regarding *Lepidium papilliferum* (slickspot peppergrass), the Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act in the final environmental assessment. In addition, we applaud the efforts of MHAFB to provide for conservation of greater sage-grouse (*Centrocercus urophasianus*) local populations; this species is of high conservation concern and has a high degree of political sensitivity. We support implementation of additional future Air Force measures identified for conservation of this candidate species, including measures that address the potential effects of increased aircraft noise on greater sage-grouse.

Thank you for your continued interest in the conservation of wildlife, plants, and their habitats. For additional information, please contact Barbara Chaney of my staff at (208) 378-5259.

Sincerely,

for Brian T. Kelly
State Supervisor

INTERAGENCY AND INTERGOVERNMENTAL COORDINATION FOR ENVIRONMENTAL PLANNING AND PUBLIC INVOLVEMENT

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR COMBAT COMMAND
LANGLEY AIR FORCE BASE, VIRGINIA

AUG 9 2011

FROM: HQACC/A7PS
129 Andrews St., Suite 331
Langley AFB, VA 23665-2769

TO: See Distribution List

Dear Sir or Madam,

The United States Air Force Air Combat Command (Air Force) and Mountain Home Air Force Base (AFB) are preparing an Environmental Assessment (EA) addressing the Proposed Royal Saudi Air Force (RSAF) F-15SA Modernization Program Beddown at Mountain Home AFB. This proposed action is desirable to continue building our relationship and ability to work conjointly with the Saudi Arabian armed forces. The RSAF plans to establish a Continental United States (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include the basing of up to 18 aircraft. The RSAF requested a CONUS beddown location co-located with a U.S. Air Force F-15E unit to make use of common facilities and take advantage of joint training opportunities. Under the proposed action, the RSAF squadron would operate as a separate fighter squadron under the operational control of the 366th Fighter Wing (366 FW) at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex in Idaho, Nevada, and Oregon. The squadron would operate as a Fighter Training Unit (FTU) and a maintenance training center for at least five years. Pilots, weapon system officers, and maintenance personnel would be trained at Mountain Home. There would be no change in the mission for the 366 FW.

The EA will be prepared to evaluate potential impacts resulting from implementation of the proposed action and the no-action alternative. It will also examine the potential for cumulative impacts when combined with past, present, and any future proposals. In support of this process, we request your input in identifying general or specific issues or areas of concern you feel should be addressed in the environmental analysis.

Please forward any issues or concerns to Ms. Sarah Amthor at the above address, or call her at (757) 764-9228. Though we will consider comments received at any time during the environmental process to the extent possible, we would appreciate comments by September 9, 2011. We thank you in advance for your assistance in this effort, and we look forward to hearing from you.

Sincerely,

SIGNED

LARRY H. DRYDEN, P.E.
Chief, Sustainable Installations

Attachment:
Distribution List

Interagency and Intergovernmental Coordination for Environmental Planning Distribution List

Office of Senator James Risch
United States Senate
Washington, DC 20510

Office of Senator James Risch
350 N. 9th St. Ste 302
Boise, ID 83702

Office of Senator Michael Crapo
United States Senate
Washington, DC 20510

Office of Senator Michael Crapo
251 East Front Street, Suite 205
Boise, ID 83702

Office of Senator Harry Reid
United States Senate
Washington, DC 20510

Office of Senator Harry Reid
600 East William St, #302
Carson City, NV 89701

Office of Senator Dean Heller
United States Senate
Washington, DC 20510

Office of Senator Dean Heller
Lloyd George Federal Building,
333 South Las Vegas Blvd.
Suite 8203
Las Vegas, NV 89101

Office of Senator Ron Wyden
United States Senate
Washington, DC 20510

Office of Senator Ron Wyden
707 13th Street SE, Suite 285
Salem, OR 97301

Office of Senator Jeff Merkley
United States Senate
Washington, DC 20510

Office of Senator Jeff Merkley
495 State St., Suite 330
Salem, OR 97301

Office of Governor C.L. "Butch" Otter
P.O. Box 83720
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PUBLIC NOTIFICATION

As part of the public process the Air Force published the following notice of availability of the draft environmental assessment on April 10, 2012 in the *Idaho Statesman* and April 11, 2012 in the *Mountain Home News*.

Notice of Availability

The United States Air Force invites public comment on the Draft Environmental Assessment for Proposed Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base

The United States Air Force (USAF) is supporting the Royal Saudi Air Force (RSAF) request to establish a Continental U.S. (CONUS) presence to train on and operate the new F-15SA aircraft. The presence would include basing and operating of up to 18 aircraft. Working with the USAF, the RSAF requested a CONUS beddown location co-located with a USAF F-15E unit to make use of common facilities and take advantage of joint training opportunities. Under the proposed action, the RSAF squadron would operate as a USAF-lead fighter squadron under the operational control of the 366th Fighter Wing at Mountain Home AFB. The RSAF squadron would use the Mountain Home Range Complex and associated airspace in Idaho, Nevada, and Oregon. The squadron, under the direction of the 366 FW, would operate as a Formal Training Unit and a maintenance training center for at least five years.

A copy of the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact are available for review at the following libraries beginning April 10, 2012.

Mountain Home Public Library	790 North 10th East, Mountain Home, Idaho
Mountain Home AFB Library	Bldg 2427, 520 Phantom Ave., Mountain Home AFB, Idaho
Boise Public Library	715 S. Capitol Blvd., Boise, Idaho
Bruneau District Library	32073 Ruth St., Bruneau, Idaho
Eastern Owyhee County Library	1520 Boise Avenue, Grand View, Idaho
Malheur County Library	388 SW 2nd Avenue
Elko County Library	720 Court Street, Elko, Nevada
Humboldt County Library	85 East Fifth Street, Winnemucca, Nevada

You may request a copy of the document from the address below. An electronic version of the EA is also available for public review at www.mountainhome.af.mil (click the environmental information link). Please provide any comments on the Draft EA by May 10, 2012, and submit them via:

e-mail: ACC.A7PP@langley.af.mil - Subject: RSAF F-15SA Review Comments
or mail: HQ ACC/A7PS
Attn: RSAF F-15SA Review Comments
129 Andrews St., Suite 331
Langley AFB, VA 23665-2769

DRAFT ENVIRONMENTAL ASSESSMENT DISTRIBUTION LIST

Proposed Royal Saudi Air Force F-15SA Beddown, Mountain Home AFB
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PUBLIC AND AGENCY COMMENTS ON THE DRAFT EA

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MAY 0 4 2012

Subject: Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base Draft Environmental Assessment—Elmore, Owyhee, and Twin Falls Counties, Idaho—Public Comments

In Reply Refer to: 01EIFW00-2012-CPA-0060 Internal Use: CONS-600a

This correspondence is in response to your letter received by the U.S. Fish and Wildlife Service (Service) dated April 4, 2012, requesting comments on the draft environmental assessment (DEA) for the U.S. Air Force's (Air Force) proposed Royal Saudi Air Force F-15SA Beddown (RSAF Beddown) at the Mountain Home Air Force Base (MHAFB) located in Elmore County, Idaho, with air space extending into Owyhee and Twin Falls Counties, Idaho.
When reviewing proposed actions such as the RSAF Beddown, the Service typically focuses on three broad categories of trust resources: 1) listed, proposed, and candidate species under the Endangered Species Act (Act) of 1973, as amended, 2) migratory birds, and 3) wetland and riparian areas. The Service provides recommendations for protective measures for listed species in accordance with the Act. Protective measures for migratory birds are provided pursuant to the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Wetlands are protected pursuant to Section 4 of the Clean Water Act, Executive Order 11990 (wetland protection), and Executive Order 11998 (floodplain management) as well as the Service's mitigation goal of "no net loss" of wetlands. The DEA states that no wetlands or riparian areas will be affected by the proposed RSAF Beddown at the MHAFB (Air Force 2012, p. 4-34); therefore, wetlands and riparian areas will not be addressed further in these comments. Our comments regarding listed, proposed, and candidate species under the Act and migratory birds are provided below.

Comments regarding the Endangered Species Act

Species listed as threatened or endangered receive full protection under the Act, while species proposed for listing are protected from actions that may jeopardize their continued existence. Candidate species have no formal protection under the Act; however, the Service encourages the formation of partnerships to conserve candidate species since these species by definition may

warrant future protection. Proactive conservation efforts that address threats to a candidate species may preclude the need for future listing under the Act. The Service recommends that the final EA fully analyzes the potential effects of the proposed RSAF Beddown on any listed, proposed, or candidate species on MHAFB and its associated airspace.

Slickspot Peppergrass

Lepidium papilliferum (slickspot peppergrass), a species listed as threatened under the Act, is known to occur on the Air Force's Juniper Butte Range, which is identified in the MHAFB 2012 Interim Final Integrated Natural Resource Management Plan (INRMP) as part of the Mountain Home Training Range Complex. In addition, proposed critical habitat for the slickspot peppergrass was published in the May 10, 2011 Federal Register (76 FR 27184). The Juniper Butte Range was excluded from proposed critical habitat as it was concluded that conservation efforts identified in the 2004 INRMP "are being implemented, are likely effective, and will provide a conservation benefit to slickspot peppergrass occurring in habitats within or adjacent to the Juniper Butte Range" (76 FR 27201). We anticipate that the final critical habitat designation for slickspot peppergrass will be published in the Federal Register by the end of 2012. We recommend that the final EA be updated to include the most recent information available regarding critical habitat designation for the slickspot peppergrass.

The existing 2004 INRMP and the soon to be final updated 2012 INRMP provide for conservation of the slickspot peppergrass in concert with Air Force training activities and associated support actions. Activities described in the DEA within the range of slickspot peppergrass are limited to overflights, dropping of ordnance, and deployment of chaff and flares. Effects of ongoing aircraft overflights, dropping of ordnance, and deployment of chaff and flares are described within the existing 2004 INRMP and the soon-to-be-finalized updated 2012 INRMP, and have previously been addressed through section 7 consultation (USFWS 2010, entire; USFWS 2012, entire). We recommend that the Air Force determine if additional section 7 consultation will be required for this proposed new action, and that any additional consultation be completed prior to signing of the Finding of No Significant Impact for the EA. We further recommend the final EA state that the proposed RSAF Beddown will comply with conservation measures for slickspot peppergrass as identified within the updated MHAFB 2012 INRMP.

Greater Sage-grouse

The greater sage-grouse (*Centrocercus urophasianus*) is a candidate for listing under the Act. The Idaho State Office of the Bureau of Land Management (Bureau) has recently developed maps identifying preliminary Priority Habitat and preliminary General Habitat, which are important areas for greater sage-grouse conservation in Idaho. The Bureau's greater sage-grouse preliminary Priority Habitat and General Habitat areas can be viewed at: http://www.blm.gov/id/st/en/sage-grouse_rmp_revision.html (last accessed on May 2, 2012).

Airspace proposed to be used for operations of the Royal Saudi Air Force F-15SA aircraft overlies a significant portion of the northern segment of greater sage-grouse preliminary Priority Habitat Area F as well as portions of preliminary Priority Habitat Areas H and J as mapped by the Bureau. In addition, preliminary General Habitat for the greater sage-grouse as mapped by the Bureau also occurs below airspace associated with the MHAFB. Much of preliminary Priority Habitat area F is located within the Owyhee North and Jarbidge North airspace areas proposed to be used by F-15SA aircraft operations associated with the MHAFB. In addition, the

Owyhee North and Jarbidge North airspace areas also includes areas that were identified as Key Sage-Grouse Habitat and population strongholds for the greater sage-grouse within the 2006 Idaho Greater Sage-Grouse Management Plan (Idaho Sage-grouse Advisory Committee 2006, p. 3–29). This Key Habitat overlaps with the Bureau's preliminary Priority Habitat Area F and preliminary General Habitat.

The DEA states that sonic booms will increase from the baseline level of 42 to 59 sonic booms per month in the Owyhee North airspace with the Royal Saudi Air Force F-15SA aircraft being located at MHAFB. Similarly, sonic booms in the Jarbidge North airspace would increase from a baseline level of 44 booms per month to 54 sonic booms per month (Air Force 2012, p. 4-11). The DEA further states that, "Although the total number of supersonic flights and sonic booms occurring would increase from baseline, studies of supersonic noise on birds and mammals indicate that animals tend to habituate to sonic booms and long term effects are not adverse" (Air Force 2012, p. 4-35). However, the Service recommends that the noise analysis within the final EA considers additional information in describing the potential effects of increased supersonic noise disturbance from operation of the Royal Saudi Air Force F-15SA aircraft at the MHAFB on the greater sage-grouse as well as other wildlife species.

Research has demonstrated both direct and indirect effects of anthropogenic noise on wildlife. These effects include interference with acoustic displays during breeding and lowered predator detection rates (Habib et al. 2007, p. 181). In addition, researchers from Dr. Gail Patricelli's lab at the University of California Davis are conducting ongoing research regarding greater sage-grouse responses to noise (http://www.eve.ucdavis.edu/gpatricelli/Patricelli_Research_Interests.html#noise last accessed May 2, 2012). Preliminary results from Dr. Patricelli's lab, as presented at the 2010 Western Association of Fish and Wildlife Agencies Sage and Sharp-tailed Grouse Workshop, indicated that anthropogenic noise is detrimental to greater sage-grouse at the individual and population level. Noise generated by military training activities (e.g., aircraft over flights, dropping of ordnance) from the Royal Saudi Air Force F-15SA aircraft may affect individual sage-grouse by interfering with seasonally important behaviors and use of habitat including lekking, nesting, brood-rearing, and wintering, particularly in light of other proposed actions (i.e., F-35A beddown) that will likely further increase potential impacts to wildlife from noise disturbance within MHAFB airspace.

While candidate species have no legal status under the Act, we encourage proactive conservation efforts for the greater sage-grouse as well as other special status species and habitats as proactive conservation may preclude the need to list species under the Act. Proactive efforts to address identified issues such as noise disturbance during periods critical for reproduction will benefit the greater sage-grouse. For example, the Air Force may schedule or locate training flights that are likely to generate sonic booms to avoid active greater sage-grouse lekking sites during critical periods, which typically would be between March 15 and May 15 between 6 pm and 9 am. We encourage the Air Force to implement conservation measures designed to avoid or minimize the effects of noise disturbance on the greater sage-grouse associated with the proposed action in the Owyhee North and Jarbidge North airspace areas.

As you know, the Idaho Department of Fish and Game (IDFG) is the primary agency responsible for the management of the greater sage-grouse within the State of Idaho. The State of Idaho is actively partnering with multiple entities to maximize conservation of the greater sage-grouse. We encourage the Air Force to continue to work closely with the IDFG to identify and

implement conservation measures for greater sage-grouse local populations, including conservation measures to address potential effects of increased aircraft noise associated with the proposed Royal Saudi Air Force F-15SA beddown at the MHAFB.

Comments regarding the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act

Although no longer included on the list of threatened and endangered species in the lower 48 states pursuant to the Act as of August 7, 2007, the bald eagle (*Haliaeetus leucocephalus*) continues to be federally protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The Service has developed National Bald Eagle Management Guidelines (Guidelines) to advise project proponents when and under what circumstances the protective provisions of these Acts may apply to their activities to help avoid violations of the law. The Guidelines and additional information on protection for bald eagle are available on the Service's website at http://www.fws.gov/migratorybirds/baldeagle.htm (last accessed May 2, 2012). The Service has also developed guidance for permitting non-lethal take of both the bald eagle and the golden eagle (*Aquila chrysaetos*) over the past few years. In addition, research has shown that many migratory bird species are in decline, facing a growing number of threats on their migration routes and in both their summer and winter habitats. The greatest threat to birds, and to all wildlife, continues to be the loss or degradation of habitat due to human development and disturbance. The DEA includes discussion of avoidance of impacts to migratory birds, including bald and golden eagles, associated with the MHAFB. The Service recommends that the preferred alternative in the final EA address migratory birds through best management practices to minimize effects of the proposed action on migratory birds as described in the BASH plan and the MHAFB 2012 INRMP.

Thank you for your interest in threatened and endangered species conservation. Please contact Barbara Chaney of my staff at (208) 378-5259 if you require additional information regarding comments addressing the proposed Royal Saudi Air Force F-15SA beddown at the MHAFB.

Sincerely,

for Brian T. Kelly
State Supervisor

cc: USFWS, Region 1, Portland (Baker, Stavrakas)
US Air Force, MHAFB (Robertson)
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References Cited

Habib, L., E. M. Bayne, and S. Boutin. 2007. Chronic industrial noise affects pairing success and age structure of ovenbirds. Journal of Applied Ecology. 44:176-184.

Idaho Sage-grouse Advisory Committee. 2006. Conservation Plan for the Greater Sage-grouse in Idaho. 358 pp.

U.S. Air Force (Air Force). 2012. Draft United States Air Force F-35A Operational Basing Environmental Impact Statement. March 2012.

U.S. Fish and Wildlife Service (USFWS). 2012. Biological Opinion on the Effects of Mountain Home Air Force Base 2012 Integrated Natural Resource Management Plan in Elmore, Owyhee, and Twin Falls Counties, Idaho on the Slickspot Peppergrass *(Lepidium papilliferum)*. U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office, Boise Idaho. April 2012. Tracking Number 01EIFW00-2012-F-0188. 5 pp. plus attachments.

U.S. Fish and Wildlife Service (USFWS). 2010. Biological Opinion on the Effects of U.S. Air Force Ongoing Actions at Juniper Butte Range and in Owyhee County, Idaho on the Slickspot Peppergrass *(Lepidium papilliferum)*. U.S. Fish and Wildlife Service, Idaho Fish and Wildlife Office, Boise, Idaho. October 2010. Tracking Number 14420-2010-F-0405. 110 pp.

April 18, 2012

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SUBJECT: Comments RE: Draft Environmental Assessment (EA) for Proposed Royal Saudi Air Force F-15SA Beddown, Mountain Home AFB

Dear Sirs,

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (EA) for the Proposed Royal Saudi Air Force F-15SA Beddown, Mountain Home AFB (MHAFB). Overall, I found the EA a very good document and it generally well characterized the impact of a Royal Saudi beddown at Mountain Home AFB. What was missing from the document was the very warm support the plan to beddown a Royal Saudi Air Force Squadron at Mountain Home AFB has seen in the community of Mountain Home and the State of Idaho. For the past 3 years, MHAFB has hosted the 428th Fighter Squadron providing training to the Republic of Singapore Air Force in their F-15S and this has been a tremendous success. The entire community has graciously accepted and added the Singapore Airmen and families as part of our community. The community is looking forward to the addition of the Royal Saudi Air Force.

The following are my recommended corrections to the Draft Environmental Assessment (EA) for the Proposed Royal Saudi Air Force F-15SA Beddown:

Chapter 3: Description of the Affected Environment

Section 3.2.1 paragraph 2 list Owen and Grasmere as private airports. Grasmere Airport is actually listed as U91, Public, owned by the Idaho Transportation Department, Aeronautic Division. Recommendation: Revised paragraph to reflect that Grasmere is a "Public" airport.

Chapter 5: Cumulative Effects and Irreversible and Irretrievable Commitment of Resources

Page 5-6 AETC F-35A Training Beddown Line 8 "Noise levels above 65 decibel (dB) Day-Night average Sound Level (DNL) could extend as far as the C.J. Strike Dam Recreation Annex and affect the quality of outdoor recreation at this facility." This is an erroneous statement taken from the Executive Summary of the AETC Draft F-35A. It is not supported by the analysis in the document or the tables showing the noise contours for F-35A training or operations at MHAFB.

The following was my recommendation to HQ AETC/ A7CPP in a March 1, 2012 letter for this same discussion in the Draft F-35A Training Beddown EIS.

ES Page 65 paragraph 3 line 5 "Outside the base, noise levels above 65dB DNL could exceed as far as the CJ strike Dam Recreation Annex…" conflicts with EIS BO-122 paragraph 2 line 3 "There are no public or recreation sites outside the base within the noise-impact area (defined by noise levels of 65dB DNL….) In addition the noise footprint shown in Figures BO 3.2-4, 5 and 6 all show the >65 dB line not to be close to the USAF CJ Strike Dam Recreation Annex, off the page. (See charts--The Recreation Annex is over 5 miles southwest of the base boundary and completely off all the noise Figures shown in the EIS). Recommend removing the reference in the Executive Summary **DELETE Sentence** – "Outside the base… …outdoor recreation at this facility"

Recommendation: Recommend deleting the erroneous sentence from Chapter 5 of the Draft Environmental Assessment (EA) for the Proposed Royal Saudi Air Force F-15SA Beddown or replace it with the in depth analysis in the Draft AETC F-35A Training Beddown EIS BO-122 paragraph 2 line 3 "There are no public or recreation sites outside the base within the noise-impact area (defined by noise levels of 65dB DNL….)".

Sincerely,

BILLY F RICHEY
State of Idaho,
Special Assistant for Military Affairs

1st Endorsement:
Concur

Tom Rist
Mayor
City of Mountain Home, ID

2nd Endorsement:
Concur

Arlie Shaw
Commissioner
Elmore County
Mountain Home, ID

3rd Endorsement:
Concur

Alan Bermensolo
Local Representative of
Air Combat Command Commander's Civic Leader Group
And CSAF Civic Leader Program

4th Endorsement:
Concur, I am president of the Mountain Home Chamber of Commerce's, Military Affairs Committee representing approximately 90 individuals and businesses that work to support and promote Mountain Home AFB. We strongly encourage ACC to consider and implement the attached recommendation. We also strongly support the Royal Saudi Air Force F-15SA beddown at Mountain Home AFB, Idaho.

Shane Zenner
Mountain Home, Idaho
Military Affairs Committee,
President

-----Original Message-----
From: Andrew Potter
Sent: Monday, April 16, 2012 4:56 PM
To: ACC/A7PS Sustainable Installations

Subject: Against proposede Royal Saudi Air Force F-15SA Beddown at Mountain Home Air Force Base

We are writing in protest of the USAF supporting the Royal Saudi Air Force request to establish a Continental U.S. presence to train on and operate the new F-15SA aircraft at Mountain Home Air Force Base. All this does is give the U.S. Air Force ammunition to bring the F-35's to Idaho. That is not a good idea and this is not a good idea. You need to keep these noisey planes out of Idaho. There is no reason to bring planes into an area that will disrupt people's lives. Keep all training out of Idaho.

Please send us a copy of the document as noted in the ad. And please keep the noisy planes out of Idaho.

Andrew & Sharon Potter