



FINAL

**ENVIRONMENTAL ASSESSMENT
FOR THE PROPOSED TEMPORARY RELOCATION
OF THE 366TH FIGHTER WING**

Prepared by
Mountain Home Air Force Base
Air Combat Command
For
Idaho Air National Guard

FEBRUARY 18, 2015

Intentionally Left Blank

ACRONYMS

°F	degrees Fahrenheit	MOA	Military Operations Area
124 FW	124th Fighter Wing	mph	Miles Per Hour
366 FW	366th Fighter Wing	MSL	Mean Sea Level
ACAM	Air Conformity Applicable Model	NAAQS	National Ambient Air Quality Standards
AEI	Air Emissions Inventory	NEPA	National Environmental Policy Act
AICUZ	Air Installation Compatible Use Zone	NO2	Nitrogen Dioxide
AGE	Aerospace ground equipment	NOx	Nitrogen Oxides
ANGB	Air National Guard Base	NOA	Notice of Availability
AQCR	Air Quality Control Region	O3	Ozone
ASD	Average Sortie Duration	Pb	Lead
BOI	Boise Airport	PM	Particulate Matter
BRAC	Base Realignment and Closure	PM10	Particulate Matter Equal to or Less Than Ten Microns in Diameter
CAA	Clean Air Act	PM2.5	Particulate Matter Equal to or Less Than 2.5 Microns in Diameter
CEQ	Council on Environmental Quality	POV	Privately Owned Vehicle
CFR	Code of Federal Regulations	R-	Restricted Airspace
CMR	Combat Mission Ready	RAP	Ready Aircrew Program
CO	Carbon Monoxide	SEL	Sound Exposure Level
CY15	Calendar Year 2015	SIP	State Implementation Plan
dB	Decibels	SO2	Sulfur Dioxide
dBA	A-weighted Decibels	SUA	Special Use Airspace
dBC	C-weighted Decibels	TGO	Touch and Go
DNL	Day-Night Average Sound Level	USAF	U.S. Air Force
DoD	Department of Defense	USC	U.S. Code
EA	Environmental Assessment	USEPA	U.S. Environmental Protection Agency
EIAP	Environmental Impact Analysis Process	VOC	Volatile Organic Compounds
EIS	Environmental Impact Statement	WRCC	Western Regional Climate Center
ESA	Endangered Species Act		
FAA	Federal Aviation Administration		
FICON	Federal Interagency Committee on Noise		
FONSI	Finding of No Significant Impact		
FY15	Fiscal Year 2015		
HAPS	Hazardous Air Pollutants		
IDANG	Idaho Air National Guard		
IDEQ	Idaho Department of Environmental Quality		
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning		
INM	Integrated Noise Model		
LA	Low Approach		
Ldmnr	Onset-Rate Adjusted Monthly Day-Night Average Sound Level		
L _{max}	Maximum Sound Level		
LTO	Landings and Takeoff		
MHAFB	Mountain Home Air Force Base		

FINDING OF NO SIGNIFICANT IMPACT

Temporary Relocation of the 366th Fighter Wing

Pursuant to provisions of the National Environmental Policy Act (NEPA), Title 42 United States Code (USC) Sections 4321 to 4347, implemented by Council on Environmental Quality (CEQ) Regulations, Title 40, Code of Federal Regulations (CFR) §1500-1508, and 32 CFR §989, Environmental Impact Analysis Process, the U.S. Air Force (Air Force) assessed the potential environmental consequences associated with temporarily relocation of the 366th Fighter Wing (366 FW) aircraft and support personnel during calendar year 2015.

The Proposed Action is to relocate up to 54 F-15E/SG aircraft, associated support equipment and personnel for 120 days during CY15. Under this action, 366 FW would fly an appropriate number of sorties in relation to the number of aircraft relocated under this action to meet the overall RAP (Ready Aircrew Program) requirement. A portion of the sorties required during the Mountain Home Air Force Base (MHAFB) runway repairs may be flown at a different location under the authority of a different NEPA document and/or AICUZ (Air Installations Compatible Use Zones) capacity. While temporarily relocated, 366 FW would use existing facilities with no required modifications, construction, or demolition.

The Environmental Assessment (EA), incorporated by reference into this finding, analyzes the potential environmental consequences of activities associated with temporary relocation of the 366 FW and provides any environmental protection measures necessary to avoid or reduce adverse environmental impacts.

The EA considers all potential impacts of the temporary relocation. The EA also considers cumulative environmental impacts with other projects associated with all alternatives.

PREFERRED ALTERNATIVE

Preferred Alternative would temporarily relocate 366 FW aircraft to Gowen Field Air National Guard Base (ANGB). This Alternative would include the relocation of up to 54 F-15E aircraft, associated support equipment, and personnel for 120 days during CY15. While deployed to Gowen Field ANGB, the 366 FW would utilize existing facilities of the ID ANG, no modifications, demolition, or constructed would be conducted.

The 366 FW operations at Gowen Field ANGB would consist of landings and takeoff (an LTO cycle includes taxiing between the hangar and runway, taking off, climbing out of the local pattern, descending from the local pattern, and touch down) and touch and go's (TGO). A touch and go includes taxiing between hangar and runway, taking off, climbing out of local pattern, descending, touch down, and take off to repeat pattern. Operationally, implementation of this Alternative Action would include up to 450 sorties flown by the 366 FW out of Gowen Field ANGB during a 120 day period; these training sorties would depart from and return to Gowen Field ANGB. Departing flights would require 100% afterburner (AB) use to minimize flight safety risks. When temperatures are above 32°F, afterburners provide an increase in thrust for F-15E aircraft during takeoff flight operations would be conducted in existing military operational airspace in the region including Restricted Areas R-3203 and R-3202. Training would not occur over the city of Boise. For this Alternative, the 366 FW would fly an average of 10 sorties per day with average sortie duration (ASD) of 1.5 hours. During the temporary relocation period, it is anticipated that the 190th Fighter Squadron (190 FS) of the 124th Fighter Wing (124 FW) would maintain existing A-10 operations of approximately 12 sorties per day.

The Air Force performed extensive noise analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. The number of sorties analyzed, runway utilization, flight tracks, and profiles were varied to achieve < 3 dB change at noise sensitive receptors within the Preferred Alternative. Specific elements of this alternative include:

- Runway 10R tracks modified to turn south sooner than previously modeled (just beyond the runway threshold)
- Departure Runway Utilization changed to 20% Runway 10R and 80% Runway 28L
- 1/3 of all F-15E operations were modeled with F100-PW-220 engine (training of the Royal Singapore Air Force) and 2/3 were modeled with F100-PW-229 engine (389 FS and 391 FS).
- For F-15Es with 229 engine, departures modeled with 15 degree climb angle at 400ft AGL when AB turns off to 5,000ft MSL

After accounting for these changes in the flight profile, the Air Force identified that a maximum of 450 sorties with afterburner takeoffs would not cause significant noise impacts on the community.

The Preferred Alternative would allow up to 54 F-15E aircraft to relocate to Gowen Field ANGB and fly up to 450 sorties without having a significant impact on the human environment. Since only a portion of the FY15 RAP sortie requirements could be met during the 120 days, MHAFB would be required to fly remaining sorties at additional locations meeting both existing AICUZ and NEPA capacity.

The Preferred Alternative, with a maximum of 450 sorties at 100% AB, would meet the purpose and need and satisfies all selection standards. Additionally, the Preferred Alternative will have no significant impact on air pollution, air space, or safety regarding the community.

ALTERNATIVE B: NO-ACTION ALTERNATIVE

The No-Action Alternative provides the existing baseline environment to which the potential impacts of the action for each alternative will be compared. Under this alternative, the 366 FW would not temporarily relocate. As a result, the 366 FW would be unable to conduct flight training activities due to the comprehensive airfield reconstruction project scheduled for implementation at MHAFB and would be unable to meet its mission readiness requirements. However, because Council on Environmental Quality regulations stipulate that the No-Action Alternative be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented, the No-Action Alternative will be carried forward for analysis in the EA.

SUMMARY OF FINDINGS

The Air National Guard has concluded that no significant adverse effects would result to the following resources as a result of the Preferred Alternative: biological resources, cultural resources, occupational health and safety, airspace management, noise, air quality, environmental justice, infrastructure and utilities, and hazardous materials management. No significant adverse cumulative impacts would result from activities associated with the adoption of the Preferred Alternative when considered with past, present, or reasonably foreseeable future projects. In addition, the EA concluded that the Preferred Alternative would not have significant adverse effects water resources, earth resources, land use, socioeconomics, or transportation.

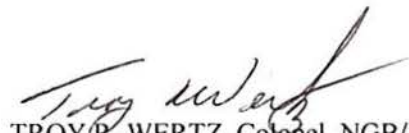
PREFERRED ALTERNATIVE

Preferred Alternative: Temporarily relocate up to 54 F-15E aircraft to Gowen Field Air National Guard Base, Boise, Idaho and conduct 450 maximum number of flying operations.

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and analyses contained in the attached EA, conducted under the provisions of NEPA, CEQ Regulations, and 32 CFR Part 989, I conclude that the Temporary Relocation of the 366 FW to Gowen Field during CY15 where they will conduct a maximum of 450 sorties would not have a significant environmental impact, either by itself or cumulatively with other projects at any alternative basing location. Accordingly, an Environmental Impact Statement is not required. The signing of this Finding of No Significant Impact completes the environmental impact analysis process.

DATE: 9 April 15


TROY R. WERTZ, Colonel, NGB/A7A
Chief, Asset Management Division

CONTENTS

ACRONYMS	i
FINDING OF NO SIGNIFICANT IMPACT.....	ii
CONTENTS	1
TABLES	3
FIGURES	3
SECTION 1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION	4
1.1 INTRODUCTION	4
1.2 PURPOSE AND NEED FOR THE ACTION.....	4
1.3 INTERAGENCY AND INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS	5
1.4 PUBLIC AND AGENCY REVIEW OF EA.....	5
1.5 BACKGROUND ON GOWEN FIELD ANGB.....	5
SECTION 2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	6
2.1 PROPOSED ACTION.....	6
2.1.1 Training Operations.....	6
2.2 SELECTION STANDARDS	7
2.3 PREFERRED ALTERNATIVE: GOWEN FIELD ANGB, ID	7
2.4 ALTERNATIVE B: NO-ACTION ALTERNATIVE.....	8
2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION.....	8
2.5.1 Alternative C: 50% Afterburner / 50% Military Power Takeoff.....	8
2.5.2 Alternative D: 100% Military Power Takeoff.....	9
2.5.3 Alternative E: 2200 sorties, 100% Afterburner Takeoff	9
2.6 SUMMARY	9
SECTION 3.0 AFFECTED ENVIRONMENT.....	10
3.1 AIR QUALITY	10
3.1.1 Regulatory Requirements	10
3.1.2 Existing Conditions	12
3.2 NOISE	14
3.2.1 Definition of Resource	14
3.2.2 Existing Conditions	16

3.3 SAFETY	20
3.4 RESOURCES NOT AFFECTED.....	21
SECTION 4.0 ENVIRONMENTAL CONSEQUENCES	24
4.1 AIR QUALITY	24
4.1.1 Approach to Analysis	24
4.1.2 Impacts	24
4.2 NOISE	26
4.2.1 Approach to Analysis	26
4.2.2 Impacts	26
4.3 SAFETY	33
4.3.1 Approach to Analysis	33
4.3.2 Impacts	34
SECTION 5.0 CUMULATIVE IMPACTS.....	34
SECTION 6.0 REFERENCES	35
SECTION 7.0 LIST OF PREPARERS	37
APPENDIX A IICEP DISTRIBUTION LIST/CORRESPONDANCE	38
APPENDIX B AIR QUALITY CALCULATIONS	80
APPENDIX C DETAILS OF NOISE ANALYSIS	102
APPENDIX D F-15 SAFETY HISTORY.....	112
APPENDIX E A-10 SAFETY HISTORY	117

TABLES

Table 1 De Minimis Levels for Conformity Determination.....11
Table 2. National Standards and Ada County Calendar Year 2013 Statistics.....13
Table 3. 2011 Annual Emissions for Ada County.....13
Table 4. 2009 Air Emissions for 124 FW of the IDANG.....13
Table 5. Land Use Analysis under Baseline Conditions20
Table 6. Estimated Increase in Mobile Source Emissions Associated with the Preferred Alternative25
Table 7. Proposed F-15 Flight Operations at Boise International Airport for the Preferred Alternative27
Table 8. Land Use Analysis for Preferred Alternative and Comparison with Baseline33

FIGURES

Figure 1. Typical A-weighted Sound Levels of Common Sounds.....15
Figure 2. Aircraft DNL Contours and Land Use for Baseline Scenario.....18
Figure 3. Aircraft DNL Gradients for Baseline Scenario.....19
Figure 4. Aircraft DNL Contours and Land Use for Preferred Alternative.....29
Figure 5. Aircraft DNL Gradients for Preferred Alternative.....30
Figure 6. Comparison of 65 dB and 75 dB DNL Contours of Baseline and Preferred Alternative31
Figure 7. Areas of 3 dB DNL Increase within the 65 dB DNL Contour for the Preferred Alternative.....32

SECTION 1.0

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The 366th Fighter Wing (366 FW), Mountain Home AFB (MHAFB) is located in southwestern Idaho approximately 50 miles southeast of Boise and 8 miles southwest of the City of Mountain Home. MHAFB supports three squadrons of F-15E/SG aircraft. The 366 FW has recently approved a comprehensive airfield reconstruction project at MHAFB. In order to continue required training and operational activities during this planned runway construction project, MHAFB is considering temporarily relocating 366 FW aircraft to a compatible installation in order to support the Fiscal Year (FY) 15 Ready Aircrew Program (RAP) Combat Military Ready (CMR) training requirements. This temporary relocation of the 366 FW would include the relocation of up to 54 F-15E/SG aircraft, associated support equipment, and personnel for 120 days during calendar year (CY) 2015.

In accordance with the National Environmental Policy Act of 1969 (NEPA), the USAF is preparing this environmental assessment (EA) to evaluate the feasibility and potential environmental impacts associated with temporary relocation of the 366 FW for 120 days during CY15.

NEPA requires consideration of environmental issues in federal agency planning and decision making. Under NEPA, federal agencies must prepare an EA or environmental impact statement (EIS) for any major federal action, except those actions that are determined to be “categorically excluded” from further analysis. An EA is a concise public document that provides sufficient analysis for determining whether the potential environmental impacts of a Proposed Action are significant, resulting in the preparation of an EIS; or if not significant, resulting in the preparation of a Finding of No Significant Impact (FONSI), and where applicable, a Finding of No Practicable Alternative (FONPA). This EA was prepared in accordance with NEPA (42 United States Code [USC] 4321-4317), implemented through the Council on Environmental Quality (CEQ) regulation of 1978 (40 Code of Federal Regulations [CFR] § 1500-1508), and 32 CFR §989 Environmental Impact Analysis Process (EIAP).

1.2 PURPOSE AND NEED FOR THE ACTION

The purpose of this action is to relocate up to 54 F-15E aircraft from MHAFB to ensure that aircraft are available for combat operations and training during runway repairs at MHAFB. Additionally, this relocation is intended to limit government spending on Temporary Duty costs and time away from home for Airmen by conducting as many training sorties as possible from a local airfield that does not require extensive travel away from MHAFB. Within this NEPA analysis, 366 FW intends to operate an appropriate number of local sorties relative to the number of aircraft temporarily relocated. Any remaining required training sorties necessary to comply with the FY15 RAP and CMR programs during this timeframe would be conducted at other locations and do not fall within the scope of this environmental assessment.

The need for this action is driven by the fact that the MHAFB airfield will be unavailable for operations for approximately 120 days due to a comprehensive airfield improvement and reconstruction program. If the aircraft are not moved from MHAFB, they will be unavailable for combat operations and training use; this represents an unacceptable risk for the United States Air Force (USAF) and Department of Defense (DoD).

1.3 INTERAGENCY AND INTERGOVERNMENTAL COORDINATION AND CONSULTATIONS

Federal, state, and local agencies with the jurisdiction of the Proposed Action that could be affected by the alternative actions were notified and consulted during the development of this EA. Two responses have been received to date. The Idaho State Historic Preservation Office responded that they currently have no concerns with the Proposed Action.

The U.S. Fish and Wildlife Services (Service) responded, encouraging the 124th Fighter Wing (124 FW) at Gowen Field Air National Guard Base (ANGB) to avoid or minimize potential impacts on Endangered Species Act (ESA) listed species slickspot peppergrass (*Lepidium papilliferum*), bald eagles (*Haliaeetus leucocephalus*), golden eagles (*Aquila chrysaetos*), and migratory birds. The Service's comments have been addressed. (See Appendix A)

Appendix A contains the list of agencies consulted during this analysis and copies of correspondence, responses, and concurrences.

1.4 PUBLIC AND AGENCY REVIEW OF EA

A Notice of Availability (NOA) of the Draft EA and FONSI was published in the newspapers of record (listed below), announcing the availability of the EA for review on or about 8 December 2014. The NOA invited the public to review and comment on the Draft EA.

The NOA was published in the following newspapers: The Idaho Statesman, Boise, ID and The Mountain Home News, Mountain Home, ID

Copies of the Draft EA and FONSI were also made available for review at the following locations:

Mountain Home Public Library 790 N 10th E Street

Mountain Home, ID 83647

Boise Public Library
715 S. Capitol Blvd
Boise ID 83702
(208) 384-4450

1.5 BACKGROUND ON GOWEN FIELD ANGB

This Environmental Assessment contains alternatives proposing the relocation of aircraft to Boise's Gowen Field ANGB. A brief history on Gowen Field ANGB is included below for reference.

In 1940, the City of Boise had its new Boise Air Terminal (BOI) certified as a property important to national defense so that it could be selected as an Army Air Corps base site (NGB 2000). In 1941 the base mission was to train crews in the operation of medium-range bomber and reconnaissance aircraft. In 1942, the mission changed to heavy bombardment groups and the base began training B-17 "Flying Fortress" pilots (Hart 1991). The base converted from B-17s to B-24s in 1943 (Hart 1991). In 1946, F-51 propeller aircraft (NGB 2000) were flown by the Idaho Air National Guard (IDANG), and in 1953 the installation converted

to the F-86A Sabre jet (NGB 2000). In 1956, Gowen Field ANGB became home to the F-89 jet interceptors (NGB 2000) and in 1964, the F-102 Delta Daggers. A new mission of aerial reconnaissance brought the RF-4C Phantom to the base in 1975. In 1991, the first F-4G aircraft arrived at Gowen Field ANGB, and the 124 FW operated the only F-4G school in the USAF. As F-4 fighter aircraft were being phased out of the U.S. military in the mid-1990s, they were replaced with A-10 Thunderbolt close air support and C-130 Hercules transport aircraft at Gowen Field ANGB (Global Security 2002). Based on Base Realignment and Closure (BRAC) Commission Recommendations, the installation lost the C-130 mission in 2008 but gained additional A-10 aircraft.

The 124 FW of the IDANG is located at the Gowen Field ANGB on the south side of BOI, and is situated in the southern portion of the City of Boise, Ada County, Idaho. The IDANG property comprises an approximately 354-acre military installation along the southern half of BOI, and operates as a joint civilian/military facility adjacent to the Idaho Army National Guard. The land on which the Gowen Field ANGB is located is owned by the City of Boise and is secured for military use through a lease agreement with the City and the Federal government. Since October 2013, the IDANG has been operating at Gowen Field ANGB with the Civil Air Patrol as its only tenant.

SECTION 2.0

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action is to relocate up to 54 F-15E aircraft, associated support equipment and personnel for 120 days during CY15. Under this action, 366 FW would fly an appropriate number of sorties in relation to the number of aircraft relocated under this action to meet the overall RAP requirement. A portion of the sorties required during the MHAFB runway repairs may be flown at a different location under the authority of a different NEPA document and/or Air Installations Compatible Use Zones (AICUZ) capacity. While temporarily relocated, 366 FW would use existing facilities with no required modifications, construction, or demolition.

2.1.1 Training Operations

Operations conducted under this action would include landings and takeoff (an LTO cycle includes taxiing between the hangar and runway, taking off, climbing out of the local pattern, descending from the local pattern, and touch down) and touch and go's (TGO). A TGO includes taxiing between hangar and runway, taking off, climbing out of local pattern, descending, and touch down, take off, repeating the pattern. Operationally, implementation of the Proposed Action would maximize training sorties and parking space for aircraft at an airfield that meets the established selection standards. A sortie is a single military aircraft flight from initial takeoff through final landing, and includes everything that might be conducted during that flying mission. Training sorties would depart Monday through Friday. Departing flights would require 100% afterburner use to ensure adequate aircraft performance and to minimize flight safety risks. When temperatures are above 32°F afterburner provides an increase in thrust for the F-15 aircraft during takeoff. Additionally, required flight operations would depart between 0730 and 2100 hours in existing military operational airspace in the region. Flights would return before 2400 hours. Average sortie durations of these operations would be approximately 1.5 hours.

2.2 SELECTION STANDARDS

NEPA and CEQ regulations mandate the consideration of reasonable alternatives to the proposed action. “Reasonable alternatives” are those that also could be utilized to meet the purpose of and need for the proposed action. In addition, selection standards may be used to narrow the range of viable alternatives. Per 32 CFR §989, the USAF EIAP regulations, selection standards are used to identify alternatives for meeting the purpose and need for the USAF action. The selection standards for this action are:

- Airfield less than 50 nautical miles from Mountain Home AFB
- Airfield containing a runway not less than 9,000 feet
- Adequate ramp space to park 54 F-15E aircraft
- Available facilities for operations, maintenance, and support functions
- Adequate security for USAF fighter aircraft
- Avoids significant noise impacts on the local community
- Avoids unnecessary flight safety risks

366 FW examined a wide range of potential alternatives to satisfy the purpose and need. In total, five alternatives were considered. However, three did not meet all of the selection standards listed above and were not carried forward for further analysis. The two remaining alternatives were analyzed for environmental impacts.

2.3 PREFERRED ALTERNATIVE: GOWEN FIELD ANGB, ID

Preferred Alternative would temporarily relocate 366 FW aircraft to Gowen Field ANGB. This Alternative would include the relocation of up to 54 F-15E aircraft, associated support equipment, and personnel for 120 days during CY15. While deployed to Gowen Field ANGB, the 366 FW would utilize existing facilities of the ID ANG, no modifications, demolition, or constructed would be conducted.

Operationally, implementation of this Alternative Action would include up to 450 sorties flown by the 366 FW out of Gowen Field ANGB during a 120 day period; these training sorties would depart from and return to Gowen Field ANGB. Departing flights would require 100% afterburner use to minimize flight safety risks. When temperatures are above 32°F afterburner provides an increase in thrust for F-15E aircraft during takeoff. Flight operations would be conducted in existing military operational airspace in the region including Restricted Areas R- 3203 and R-3202. Training would not occur over the city of Boise. For this Alternative, the 366 FW would fly an average of 10 sorties per day with average sortie duration (ASD) of 1.5 hours. During the temporary relocation period, it is anticipated that the 190th Fighter Squadron of the 124 FW would maintain existing A-10 operations of approximately 12 sorties per day.

The Air National Guard performed extensive noise analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. The number of sorties analyzed, runway utilization, flight tracks, and profiles were varied to achieve < 3 dB change at noise sensitive receptors. Specific elements of this alternative include:

- Runway 10R departure tracks modified to turn south sooner than previously modeled (just past the runway threshold)
- Departure Runway Utilization changed to 20% Runway 10R and 80% Runway 28L
- 1/3 of all F-15E operations were modeled with F100-PW-220 engine (training of the Royal Singapore Air Force) and 2/3 were modeled with F100-PW-229 engine (389 FS and 391 FS).

- For F-15Es with 229 engine, departures modeled with 15 degree climb angle at 400ft AGL when AB turns off to 5,000ft MSL

After accounting for these changes in the flight profile, the Air Force identified that a maximum of 450 sorties with afterburner takeoffs would not cause significant noise impacts on the community.

The Preferred Alternative would allow up to 54 F-15E aircraft to relocate to Gowen Field ANGB and fly up to 450 sorties without having a significant impact on the human environment. Since only a portion of the FY15 RAP sortie requirements could be met during the 120 days, MHAFB would be required to fly remaining sorties at additional locations meeting both existing AICUZ and NEPA capacity.

The Preferred Alternative, with a maximum of 450 sorties at 100% AB, would meet the Purpose and Need and satisfies all selection standards.

2.4 ALTERNATIVE B: NO-ACTION ALTERNATIVE

The No-Action Alternative provides the existing baseline environment to which the potential impacts of the action for each alternative will be compared. Under this alternative, the 366 FW would not temporarily relocate. As a result, the 366 FW would be unable to conduct flight training activities due to the comprehensive airfield reconstruction project scheduled for implementation at MHAFB and would be unable to meet its mission readiness requirements.

However, because CEQ regulations stipulate that the No-Action Alternative be analyzed to assess any environmental consequences that may occur if the Proposed Action is not implemented, the No-Action Alternative will be carried forward for analysis in the EA.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The following alternatives were initially considered but eliminated from further analysis because they either did not meet the Purpose and Need of the project or they did not meet the required Selection Standards. The Air Force went to great lengths to identify alternatives that would limit potential impacts on the local community. However, many of the alternatives identified as part of this effort is associated with unacceptable flight safety risks or do not meet the Purpose and Need of the action.

2.5.1 Alternative C: 50% Afterburner / 50% Military Power Takeoff

This Alternative would include the following changes made to achieve no significant impacts at noise sensitive receptors:

- Runway 10R tracks modified to turn south sooner than previously modeled (just beyond the runway threshold)
- Departure Runway Utilization changed to 20% Runway 10R and 80% Runway 28L for Afterburner takeoff profiles, and 100% Runway 10R for MIL takeoff profiles. This results in approximately half of the takeoffs being performed without afterburner.
- For F-15E aircraft with 229 engine, 15 degree climb angle from 400ft AGL to 5,000ft MSL
- 770 sorties would be the maximum allowed

Alternative C was developed to meet the purpose and need of the Proposed Action, increase the available number of sorties, and limit noise impacts on the local community. This alternative would not have a

significant impact at noise sensitive receptors. Aircraft performance data indicate that takeoff without afterburner should only be performed when temperatures are below 32° F. This alternative does not meet the Selection Standard that specifies that alternatives cannot present unacceptable safety risks. Because of the increased safety risk associated with military power takeoffs due to aircraft performance requirements, Alternatives C was eliminated from further consideration.

2.5.2 Alternative D: 100% Military Power Takeoff

This Alternative would include the following changes made to achieve no significant impacts at noise sensitive receptors:

- Runway 10R tracks modified to turn south sooner than previously modeled (just beyond the runway threshold)
- Departure Runway Utilization changed to 100% Runway 10R
- For F-15E aircraft with 229 engine, 15 degree climb angle from 400ft AGL to 5,000ft MSL
- No takeoffs would be performed with afterburner
- 1450 sorties would be the maximum allowed

Alternative D was developed to meet the Purpose and Need of the Proposed Action, increase the available number of sorties, and limit noise impacts on the local community. This alternative would not have a significant impact at noise sensitive receptors. Aircraft performance data indicate that takeoff without afterburner should only be performed when temperatures are below 32° F. This alternative does not meet the Selection Standard that specifies that alternatives cannot present unacceptable safety risks. Because of the increased safety risk associated with military power takeoffs due to aircraft performance requirements, Alternative D was eliminated from further consideration.

2.5.3 Alternative E: 2200 sorties, 100% Afterburner Takeoff

This alternative would allow 366 FW to fly all necessary training requirements from the local area during the relocation. It meets the Purpose and Need of relocating up to 54 aircraft, and has the added benefit that it requires no additional travel for training purposes other than routine travel for normally scheduled training and exercises. It meets all selection criteria except that it would impose a significant noise impact on the local community. A greater than 3dB change would be imposed on noise sensitive receptors as part of this alternative. Additionally, the 65 DNL contour would extend well into the residential areas located to the north of the arrival end of Runway 10R. Even though this alternative is the most operationally beneficial option, it was eliminated from further consideration because of the potential noise impacts that it could cause on the community.

2.6 SUMMARY

The Air National Guard has worked diligently with the Air Force to provide reasonable alternatives that meet the operational requirements of 366 FW while limiting potential impacts on the Boise community. Selection Standards were carefully developed to support the Purpose and Need of this action. Many alternatives were developed in an effort to provide a wide range of options to the decision maker for this action. However, three of the alternatives did not meet all of the identified Selection Standards and were eliminated from further consideration. The two remaining alternatives were carried forward for further analysis in this environmental assessment.

SECTION 3.0

AFFECTED ENVIRONMENT

This chapter is to describe the current conditions of the environmental resources, either man-made or natural, that would be affected by implementing the Proposed Action or Alternatives.

Per guidelines established by the NEPA, CEQ regulations, 32 CFR §989 *EIAP*, the description of the affected environments and the associated impact analyses in this EA focus on only those aspects of the environment potentially subject to impacts.

Based on the scope of the Proposed Action, issues were identified through a preliminary screening process. The following resources would not be affected by the Preferred Alternative and are not discussed in detail in this EA: Airspace Management, Hazardous Materials/Waste, Biological/Natural Resources, Cultural Resources, Socioeconomics, and Other NEPA Considerations.

3.1 AIR QUALITY

This section describes applicable regulatory requirements, types and sources of air quality pollutants and current air quality conditions for Preferred Alternative and Alternative B at Gowen Field ANGB.

3.1.1 Regulatory Requirements

The 1970 Clean Air Act (CAA) and the 1990 Amendments to the CAA regulate air pollution emissions from stationary (such as generators and boilers) and mobile sources (such as aircraft and motor vehicles). Under the CAA, the U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare and to regulate emissions of hazardous air pollutants (HAPs). Primary standards set limits to protect public health, including “sensitive” populations such as children and the elderly. Secondary standards set limits to protect public welfare, including protection from decreased visibility, damage to animals, crops, vegetation, and buildings. Areas that are in violation of the NAAQS are designated nonattainment or in maintenance for attainment of criteria pollutants.

There are six criteria pollutants found under the NAAQS: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM) [which includes particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM₁₀) and less than or equal to 2.5 micrometers (PM_{2.5})], and Lead (Pb); ozone precursors include volatile organic compounds (VOCs) and nitrogen oxides (NO_x). This EA evaluates five of the six criteria pollutants. Lead, as well as hazardous and toxic air pollutants, is not included in this analysis because they are primarily generated by stationary industrial activities, not by mobile sources such as aircraft.

Established under the CAA (Section 176(c)(4)), the General Conformity Rule requires federal agencies to ensure that their actions conform to applicable implementation plans for the achievement and maintenance of the NAAQS for criteria pollutants. To achieve conformity, a federal action must not contribute to new violations of standards for ambient air quality, increase the frequency or severity of existing violations, or delay timely attainment of standards in the area of concern (for example, a state or a smaller air quality region). Federal agencies prepare written Conformity Determinations for federal actions that are in or affect NAAQS nonattainment areas or maintenance areas when the total direct or indirect emissions of nonattainment pollutants (or their precursors in the case of ozone) exceed specified thresholds as listed in Table 1.

Table 1 De Minimis Levels for Conformity Determination

Pollutant	Area Type	Tons Per Year
Ozone (VOC or NOx)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Ozone (NOx)	Marginal and moderate nonattainment inside an ozone transport region	100
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon monoxide, SO2 and NO2	All nonattainment & maintenance	100
PM-10	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
PM2.5 Direct emissions, SO2, NOx (unless determined not to be a significant precursor), VOC or ammonia (if determined to be significant precursors)	All nonattainment & maintenance	100
Lead (Pb)	All nonattainment & maintenance	25

Source: USEPA 2014c

In 1996, the District of Columbia Court of Appeals issued a decision that required the EPA to regulate all aerospace ground equipment (AGE) as a mobile source. That year, a memorandum was issued by the Chief of the Air Force Legal Services Agency stating that AGE would therefore be considered mobile sources at all military installations. A review of the Idaho Department of Environmental Quality (IDEQ) regulations indicated that they do not specifically address whether AGE is classified as stationary or mobile sources. Therefore, in this environmental assessment, all AGE is considered to be mobile sources in accordance with USAF guidance.

3.1.2 Existing Conditions

Climate

Average temperatures in the City of Boise generally range from the lower 30s (degrees Fahrenheit [°F]) in the winter months to mid-70s (°F) in the summer months. Temperatures vary greatly between seasons. The average maximum temperature in the month of January is 37.0 °F, while the average maximum in July is 90.8°F. Diurnal temperature variations are greatest in the summer, with a 32°F difference between the average high and low temperature in July (WRCC 2014a).

Average annual precipitation for Boise is 11.69 inches (includes depth of melted snowfall). More precipitation falls in the winter months, with a peak monthly average of 1.41 inches in December. Summers are rather dry, with the lowest monthly average precipitation of 0.26 inch occurring in July. Snow is not uncommon from late fall through early spring. The average annual snowfall in Boise is 20.1 inches, with a peak monthly average of 6.3 inches in January (WRCC 2014b).

The Boise area is a fairly breezy location. For each month of the year, the average wind speed is at least 6.7 miles per hour (mph) and the annual average wind speed is 7.7 mph. Spring tends to bring stronger winds, although the windiest months, March and April, exhibit an average speed of only 8.9 mph (WRCC 2014c). The prevailing wind direction is from the southeast in the fall and winter and from the northwest in the spring and summer. However, local topography and the passage of storm fronts can greatly influence wind speed and direction on a short-term basis (WRCC, 2014d).

Local Air Quality

Gowen Field ANGB is located in northern Ada County. All of Ada County, according to 40 CFR 81.87, is designated as part of the Metropolitan Boise Intrastate Air Quality Control Region (AQCR) 64. A review of federally published attainment status reports for northern Ada County, which encompasses the project site and is within AQCR 64, indicated that northern Ada County was designated as an area of concern for O₃ and PM_{2.5}. At present, Northern Ada County is a limited maintenance area for CO and PM₁₀. Ada County is an attainment area, or meets national standards, for all other criteria pollutants (IDEQ 2014).

The USEPA Air Quality Statistics Report displays an area's maximum air pollution values for all six criteria pollutants. The values shown are the highest reported measured values during the year by all monitoring sites in the county. Table 2 shows that in 2013, based on the Air Quality Statistics Report, Ada County as a whole meets all national standards for criteria pollutants (USEPA 2014b). Table 3 summarizes the 2011 emission total for Ada County (USEPA 2014a).

Table 2. National Standards and Ada County Calendar Year 2013 Statistics

Pollutant	Averaging Time	National Standards ¹		Air Quality Statistics
		Primary	Secondary	Ada County ²
O3	8-hour	0.075 ppm	Same as primary	0.071 ppm
CO	8-hour	9 ppm	-	1.4 ppm
	1-hour	35 ppm	-	3 ppm
NO2	Annual	53 ppb	Same as primary	-
	1-hour	100 ppb	-	39 ppb
SO2	1-hour	75 ppb	-	11 ppb
	3-hour	-	0.5 ppm	-
P M	PM 10	24-hour	150 µg/m3	150 µg/m3
		Annual	12 µg/m3	12 µg/m3
	PM 2.5	24-hour	35 µg/m3	35 µg/m3

Source: 1 USEPA 2012; 2 USEPA 2014b

Table 3. 2011 Annual Emissions for Ada County

Location	ANNUAL EMISSIONS (TONS)					
	VOC	CO	NOx	SO2	PM10	PM2.5
Ada County	25,337	74,383	12,069	589	23,041	4,687
Total	42,076	118,262	20,090	2,558	50,887	9,632

Source: USEPA 2014a.

Emissions at the 124 FW Installation

Air emissions that result from activity associated with the 124 FW of the IDANG originate from both stationary and mobile sources. Stationary sources include aircraft engine testing, boilers, internal combustion engines, fuel storage and transfer sources, and various operational sources, including woodworking, painting operations, and chemical use. Mobile sources include on- and off-road vehicles and equipment, AGE, and aircraft operations. At the time of the 2009 Air Emissions Inventory (AEI), F-15E aircraft from Klamath Falls, Oregon were temporarily located at Gowen Field ANGB for six months. Table 4 summarizes 2009 annual emissions associated with operation of the 124 FW (IDANG 2010).

Table 4. 2009 Air Emissions for 124 FW of the IDANG

	ANNUAL EMISSIONS (TONS PER YEAR)					
	VOC	CO	NO _x	SO _x	PM10	PM2.5
Stationary (Permitted) Sources	6.8	3.3	3.6	0.0	1.1	1.1
Mobile Sources (except F-15E)	25.3	79.4	15.8	1.2	1.6	1.5
F-15E Mobile Sources ¹	7.7	33.6	12.7	0.6	0.3	0.3
Total	39.8	116.	32.1	1.9	3.0	2.9

¹ Emissions from F-15E aircraft operations temporarily located at Gowen in 2009

3.2 NOISE

3.2.1 Definition of Resource

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and are sensed by the ear. Sound is all around us and noise is defined as unwanted or annoying sound that interferes with or disrupts normal human activities. Although exposure to very high sound levels for very long periods of time can cause hearing loss, the principal human response to aircraft noise is annoyance. The response of different individuals to similar noise events is diverse and is influenced by the type of noise, perceived importance of the noise, its appropriateness in the setting, time of day, type of activity during which the noise occurs, and sensitivity of the individual.

Noise and sound are expressed in decibels (dB), which are logarithmic units. 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. Typically, 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, meaning 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 are usually on an "A-weighted" (dBA) scale that filters out very low and very high frequencies to replicate human sensitivity. Figure 1 shows typical A-weighted sound levels of common events. It is common to add the "A" to the measurement unit to identify that the measurement was made with this filtering process. For low frequency noise, "C-weighting" (dBC) is typically applied for impulsive sounds such as sonic booms and ordnance detonation.

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

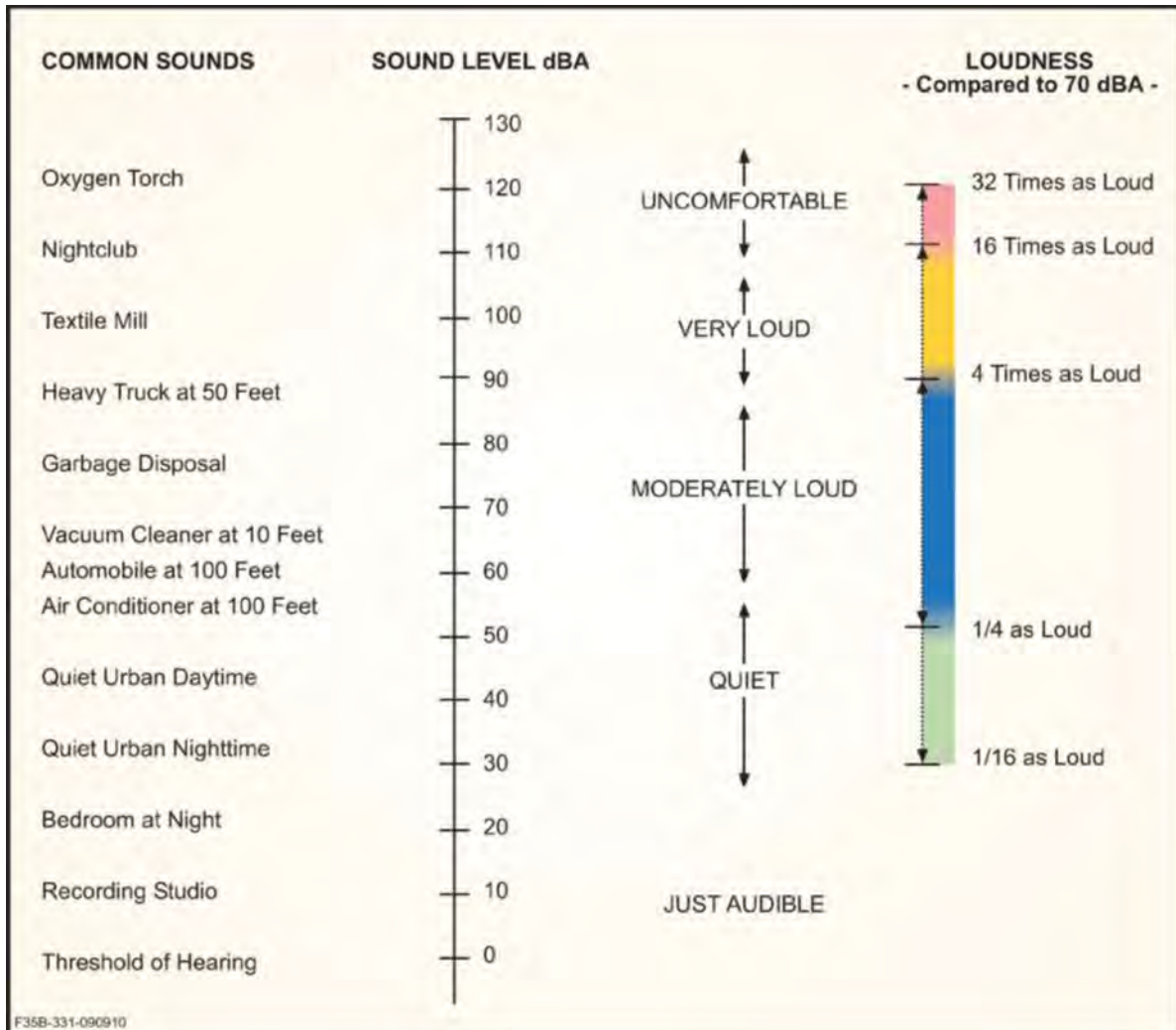


Figure 1. Typical A-weighted Sound Levels of Common Sounds

Sources: Harris 1979, FICAN 1997.

Noise Metrics

Maximum Sound Level (L_{max}) – the highest A-weighted, sound level measured during a single event in which the sound level changes value with time, e.g., an aircraft overflight.

Sound Exposure Level (SEL) – a composite metric for a single event that represents both the amplitude of a sound and its duration. Noise events such as aircraft overflights have two main characteristics: a sound level that changes throughout the event and the duration during which the event is heard. The SEL metric provides a measure of the net impact of the entire acoustic event, but it does not directly represent the sound level heard at any given time. The SEL is useful for comparing different noise events, e.g., different aircraft types or operations, whose duration or amplitude may be different.

Day-Night Average Sound Level (DNL) – a composite metric that accounts for all noise events in a 24-hour period, and takes into consideration the increased human sensitivity to noise at night by applying a 10-dB penalty to nighttime events occurring between 10:00 p.m. and 7:00 a.m. The Federal Interagency Committee on Aviation Noise (FICAN, formerly FICON) recommends and the USAF and Federal Aviation

Administration (FAA) have adopted the Day-Night Average Sound Level (DNL) for assessing environmental impacts from aircraft operations (FICON 1992). For this analysis, DNL is based on annual average daily aircraft operations, i.e., annual operations divided by 365 days. Noise exposure is presented in terms of contours, i.e., lines of equal value, of DNL. DNL contours of 65 to 85 dB are presented in 5-dB increments. Aircraft DNL is also depicted in terms of colored gradual shading with ‘cool’ (blue) color representing the ambient noise level of 45 dB and the ‘hot’ (red) color representing DNL greater than or equal to 85 dB.

In airport noise analyses, DNL contours are used to help determine compatibility of aircraft operations with local land use activities. DNL from flight operations typically exceeding ambient background noise occur beneath main approach and departure corridors, near local air traffic patterns around the airfield, and in areas immediately adjacent to parking ramps and aircraft staging areas. As aircraft take off and gain altitude, their contribution to the DNL environment diminishes.

Noise in the Airfield Environment

Aircraft Operations. Analyses of aircraft noise exposure and compatible land use around airports are normally accomplished with computer-based programs (models). DOD facilities typically utilize the suite of programs known as NOISEMAP (U.S. Air Force [USAF] 1992; Czech 2014; Wasmer and Maunsell 2013a; Wasmer and Maunsell 2013b) while civilian airport typically use the Federal Aviation Administration’s (FAA) Integrated Noise Model (INM) program (FAA 2007). Both programs and their inputs are further described in Appendix C.

Modeling is utilized for aircraft noise exposure analyses because true measurements over a year is not feasible and because proposed aircraft activity cannot be measured today. Modeling is most accurate for assessing change in noise exposure. NOISEMAP and INM are semi-empirical meaning their noise propagation algorithms draw on an extensive database of measured aircraft noise levels. NOISEMAP, with its core NMAP program, version 7.3, was used to analyze the military A-10 and H-60 aircraft operations at BOI while INM 7.0a was used to analyze civilian aircraft operations (FAA 2007).

Other Airfield Noise. Although noise resulting from aircraft flight operations represents the greatest contribution to the overall noise environment near the airfield, other noise sources (e.g., highway traffic) may also influence total ambient noise levels. Other activities that may generate substantial amounts of noise at an airport include engine preflight run-ups and aircraft maintenance activities, industrial operations, and construction activities.

3.2.2 Existing Conditions

Regional Setting

The noise environment of communities surrounding Gowen Field ANGB is characteristic of a suburban medium-density environment, settings that typically experience noise associated with vehicles on local highways or light industrial activities. These communities likely experience the following typical ranges of outdoor DNL levels: Normal Suburban Residential, 53 to 57 DNL and Urban Residential, 58-62 (FICON 1992). Areas adjacent to Gowen Field ANGB support a mix of residential, commercial and light industrial land use, in addition to transportation (highways). These land uses typically generate noise levels of low magnitude and aircraft activity is the dominant noise producer in the vicinity of Gowen Field ANGB. Some additional noise can result from day-to-day activities associated with operations, maintenance, and industrial functions at Gowen Field ANGB and other commercial activities around the airport.

These noise sources include the operation of AGE and other transportation-related noise associated with vehicular traffic. However, this noise is generally localized in industrial areas on or near the airfield. Noise resulting from aircraft operations remains the dominant noise source in the airfield region.

Gowen Field ANGB Existing Noise Levels

Under baseline conditions, Gowen Field ANGB supports military and civil aviation activity. Overall, BOI supports an average of approximately 182,000 flight operations per year, an average of about 500 operations per day (Oregon Air National Guard 2009) as detailed in Appendix C.

Figure 2 shows the DNL contours for annual average daily aircraft operations for the Baseline scenario and land use in the vicinity of the airport. The area inside of the Baseline 65 DNL contour (outermost contour) stays mostly on airport property, but does extend approximately 800ft into industrial zoning just north of the beginning of Runway 28R, and extends into the residential area approximately 1,300ft to the north of the beginning of Runway 10L.

The land use data in Figure 2 (and in throughout this document) is based on Ada County's zoning dataset. Each parcel in the Ada County zoning dataset is assigned a broad district type. According to the city's planning department, these district types reflect existing land use given the fact that the use must comply with the zone. The district types for three zoning abbreviations in the Ada County zoning dataset were unable to be identified. These unidentified zones are located southeast of the airport and are exposed to DNL less than 65 dB. The unidentified zone's district types are listed as "Unknown" in the figures.

Acknowledging aircraft noise does not stop at the 65 dB DNL, DOD uses DNL gradient depictions to supplement the typical DNL contour presentation as mentioned in section 3.2.1. Figure 3 shows the DNL gradient for the Baseline scenario. DNL 'fans' out from the airfield parallel to the runways; the gradient is shown to 45 dB DNL which extends an average of 1.5 miles from the airfield.

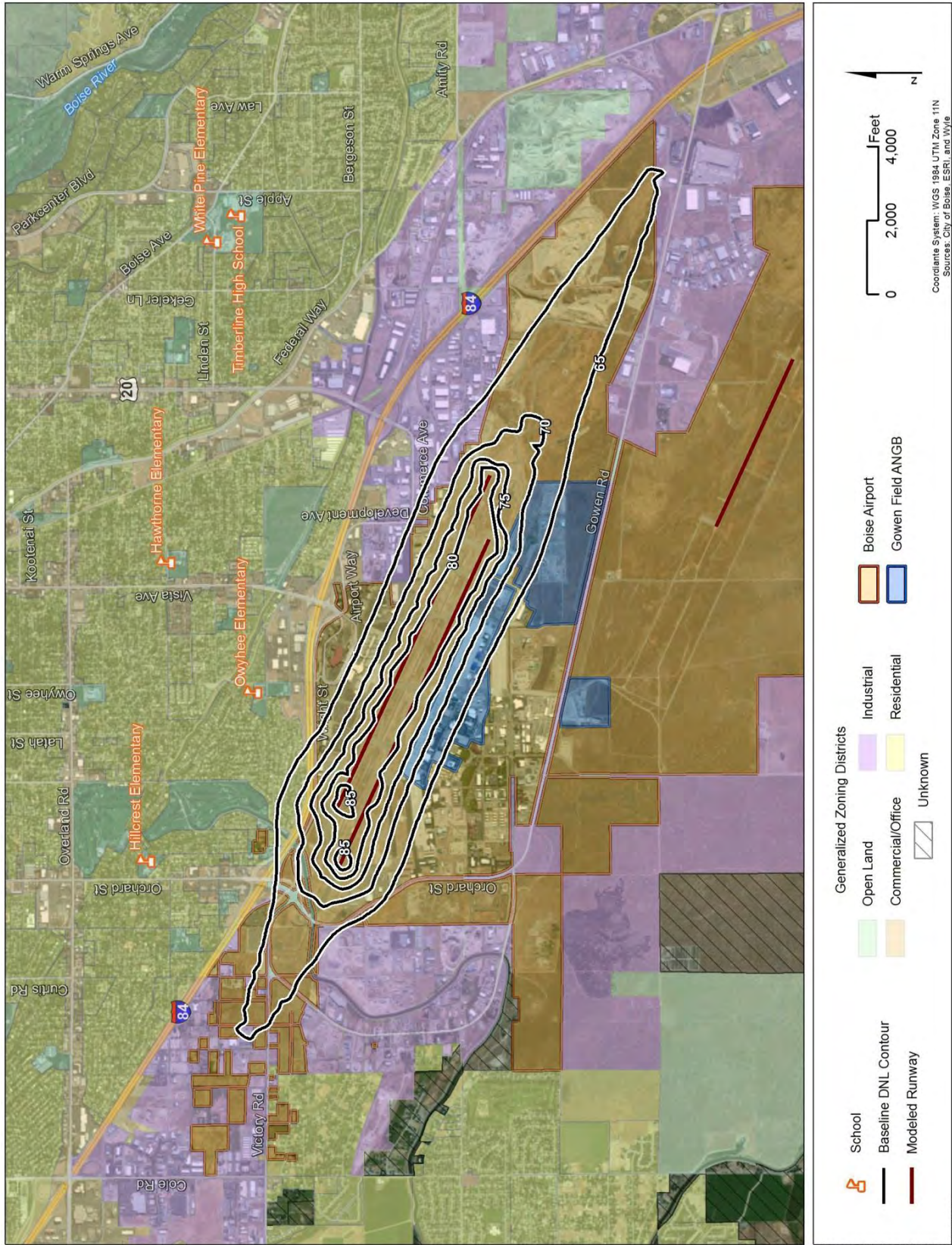


Figure 2. Aircraft DNL Contours and Land Use for Baseline Scenario

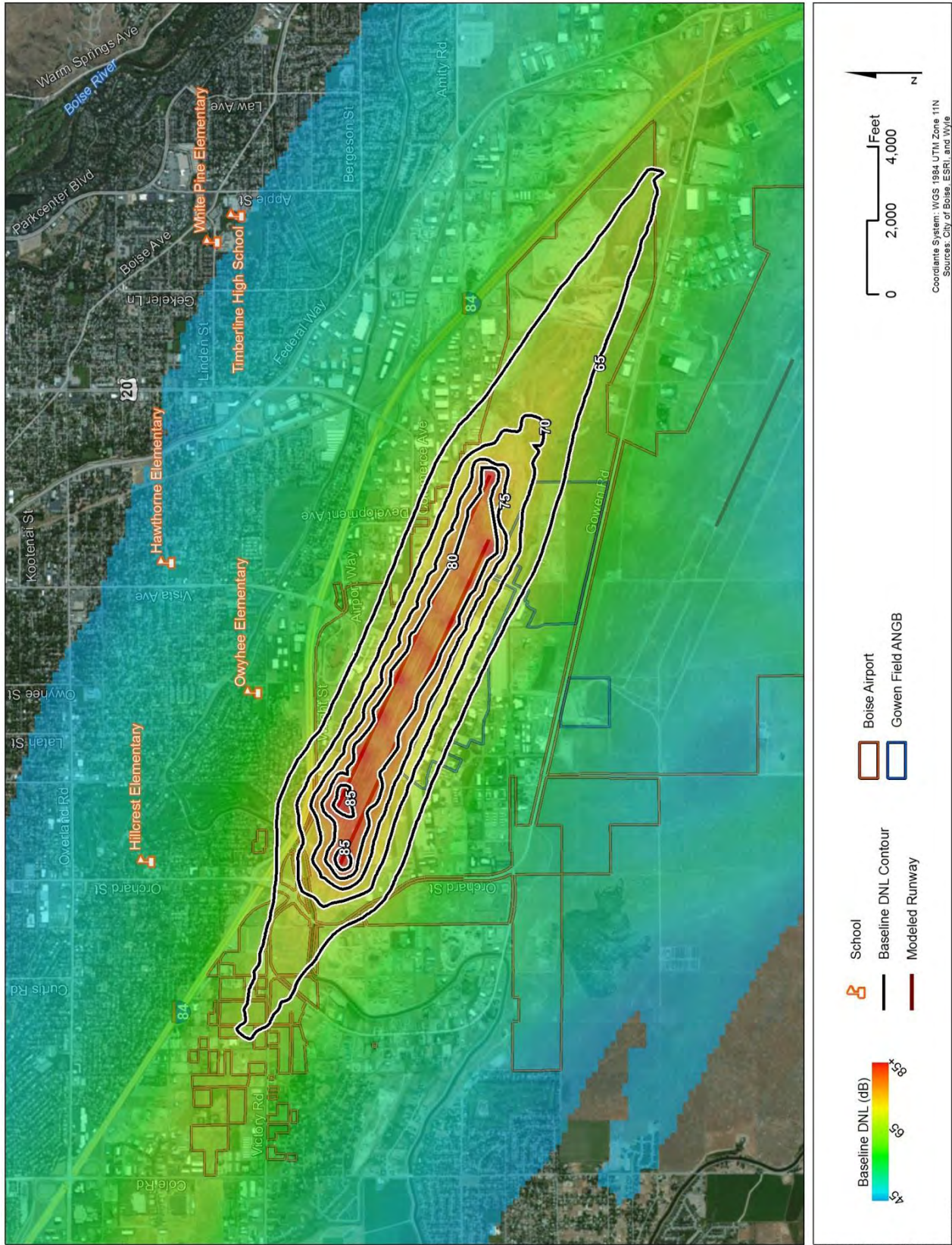


Figure 3. Aircraft DNL Gradients for Baseline Scenario

The land use analysis in the vicinity of Gowen Field ANGB for each set of DNL contour ranges is shown in Table 5. Most of the area of each contour range falls within the airport property.

The airport boundary includes both Boise International Airport and Gowen Field. Only one acre within the 75-79 DNL contour range falls outside of the airport property, and all of the 80-84 and 85+ DNL contour areas are within the airport property. The 70-74 dB DNL contour extends off airport property to encompass a total area of 18 acres, approximately 9 of which are within residential zoning. The 65-69 dB DNL contour contains approximately 30 acres of residential land use, most of which lays directly north of the beginning of Runway 10L. The population data is based on 2010 census block data within the analyzed residential land use areas. Of the 200 people that are exposed to greater than 65 dB, 89% fall inside of the 65-69 DNL band.

Table 5. Land Use Analysis under Baseline Conditions

Data	Land Use Category	Off-Airport Data within DNL Band					Total (65+)
		65-69	70-74	75-79	80-84	85+	
Acreage	Commercial/Office	7.1	0.7	0.5	-	-	8.3
	Industrial	77.8	0.2	-	-	-	78.0
	Open Land	28.4	7.9	0.4	-	-	36.7
	Residential	30.4	9.2	0.1	-	-	39.7
	Total Off-Airport	143.7	18.0	1.0	-	-	162.7
	On-Airport	662.3	258.3	174.4	229.6	11.5	1,336.1
	GRAND TOTAL	806.0	276.3	175.4	229.6	11.5	1,498.8
Population	178	22	-	-	-	200	

Other potential sensitive receptors in the vicinity of BOI include Hillcrest Elementary, Owyhee Elementary, Hawthorne Elementary, White Pine Elementary, and Timberline High School. These five schools are shown within each of the maps. Saint Alphonsus Regional Medical Center, Nazarene Overland Church, and Columbia Heights Baptist Church are sensitive receptors that are outside of each of the map extents. All school, medical, and religious sensitive receptors in the vicinity of Gowen Field ANGB are exposed to less than 65 dB DNL.

3.3 SAFETY

Safety. The Boise Air Terminal Airport is a joint use facility, supporting both the 124 FW and the City of Boise. The City of Boise has primary crash response responsibility on the airport, but the military fire department also response, all required equipment is available. The 124 FW facilities have, or are programmed to have, all required fire annunciation and suppression systems in place, and hangars are equipped with automatic fire suppression capability.

Aircraft Mishaps. The primary concern with regard to military training aviation is the potential for aircraft mishaps (i.e., crashes) to occur. Aircraft mishaps are classified as A, B, C, or D. Not all aircraft mishaps result in public safety concerns. However, crashes have the potential to affect the public. This EA analyses “Destroyed” aircraft and the “Destroyed Rate” over the lifetime of the F-15 and A-10 aircrafts. The analysis is based on historical data on mishaps at all installations, and under all conditions of flight. The military services calculate destroyed rates per 100,000 flying hours for each type of aircraft in the inventory. F-15 aircraft have flown more than 6,200,000 hours since 1972. A-10 aircraft have flown over 5,200,000 hours

since 1972. The lifetime aircraft destroyed rate for F-15's and A-10's is the same; 1.98 per 100,000 flight-hours. Combat losses are excluded from these mishap statistics (see Appendix D and E).

3.4 RESOURCES NOT AFFECTED

Preferred Alternative, issues with minimal or no impacts were identified through a preliminary screening process. The following describes those resource areas not carried forward for a detailed analysis, along with the rationale for their elimination. Regardless of the alternative selected, the following resources would not be affected by the Preferred Alternative and are not discussed in detail in this EA:

Land Use. Residential areas north of Gowen Field ANGB would experience a slight increase in noise levels upon implementation of the Preferred Alternative. The remaining surrounding areas expected to be exposed to an increase in noise levels support primarily open space, agricultural activities, and industrial and commercial use. In addition, implementation of the Preferred Alternative would not require any changes to existing land use or zoning.

No long-term activities are associated with the Preferred Alternative. After approximately 120 days, all temporarily relocated aircraft and personnel associated with the 366 FW would return to MHAFB, Idaho. Therefore, no long-term impacts to land use would occur under the Preferred Alternative.

Geological Resources. Implementation of the Preferred Alternative would not include any construction, demolition or renovation activities. In addition, the 366 FW would utilize existing buildings, and facilities at Gowen Field ANGB. Therefore, the Preferred Alternative would have no impacts on geology and soils.

Water Resources. Implementation of the Preferred Alternative would not include any construction, demolition, or renovation activities. In addition, the 366 FW would utilize existing buildings and facilities at Gowen Field ANGB and would not create any new impermeable surfaces. Runoff from existing facilities would be incorporated into the installation's existing storm drainage system, which is capable of accommodating such flows (IDANG 2007). Therefore, the Preferred Alternative would not have significant impacts with regard to surface water, groundwater, floodplains, or wetlands.

Biological Resources. Implementation of the Preferred Alternative would not include any construction, demolition or renovation activities because the 366 FW would utilize existing buildings, and facilities at Gowen Field ANGB. In addition, previous analyses of biological resources at the Gowen Field ANGB, including consultation with the U.S. Fish and Wildlife Service and a review of data provided by the Idaho Conservation Data Center, have indicated that the Preferred Alternative is unlikely to disturb sensitive species or modify sensitive species habitat (IDANG 2007). Sensitive species include ESA listed species (slickspot peppergrass), bald and golden eagles, and migratory birds. Therefore, the Preferred Alternative would have no impacts to biological resources.

Transportation and Circulation. Implementation of the Preferred Alternative would not include any construction, demolition, or demolition activities at Gowen Field ANGB. It is anticipated that up to 50 truckloads would be required to transport required equipment associated with the 366 FW's temporary relocation to and from Gowen Field ANGB. However, this truck traffic would only make up a small portion of the total existing traffic volume in the region. Further, increases in traffic volumes associated with truck delivery activity and the other vehicular activity (i.e., associated with MHAFB personnel transported daily) would be temporary. In addition, the 366 FW would utilize existing buildings and facilities at Gowen Field

ANGB, including adequate parking facilities and roadways (IDANG 2007). Therefore, impacts to transportation and circulation would be short-term and less than significant.

Visual Resources. Implementation of the Preferred Alternative would not include any construction, demolition, or renovation activities. In addition, the 366 FW would utilize existing buildings and facilities at Gowen Field ANGB. Therefore, implementation of the Preferred Alternative would result in no impacts to regional visual resources.

Cultural Resources. Implementation of the Preferred Alternative would not include any construction, demolition, or renovation activities. As previously indicated, the 366 FW would utilize existing buildings and facilities at Gowen Field ANGB. Therefore, implementation of the Preferred Alternative would have no impact to cultural resources.

Socioeconomics. The Preferred Alternative would include the daily temporary relocation of MHAFB personnel for 120 days during CY15. Economic activity associated with this temporary relocation would provide short-term economic benefits to the local economy; therefore, impacts to regional or local socioeconomic characteristics would be beneficial, but not significant.

Environmental Justice.

Minority and Low-Income Populations. Implementation of the Preferred Alternative would not include any construction, demolition, or renovation activities. In addition, the 366 FW would utilize existing buildings and facilities at Gowen Field ANGB. Further, since no significant, adverse environmental impacts associated with the Preferred Alternative would occur, no populations (minority, low-income, or otherwise) would be disproportionately impacted and no significant impact with regard to environmental justice would result.

Protection of Children. No on-site housing or facilities for children currently exist in areas associated with the 124 FW installation. Because children would not have access to the temporary relocation site, implementation of the Preferred Alternative would not result in increased environmental health risks or safety risks to children. Thus, no significant impacts to children would occur.

Hazardous Material and Wastes. Although the temporary relocation of the 366 FW would result in an overall increase in the quantity of hazardous materials and waste at Gowen Field ANGB, the 366 FW would utilize existing buildings and facilities at Gowen Field ANGB, including hazardous materials and wastes storage and accumulation sites (IDANG 2007). All hazardous materials and/or waste would be disposed of by the 366 FW in accordance with established protocol. Therefore, implementation of the Preferred Alternative would not result in any significant impacts to hazardous materials and wastes.

Airspace Management. Implementation of the Preferred Alternative would include flying operations conducted by the 366 FW during a 120 day period; these training sorties would be flown out of BOI and a majority of flight operations would be conducted in existing military airspace including Restricted Areas R-3203 and R-3202. All operations conducted at BOI would be handled by the airport's existing Air Traffic Control Tower. During the temporary relocation period, it is anticipated that the 190 FS of the 124 WG would maintain existing A-10 operations of approximately 12 sorties per day. No changes to airspace configuration or management procedures would be required. Therefore, increased operations associated with the Preferred Alternative would not have a significant impact to airspace management.

For a description of these resource areas, refer to the Final Environmental Assessment for Implementation of Base Realignment and Closure Final Recommendation for the 124 FW (IDANG 2007).

SECTION 4.0

ENVIRONMENTAL CONSEQUENCES

Environmental impacts that would result from implementation of the Alternative A (Preferred Alternative), temporary relocation of the 366 FW to Gowen Field ANGB, are evaluated in this section. Analyses are presented by resource area, as presented in Section 3.0, *Affected Environment*.

4.1 AIR QUALITY

4.1.1 Approach to Analysis

The 1990 Amendments to the CAA require that Federal agency activities conform to the State Implementation Plan (SIP) with respect to achieving and maintaining attainment of NAAQS and addressing air quality impacts. The USEPA General Conformity Rule requires that a conformity analysis be performed which demonstrates that a Preferred Alternative would not: 1) cause or contribute to any new violation of any NAAQS in the area; 2) interfere with provisions in the SIP for maintenance or attainment of any NAAQS; 3) increase the frequency or severity of any existing violation of any NAAQS; or 4) delay timely attainment of any NAAQS, any interim emission reduction goals or other milestones included in the SIP. A conformity review must be performed when a Federal action is anticipated to generate air pollutants in a region that has been designated a *nonattainment* or *maintenance* area for one or more NAAQS. *Nonattainment* areas are geographic regions where air quality fails to meet the NAAQS. *Maintenance* areas are regions where NAAQS were exceeded in the past, and are subject to restrictions specified in a SIP-approved maintenance plan to preserve and maintain the regained attainment status. Provisions in the General Conformity Rule allow for exemptions from performing a conformity determination if the total net increase in emissions of individual *nonattainment* or *maintenance* area pollutants resulting from the Preferred Alternative fall below significant (*de minimis*) threshold values.

4.1.2 Impacts

Preferred Alternative

Pollutant emissions associated with implementation of the Preferred Alternative at Gowen Field ANGB would include emissions from the temporary relocation of the 366 FW aircraft operations from Elmore County, Idaho to Gowen Field ANGB at BOI in Ada County, Idaho. The duration of increased emissions due to aircraft operations associated with 366 FW aircraft would be limited to 120 days. Northern Ada County was previously a *nonattainment* area for CO and PM10, but was re-designated as an *attainment* area for CO in 2002 and for PM10 in 2003.

Therefore, northern Ada County is currently designated as a *maintenance* area for CO and PM10 (IDEQ 2014). Northern Ada County is designated as an *attainment* area and is in compliance with all other NAAQS.

Construction Emissions

Implementation of the Preferred Alternative would not require any construction at Gowen Field ANGB because facilities are available there to temporarily house maintenance and administrative operations associated with the 366 FW aircraft inventory. Therefore, no dust or combustion emissions associated with construction activities would occur.

Operational Emissions

Implementation of the Preferred Alternative would result in a short-term increase in mobile source emissions due to aircraft operations and personnel levels at Gowen Field ANGB. There would be no long-term operational emissions associated with the Preferred Alternative, as the duration of the Preferred Alternative would be limited to 120 days.

Personnel and facilities associated with the 124 FW would be supporting flying operations of the 366 FW, for a 120 day period in addition to supporting the normal 190 FS operations. Current flying operations include LTO, TGO, and low approach (LA) operations. The 366 FW operations would consist of LTOs and TGOs. An LTO cycle includes taxiing between the hangar and runway, taking off, climbing out of the local pattern, descending from the local pattern (approach), and touch down.

Air Conformity Applicability Model (ACAM) was used to evaluate emissions of criteria pollutants associated with the proposed temporary relocation of 366 FW aircraft at Gowen Field ANGB due to Ada County's designation as a *maintenance* area for CO and PM10. The anticipated emissions resulting from the proposed operation of aircraft conducting LTOs and increase in vehicular traffic are described in the ACAM data located in Appendix B (Solution 2014). Table 6 shows the estimated increase in mobile source emissions associated with the Preferred Alternative. Mobile emissions from privately owned vehicles (POVs) in ACAM account for a full year. The mobile emissions from POVs in Table 6 take into account the 120 day period for the Preferred Alternative.

Table 6. Estimated Increase in Mobile Source Emissions Associated with the Preferred Alternative

	Emissions (tons/year)					
	VOC	CO	NOx	SOx	PM10	PM2.5
Projected Mobile Emissions from 366 FW Aircraft Operations	0.78	4.6	2.8	0.056	0.47	0.43
Projected Mobile Emissions from 366 FW POVs*	0.61	11.2	0.51	0.0079	0.024	0.011
Projected Increase Over Existing Mobile Emissions	+1.39	+15.8	+3.3	+0.064	+0.49	+0.44
de minimis threshold	n/a	100	n/a	n/a	100	n/a

Ada County is a *maintenance* area for CO and PM10; however, the projected total net increases in CO and PM10 would not exceed *de minimis* thresholds and therefore a General Conformity determination is not required. If this alternative were selected, there would be no significant impacts with regard to local or regional air quality.

Alternative B: No Action Alternative

Under the No-Action Alternative, the 366 FW would not conduct aircraft operations at the Gowen Field ANGB while the 366 FW runways are unavailable for use for a 120 day period during the runway repair project at MHAFB Idaho. Therefore, air quality conditions in the Boise area would remain as described in *Section 3.1, Air Quality*. If this alternative were selected, there would be no impacts with regard to local or regional air quality.

4.2 NOISE

4.2.1 Approach to Analysis

Noise impact analyses typically evaluate potential changes to existing noise environments that would result from implementation of a Proposed Action. Potential changes in the noise environment can be beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels), negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged), or adverse (i.e., if they result in increased exposure to unacceptable noise levels). An increase in noise levels resulting from introduction of a new noise source can create an impact on the surrounding environment. Noise associated with a Proposed Action is modeled and compared with the existing noise setting to determine the magnitude of potential impacts.

A significant noise impact would occur if analysis shows that the Proposed Action would cause noise-sensitive areas to experience increased noise exposure of at least 3 dB DNL and they would be exposed to DNL of at least 65 dB under the proposed conditions.

As mentioned in Chapter 3, NOISEMAP and INM were utilized for this analysis. The information in Appendix C summarizes the noise model and its input parameters relative to this work.

For this project, the Baseline scenario is the same as the No Action Alternative.

4.2.2 Impacts

Preferred Alternative

The Preferred Alternative would temporarily relocate the three squadrons of 366 FW aircraft to Gowen Field ANGB. This Alternative would include the relocation of up to 54 F-15E/SG aircraft, associated support equipment, and personnel for 120 days during CY15. Of the 120 days, 79 would be counted as flying days. Operationally, implementation of this Alternative Action would include up to 450 sorties flown by the 366 FW out of Gowen Field during a 120 day period, and all departing flights would require use of afterburner on airport property to minimize flight safety risks. The three squadrons within the 366 FW consist of the 389 FS, 391 FS, and the Royal Singapore Air Force (RSAF). The 389 FS and 391 FS F-15s are modeled with the F100-PW-229 engine, and the RSAF F-15s are modeled with the F100-PW-220 engine.

As shown in Table 7, proposed 389 FS and 391 FS F-15E flight operations would amount to 671 and RSAF F-15SG flight operations would amount to 319 for a total of 990 flight operations. Of the total F-15 flight operations, only 2% would be during the DNL nighttime period and would only consist of straight-in arrivals. The 990 F-15 flight operations would be added to the nearly 181,000 flight operations from the Baseline scenario. No F-35 operations are included in the proposed scenario.

Table 7. Proposed F-15 Flight Operations at Boise International Airport for the Preferred Alternative

Aircraft	Departure ⁽⁵⁾			Arrival						Closed Pattern			TOTAL		
	Day (0700- 2200)	Night (2200- 0700)	Total	VFR Straight-in			Break			CP-VFR Pattern ⁽¹⁾			Day (0700- 2200)	Night (2200- 0700)	Total
				Day (0700- 2200)	Night (2200- 0700)	Total	Day (0700- 2200)	Night (2200- 0700)	Total	Day (0700- 2200)	Night (2200- 0700)	Total			
F-15E ⁽⁴⁾	305	-	305	58	12	70	235	-	235	61	-	61	659	12	671
F-15SG (RSAF)	145	-	145	28	5	33	112	-	112	29	-	29	314	5	319
Grand Total	450	-	450	86	17	103	347	-	347	90	-	90	973	17	990

Notes:

Counted as 2 operations per circuit

Counted as 2 operations per circuit

Simulated Flame-Out; Counted as 4 operations per circuit

consists of operations for the 389 FS and 391 FS

All F-15E Departures are Afterburner Departures. Afterburner is only used during takeoff roll and is secured by the upwind end of the runway.

As detailed in Appendix C, the following modeling inputs for the F-15 aircraft were modified relative to the modeling for the Klamath Falls Focused EA, as provided by the USAF (Roberts 2014):

- Departure flight tracks for Runway 10R,
- Runway utilization by type of operation, and
- F-15E (PW-229) aircraft flight profiles (schedule of altitude, power setting and speed along flight tracks)

Short-Term Direct Impacts

After accounting for these elements of the preferred alternative, modeling with a maximum of 450 sorties would not cause a significant noise impact.

As shown in Figure 4, the DNL contours for the Preferred Alternative would be larger than the Baseline scenario because of the introduction of the F-15 operations. The 65 dB and 70 dB DNL contours would extend approximately 300 ft further into the sensitive area within the residential community north of the beginning of Runway 10L. No additional residential communities would be newly affected by the Preferred Alternative DNL contours.

Acknowledging aircraft noise does not stop at the 65 dB DNL, DOD uses DNL gradient depictions to supplement the typical DNL contour presentation as mentioned in section 3.2.1. Figure 5 shows the DNL gradient for the Preferred Alternative. DNL ‘fans’ out from the airfield parallel to the runways; the gradient is shown to 45 dB DNL which extends beyond the map extents in all directions except northeast of the airfield, where the 45 dB gradient ends approximately at White Pine Elementary and Timberline High School. It is clear that each set of colored gradients has increased in area over the same gradient colors of the Baseline gradient map in Figure 3.

Figure 6 shows a comparison of the 65 and 75 dB DNL contours of the Baseline and Preferred Alternative scenarios. The 75 dB DNL contour would expand mostly to the south of the runway, and entirely within the airport boundary. The 65 dB DNL contours would expand mostly to the south of the airport, staying within the airport property, but would also expand 200 to 500 ft to the north and west as well. The residential community to the north of the airport would receive an increase of less than 3 dB in DNL over the Baseline condition. Industrially-zoned districts to the west of the runways would also see an increase in noise

exposure of between 2 and 5 dB, but those areas are not noise sensitive. The cause for the increase in noise exposure would be the proposed F-15 activity.

Figure 7 shows the Preferred Alternative 65 dB DNL contour and green area is the 3 dB or greater increase from the Baseline to the Preferred Alternative. The areas in green within the Preferred Alternative 65 dB DNL contour represent areas of potentially significant impact.

There are no residential zoning districts that are within the green area of 3 dB or greater within the Preferred Alternative 65 dB DNL contour. The inset area in the upper right corner of the map shows that the green significant impact area approaches the southern boundary of the residential community with the interstate, but does not cover any of the houses. A second inset area in the lower left corner of the map shows that the green significant impact area approaches the western boundary of the community next to the interstate off-ramp, but remains within the interstate boundary. Thus there would be no significant noise impacts with the implementation of the Preferred Alternative.

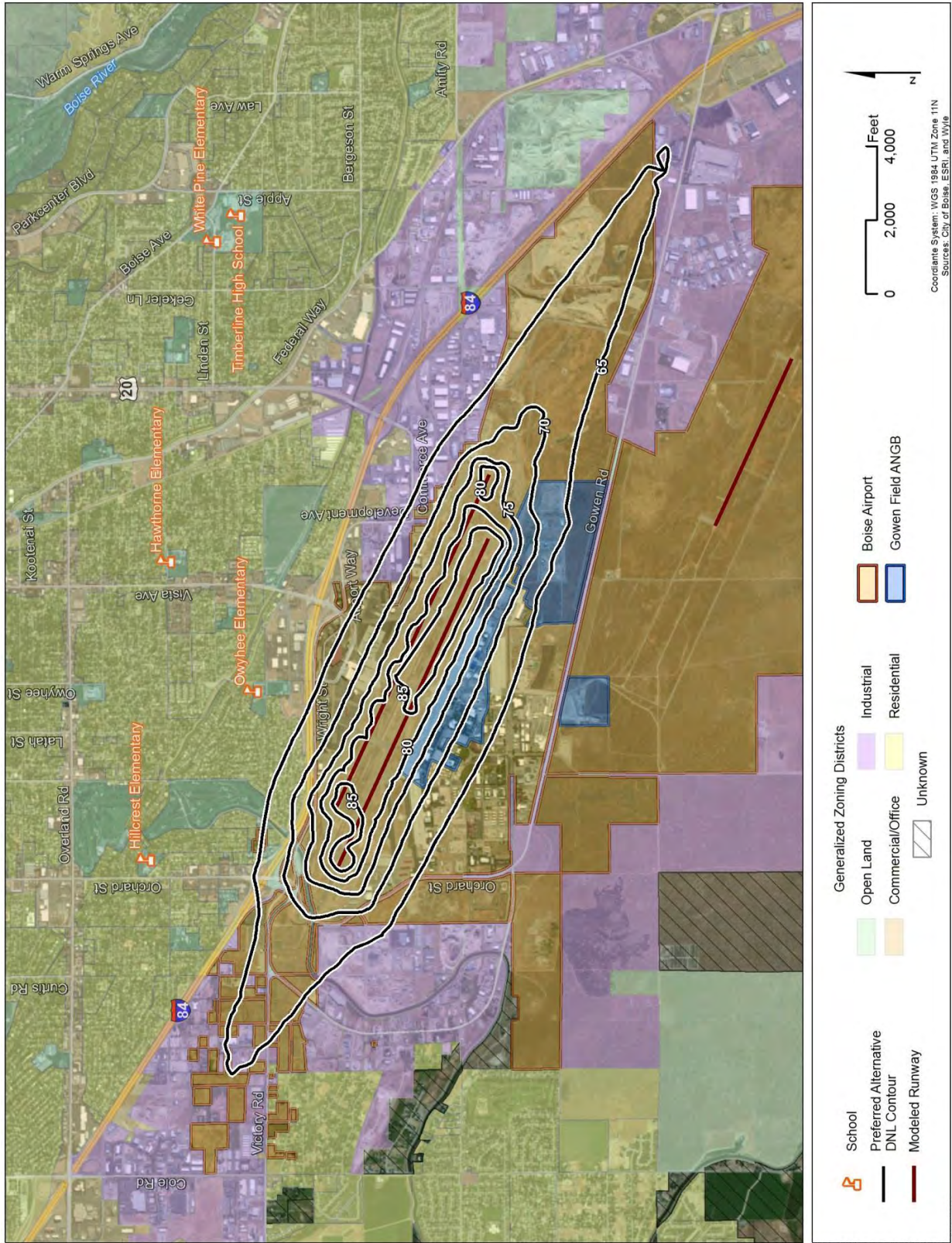


Figure 4. Aircraft DNL Contours and Land Use for Preferred Alternative

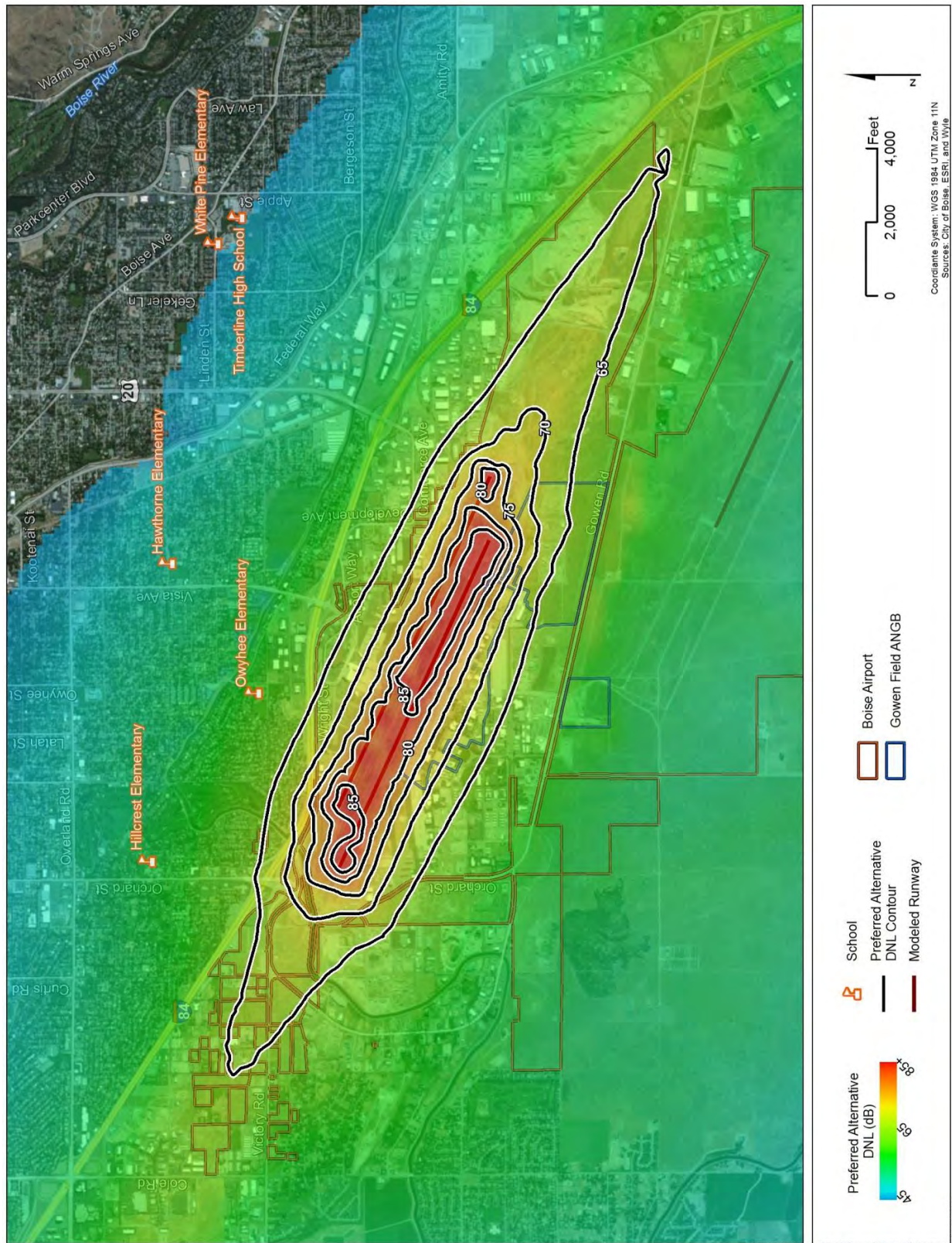


Figure 5. Aircraft DNL Gradients for Preferred Alternative

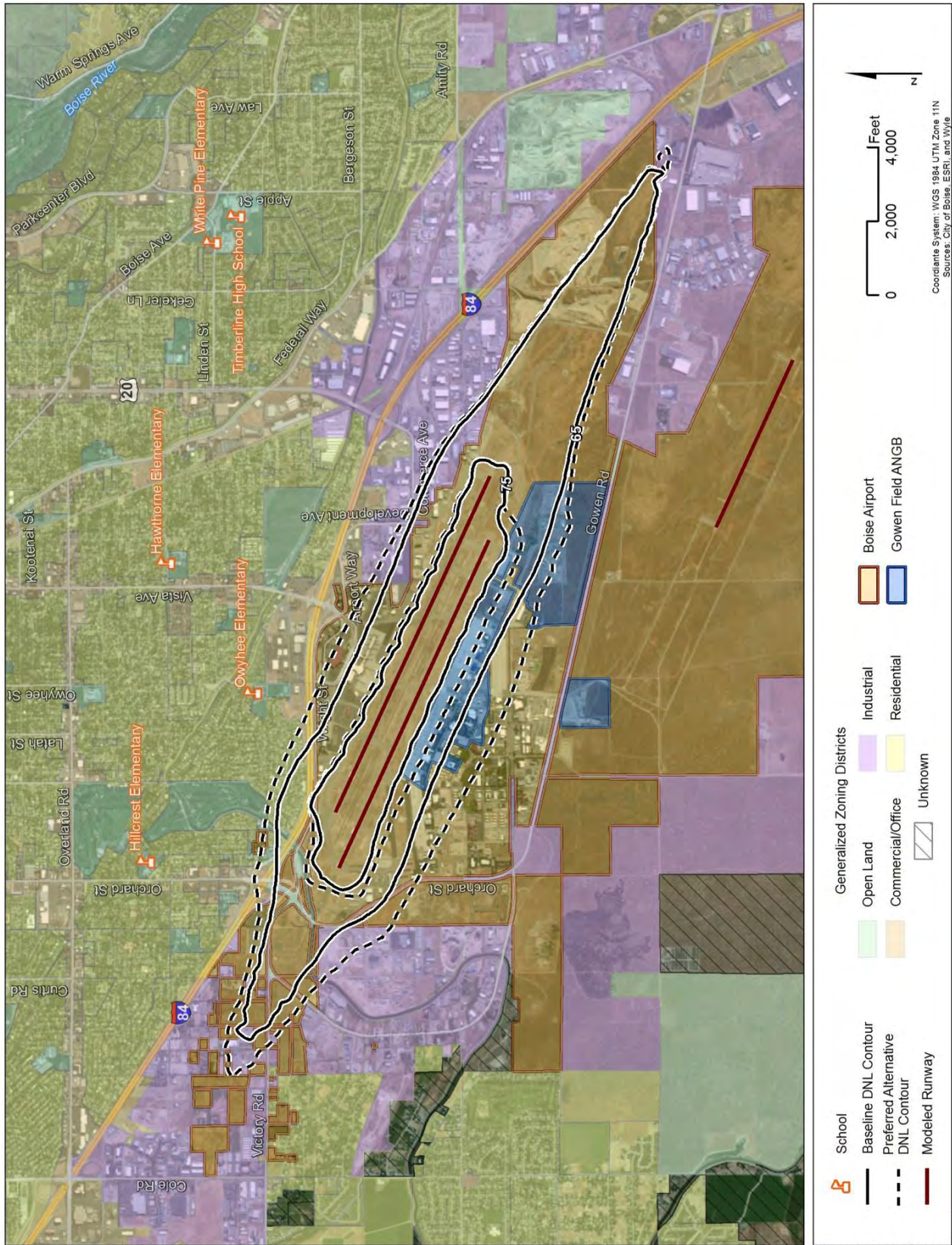


Figure 6. Comparison of 65 dB and 75 dB DNL Contours of Baseline and Preferred Alternative

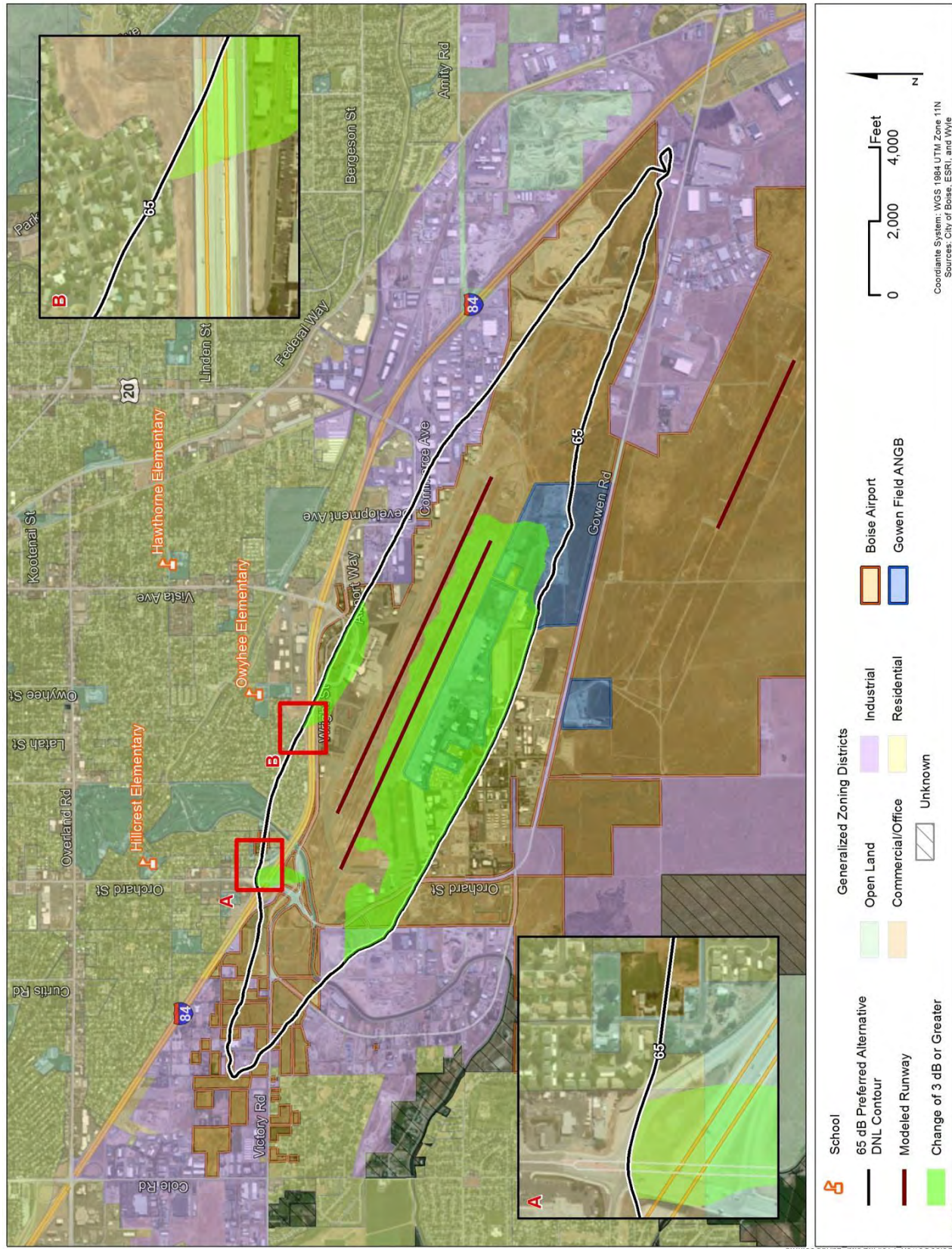


Figure 7. Areas of 3 dB DNL Increase within the 65 dB DNL Contour for the Preferred Alternative

Table 8 shows the land use analysis for the Preferred Alternative. Relative to Baseline, the Preferred Alternative would result in an increase in less than 1 acre of residential area exposed to 75-79 dB DNL, an increase of 6 acres of residential area exposed to 70-74 dB DNL, and an increase in 19 residential acres exposed to 65-69 dB DNL. The Preferred Alternative would result in approximately 28 people newly exposed to 70-74 dB DNL, and approximately 192 people newly exposed to 65-69 dB DNL. The number of off-airport acres for each of the DNL ranges has approximately doubled over the Baseline. Most of this acreage is zoned for industrial or open space. The airport boundary includes both Boise International Airport and Gowen Field. Similar to the Baseline, there is no area within the 80-84 and 85+ DNL contours that fall outside of the airport property.

No other types of sensitive receptors (e.g., schools, hospitals, places of worship, etc.) would be newly introduced to 65-69 or 70-74 dB DNL.

Table 8. Land Use Analysis for Preferred Alternative and Comparison with Baseline

Data	Land Use Category	Off-Airport Data within DNL Band						Increase within DNL Band					
		65-69	70-74	75-79	80-84	85+	Total (65+)	65-69	70-74	75-79	80-84	85+	Total (65+)
Acreage	Commercial/Office	14.6	4.4	0.5	-	-	19.5	7.5	3.7	-	-	-	11.2
	Industrial	156.0	3.6	-	-	-	159.6	78.2	3.4	-	-	-	81.6
	Open Land	28.0	17.5	1.3	-	-	46.8	(0.4)	9.6	0.9	-	-	10.1
	Residential	49.5	15.1	0.6	-	-	65.2	19.1	5.9	0.5	-	-	25.5
	Total Off-Airport	248.1	40.6	2.4	-	-	291.1	104.4	22.6	1.4	-	-	128.4
	On-Airport	787.6	326.0	214.0	223.7	107.7	1,659.0	125.3	67.7	39.6	(5.9)	96.2	322.9
GRAND TOTAL		1,035.7	366.6	216.4	223.7	1,950.1	229.7	90.3	41.0	(5.9)	96.2	451.3	
Population		370	50	-	-	420	192	28	-	-	-	220	

No long-term activities are associated with the Preferred Alternative. After 120 days, all aircraft and personnel associated with the 366 FW would return to MHAFB, Idaho and noise levels in the vicinity of BOI would return to Baseline conditions. Therefore, no long-term direct noise impacts would occur under the Preferred Alternative.

No-Action Alternative

No changes to existing noise conditions, as described in Section 3.2, would occur if the No-Action Alternative were selected. Therefore, no significant impacts to noise would result from implementation of the No-Action Alternative.

4.3 SAFETY

4.3.1 Approach to Analysis

The Air Force Safety Center (<http://www.afsec.af.mil/aviationsafetydivision/aircraftstatistics.asp>) and 366 FW Safety Office maintains flight safety data for all aircraft in the AF inventory. This data was accessed for the current proposed action. Additionally, in 2012 the AF completed an Environmental Impact Statement (EIS) for the Training Basing of the F-35 which was also used during this analysis.

4.3.2 Impacts

Preferred Alternative

Safety. The 366 FW would conduct day-to-day operations and maintenance activities in accordance with applicable safety regulations, published Air Force Technical Orders, and standards prescribed by Air Force Occupational Safety and Health requirements. In addition, the 366 FW would have access to adequate fire suppression and security features and would operate under the IDANG's existing Bird Aircraft Strike Hazard program (BASH). Therefore, implementation of the Preferred Alternative would not result in any significant impacts to safety.

The 366 FW would use the existing airspace, including Military Operation Airspace, restricted airspace, and Military Training Routes under the same procedures as currently exist. This would not result in any increase in safety risks associated with aircraft mishaps or any increase in the risks of occurrence of those mishaps.

Alternative B: No Action Alternative

Under the No-Action Alternative, the 366 FW would not conduct aircraft operations at the Gowen Field ANGB while the 366 FW runways are unavailable for use for 120 day period during the runway repair project at MHAFB Idaho. Therefore, safety would remain as currently exist and there would be no impacts with regard to safety concerns.

SECTION 5.0 CUMULATIVE IMPACTS

Cumulative impacts on environmental resources result from incremental impacts of the Preferred Alternative when combined with other past, present, and projects in the reasonably foreseeable future in an affected area. Cumulative impacts can result from minor but collectively substantial actions undertaken over a period of time by various agencies (Federal, state, or local) or private persons. In accordance with the NEPA, a discussion of cumulative impacts resulting from Preferred Alternatives, under construction, recently completed, or anticipated to be implemented in the near future is required.

For the Proposed Action, due primarily to the temporary and short-term nature of the relocation (i.e., 120 days), cumulative impacts would be considered the same as impacts resulting from implementation of the Preferred Alternative. For an analysis of Preferred Alternative's impacts, please see Section 3.0, *Affected Environment*, and Section 4.0, *Environmental Consequences*

SECTION 6.0 REFERENCES

- Berglund & Lindvall eds. 1995. *Community Noise*, Jannes Snabbtryck, Stockholm, Sweden. City of Boise. 2004. Boise Airport 14 CFR Part 150 Study Update: Updated Noise Exposure Maps and Noise Compatibility Program. July.
- Czech, J.J. and K.J. Plotkin. 1998. "NMAP 7.0 User's Manual. Wyle Research Report WR 98- 13," Wyle, November.
- Czech J.J. 2014. "Draft NMAP 7.3 User's Manual. Wyle Technical Note TN 14-13", Wyle Laboratories Inc., August.
- FAA 2007. Integrated Noise Model (INM) 7.0 User's Manual. Washington, DC: Office of Environment and Energy.
- FICAN 1997. "Effects of Aviation Noise on Awakenings from Sleep," June.
- FICON 1992. "Federal Agency Review of Selected Airport Noise Analysis Issues," August. Harris 1979. *Handbook of Noise Control*, McGraw-Hill Book Co.
- Idaho Air National Guard (IDANG). 2007. Final Environmental Assessment for Implementation of Base Realignment and Closure Final Recommendation for the 124th Wing. Idaho Air National Guard, 124th Wing, Gowen Field, Boise, Idaho.
- IDANG. 2004. Final 2002 Air Emissions Inventory, Idaho Air National Guard, Gowen Field, Boise, Idaho.
- IDANG. 2010. Final 2009 Air Emissions Inventory, 124th Fighter Wing, Idaho Air National Guard, Boise, Idaho.
- Idaho Department of Environmental Quality (IDEQ). 2014. Air Quality Division. Attainment versus Nonattainment. Available at <https://www.deq.idaho.gov/air-quality/monitoring/attainment-versus-nonattainment.aspx>. Accessed: September 2014.
- Oregon Air National Guard. 2009. Final Focused Environmental Assessment for Proposed Temporary Relocation of the 173rd Fighter Wing to Gowen Field Air National Guard Base. Oregon Air National Guard. Klamath Falls, Oregon.
- Roberts 2014. Personal communication. October 22, 2014.
- Solution Environmental, Inc. (2014). Air Conformity Applicability Model (Version 5.0) [Software]. Available at <http://www.aqhelp.com/>
- U.S. Air Force. 1992. Air Force Procedure for Predicting Noise Around Airbases – Noise Exposure Model Technical Report, (Report AL-TR-1992-0059). May. Washington, DC.
- USAF 2012. Final F-35A Training Basing Environmental Impact Statement, Vol I
- USAF 2011. Elmendorf F-22 Plus-Up EA – TBD – AFCEC to complete.

- U.S. Environmental Protection Agency (USEPA). 2011. *USEPA Office of Air Quality Planning and Standards, 2011 National Emissions Inventory*. Available at: <http://www.epa.gov/air/emissions/where.htm>. Accessed: September 2014.
- Wasmer Consulting 2013a. "BaseOps 7.358 User's Guide," Fred Wasmer and Fiona Maunsell, Wasmer Consulting.
- Wasmer Consulting 2013b. "NMPlot 4.967 User's Guide," Fred Wasmer and Fiona Maunsell, Wasmer Consulting.
- Western Regional Climate Center (WRCC). 2014a. *Period of Record Monthly Climate Summary for Boise WSFO Airport, Idaho. Period of Record: 1940 to 2010*. Available at: <http://www.wrcc.dri.edu/climatedata/comparative/>, Accessed: September 2014.
- WRCC. 2014b. *Period of Record Monthly Average Snowfall for Boise WSFO Airport, Idaho. Period of Record: 1948 to 2010*. Available at: <http://www.wrcc.dri.edu/htmlfiles/id/id.sno.html>, Accessed: September 2014.
- WRCC. 2014c. *Average Wind Speeds by State. Period of Record: 1996 to 2006*. Available at: <http://www.wrcc.dri.edu/htmlfiles/westwind.final.html>, Accessed: September 2014.
- WRCC. 2014d. *Average Wind Direction by State. Period of Record: 1992 to 2002*. Available at: <http://www.wrcc.dri.edu/htmlfiles/westwinddir.html>, Accessed: September 2014.

SECTION 7.0
LIST OF PREPARERS

This report was prepared for, and under the direction of, the Air National Guard by Mountain Home Air Force Base. Members of the professional staff are listed below:

Ms. Paula Jo Brown, Project Manager
M.S. Environmental Science

Mr. Eddie Jackson, EIAP Program Manager

Ms. Lisa Lowe, Air Manager
B.S. Biology
M.S. Chemistry
M.S. Chemical Engineering

Ms. Sheri L. Robertson, EIAP Program Manager
M.A. Anthropology

Mr. Carl Rudeen, Natural Resources Program Manager
B.S. Wildlife Resources
B.S. Rangeland Ecology and Management
M.S. Geographic Information Science

Mr. Joseph Czech, Noise (Wyle Laboratories, Inc.)
B.S. Aerospace Engineering

Mr. Ben Manning, Noise (Wyle Laboratories, Inc.)
B.S. Mechanical Engineering
M.S. Mechanical Engineering

APPENDIX A
IICEP DISTRIBUTION LIST/CORRESPONDANCE

Ada County Development Services
200 West Front Street
Boise ID 83702
(208) 287-7900

Mr. Kevin Booe, Director Boise Public Library
715 S. Capitol Blvd Boise ID 83702
(208) 384-4450

City of Boise Planning and Zoning
1501 N. Capitol Blvd
Boise ID 83702
(208) 384-3853

Ms. Mary DeWalt
Ada Community Library Director
10664 West Victory Road
Boise ID 83709
(208) 362-0181

Mr. Eugene Greene, Jr., Chairperson Confederated
Tribes of the Warm Springs Reservation of Oregon
P.O. Box C
Warm Springs OR 97761

Mr. Ted Howard, Cultural Resources Director
Shoshone-Paiute Tribes Duck Valley Reservation
P.O. Box 219 Owyhee NV 89832

Idaho Department of Fish and Game, SW Region
3101 S. Powerline Road
Nampa ID 83686
(208) 465-8465

IDEQ, Directors Office 1410 N. Hilton
Boise ID 83706
(208) 373-0204

Mr. Greg Martinez
U.S. Army Corps of Engineers Boise Office
720 Park Blvd. Ste 255
Boise, Id. 83712
(204) 345-2064

Ms. Cayla Morgan
Federal Aviation Administration Seattle Airport
District Office
1601 Lind Avenue, S.W. Renton WA 98055-4056
(425) 227-2653

Mr. Travis Pitkin
Curations and Compliance Officer
210 Main Street
Boise ID 83702
(208) 334-3847

Ms. Christina Reichgott
U.S. Environmental Protection Agency Region 10
ETPA – 088, 1200 Sixth Avenue
Seattle WA 98101
(206) 553-1601

Mr. Mark Robertson
U.S. Fish and Wildlife Service, Idaho State Office.
1387 S. Vinnell Way, Room 368
Boise ID 83709
(208) 378-5287

Ms. Charlotte Roderique
Chairperson Burns Paiute Tribe
100 Pasigo Street
Burns OR 9772

Ms. Jill Singer, City of Boise, Boise Airport
3201 Airport Way, Suite 1000
Boise ID 83705
(208) 383-3110

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

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

Ms. Sue Sullivan IDOT, Development Division
3311 W. State Street
Boise ID 83707-1129
(208) 334-820



IDAHO AIR NATIONAL GUARD
124TH MISSION SUPPORT GROUP
BOISE AIR TERMINAL (GOWEN FIELD)



21 October 14

Mr. Greg Martinez
U.S. Army Corps of Engineers, Boise Office
304 North 8th Street, Room 138
Boise ID 83702

Dear Mr. Martinez

The United States Air Force (USAF) is preparing an environmental assessment (EA) for the Idaho Air National Guard (IDANG) to evaluate potential environmental impacts associated with temporarily relocating the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to the Gowen Field Air National Guard Base (ANGB) located at the Boise Municipal Airport (BOI) in Boise, Idaho.

A required airfield improvement project is scheduled to occur at Mountain Home AFB. In order to continue training and operational activities during this planned runway construction project, the USAF has proposed to temporarily relocate the 366 FW to Gowen Field. This temporary deployment of the 366 FW would include the relocation of up to 1500 personnel and 54 F-15 aircraft with associated equipment for 120 days; these activities are scheduled from approximately 27 April 2015 to 21 August 2015. While deployed to Gowen Field, the 366 FW would utilize unoccupied hangars and associated facilities of the Idaho ANG's 124th Wing (124 WG). Operationally, the proposed action would include a total of 2,200 sorties flown by the 366 FW during the 120 days. These training sorties would be flown Monday through Friday between 0730hrs and 2300hrs, and in existing general and special use airspaces around Gowen Field ANGB. No construction or demolition is anticipated for this action. Alternatives including fewer numbers of sorties are being evaluated as part of the EA process.

Due primarily to the temporary and short-term nature of the deployment (i.e., 120 days) and because most environmental resources at and in the vicinity of Gowen Field ANGB were recently addressed in a 2012 Environmental Impact Statement (EIS), a focused Final Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) are proposed in accordance with Council on Environmental Quality regulations to comply with the National Environmental Policy Act of 1969.

Under separate correspondence and as required, the IDANG will initiate Government to Government Tribal Consultation, National Historic Preservation Act (NHPA) Section 106 consultation, and additional consultation under the National Environmental Policy Act (NEPA) regarding the Proposed Action and alternatives. For questions regarding the consultation types listed above, please contact Mr. Jake Fruhlinger, Cultural Resources Manager, at (208) 272-4192 or jake.c.fruhlinger.nfg@mail.mil.

As part of the Air Force's Environmental Impact Analysis Process (EIAP), we request your input in identifying general or specific issues or areas of concern you feel should be addressed in the environmental analysis. To ensure the IDANG has sufficient time to consider your input in the preparation of the Draft EA, we would like to hear from you within 30 days of receipt of this letter; however, we will consider comments received at any time during the environmental process. Please forward written issues or concerns to 1st Lt Heidi Caye at (208) 422-5327 or heidi.caye@ang.af.mil. Thank you in advance for your assistance in this effort.

Sincerely

NEAL P. MURPHY, Lt Col, IDANG
Deputy Commander



September 30, 2014

Gil S. "Buddy" Duce
Governor of Idaho

Jaeger Gallimore
Executive Director

Administration
2205 Old Penitentiary Road
 Boise, Idaho 83715-8251
Office: (208) 334-2652
Fax: (208) 334-2776

Membership and Fund
Development
2205 Old Penitentiary Road
 Boise, Idaho 83715-8251
Office: (208) 334-2482
Fax: (208) 334-2776

Historical Museums and
Education Programs
610 North Idaho Falls Drive
 Boise, Idaho 83402-3605
Office: (208) 334-2120
Fax: (208) 334-4029

State Historic Preservation
Office and Historic Sites
Archaeological
Survey of Idaho
301 Main Street
 Boise, Idaho 83702-1261
Office: (208) 334-4861
Fax: (208) 334-7375

Statewide Sites
• Franklin D. Roosevelt Site
• Flamingo Geopark
• Rock Creek Station and
• Snake River

Old Penitentiary
2445 Old Penitentiary Road
 Boise, Idaho 83715-8251
Office: (208) 334-2551
Fax: (208) 334-8421

Idaho State Archives
2275 Old Penitentiary Road
 Boise, Idaho 83715-8251
Chief: (208) 334-2620
Fax: (208) 334-2636

Boise Idaho Office
10 West 4th Street, Suite 4
 Boise, Idaho 83702
Office: (208) 842-1540
Fax: (208) 842-7965



Historical Society is an
Equal Opportunity Employer

Ms. Sheri Robertson
EIAP Manager
Mountain Home Air Force Base

Re: Relocating the 366th Fighter Wing from Mountain Home Air Force Base to
Cowan Field Idaho Air National Guard Base
Idaho SHPO Review No.: 2014-1171

Dear Ms. Robertson,

The Idaho State Historic Preservation Office (SHPO) received a letter on September 8, 2014 from Kevin Marek. The letter mentioned the US Air Force preparing an Environmental Assessment to evaluate impacts associated with temporarily relocating the 366th Fighter Wing training activities to Cowan Field Idaho Air National Guard Base. The proposed project actions involve no construction or demolition. The Idaho SHPO does not have concerns for the relocation and finds a determination of No Effect.

If project actions change, please notify our office. If you have questions, contact me at james.fiore@idshpo.com or (208) 334-3861 x 101.

Thank you for consulting with us,

James M. Fiore, MHP
Historic Preservation Review Officer
Idaho State Historic Preservation Office



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>



NOV 20 2014

1st Lt Heidi Caye
Idaho Air National Guard
124th Mission Support Group
Boise Air Terminal (Gowen Field)
Boise, Idaho 83705

Subject: Temporary Relocation of 366th Fighter Wing to Boise Municipal Airport—Ada
County, Idaho—Scoping Comments
In Reply Refer to: 01EIFW00-2015-CPA-0004

Dear 1st Lt Caye:

This correspondence is in response to the Idaho Air National Guard's letter received by the U.S. Fish and Wildlife Service (Service) dated October 21, 2014, requesting scoping comments on the proposed temporary relocation of the 366th Fighter Wing to the Gowen Field Air National Guard Base at the Boise Municipal Airport in Boise, Ada County, Idaho. The 366th Fighter Wing has proposed to temporarily relocate to Gowen Field during a required airfield improvement project at the Mountain Home Air Force Base. Our scoping comments are as follows.

When reviewing proposed actions such as the temporary relocation of the 366th Fighter Wing to Gowen Field, 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. As the Service is not aware of wetlands or riparian areas located at Boise Municipal Airport, wetlands and riparian areas are not addressed further in our comments. However, we encourage the Air National Guard to include project design features in your project alternatives that avoid or minimize potential impacts to these trust resources in the development of your environmental analysis document.

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 Air National Guard develops project design features for all action alternatives that avoid or minimize the potential

effects of the proposed temporary relocation of the 366th Fighter Wing at the Boise Municipal Airport and its associated airspace on any listed, proposed, or candidate species.

Slickspot Peppergrass

Lepidium papilliferum (slickspot peppergrass), a species proposed for reinstatement as threatened under the Act, is documented to occur at the southern portion of the Boise Airport. Slickspot peppergrass is also found on the Air Force's Juniper Butte Range, where military training activities may include dropping of inert ordnance. Effects of ongoing aircraft overflights and dropping of ordnance associated with facilities and airspace associated with the Mountain Home Air Force Base are described within the existing 2012 Mountain Home Air Force Base Integrated Natural Resource Management Plan (INRMP), and have previously been addressed through section 7 consultation (USFWS 2010, entire; USFWS 2012, entire). We recommend that the 366th Fighter Wing military training activities include project design features to avoid or minimize potential impacts to slickspot peppergrass in the Boise Municipal Airport area as well as continue to comply with the 2012 Mountain Home Air Force Base INRMP when training in facilities and airspace for the Mountain Home Air Force Base.

Greater Sage-grouse

The greater sage-grouse (*Centrocercus urophasianus*) is a candidate for listing under the Act. Airspace to be used for operations of the 366th Fighter Wing temporarily located at the Boise Airport may overlie areas identified by the Idaho State Office of the Bureau of Land Management (Bureau) as preliminary Priority Habitat and preliminary General Habitat¹, which are important areas for greater sage-grouse conservation in Idaho. Research has demonstrated both direct and indirect effects of anthropogenic noise on wildlife. Noise generated by military training activities (e.g., aircraft over flights, dropping of ordnance) may affect individual sage-grouse by interfering with seasonally important behaviors and use of habitat including lekking, nesting, brood-rearing, and wintering.

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. We encourage the Air Guard to fully analyze the effects of noise disturbance on wildlife, including special status species such as the greater sage-grouse, in the environmental analysis for the temporary relocation of the 366th Fighter Wing at the Boise Municipal Airport. We continue to encourage implementation of conservation measures designed to avoid or minimize the effects of noise disturbance on the greater sage-grouse associated with the military training activities, such as overflights within the Owyhee North and Jarbidge North airspace areas.

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 for conservation of the greater sage-grouse. We encourage the Air

¹ The Bureau's greater sage-grouse preliminary Priority Habitat and General Habitat areas can be viewed at: http://www.blm.gov/id/st/en/prog/nepa_register/sage-grouse_rmp_revision.html (last accessed on November 10, 2014).



MILITARY DIVISION, STATE OF IDAHO

4040 W. GUARD STREET, BLDG 600
BOISE, IDAHO 83705-5004

C.L. "BUTCH" OTTER
GOVERNOR

THE ADJUTANT GENERAL
GARY L. SAYLER

October 24, 2014

Lindsey Manning, Chairman
Shoshone-Paiute Tribes of the Duck Valley Indian Reservation
P.O. Box 219
Owyhee NV 89832

SUBJECT: Government to Government Consultation for Section 106 consultation under the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) review of proposed temporary relocation of the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to Boise Air Terminal Air Guard Station (AGS) (Gowen Field)

Dear Chairman Manning,

The United States Air Force (USAF) is preparing an environmental assessment (EA) for the Idaho Air National Guard (IDANG). This EA would evaluate potential environmental impacts associated with temporarily relocating the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to the Boise Air Terminal Air Guard Station (AGS) (Gowen Field).

A required airfield improvement project is scheduled to occur at Mountain Home AFB. In order to continue training and operational activities during this planned runway construction project, the USAF has proposed to temporarily relocate the 366 FW to Gowen Field. This temporary deployment of the 366 FW would include the relocation of up to 1500 personnel and 54 F-15 aircraft with associated equipment for 120 days. These activities are scheduled from approximately 27 April 2015 to 21 August 2015. While deployed to Gowen Field, the 366 FW would utilize unoccupied hangars and associated facilities of the Idaho ANG's 124th Wing (124 WG). Operationally, the proposed action would include a total of 2,200 sorties flown by the 366 FW during the 120 days. These training sorties would be flown Monday through Friday between 0730hrs and 2300hrs, in existing general and special use airspaces. No construction or demolition is anticipated for this action.

Due primarily to the temporary and short-term nature of the deployment (i.e., 120 days), and because most environmental resources at and in the vicinity of Gowen Field were recently addressed in a 2012 Environmental Impact Statement (EIS), a focused Environmental Assessment (EA) is proposed in accordance with Council on Environmental Quality regulations to comply with the National Environmental Policy Act of 1969.

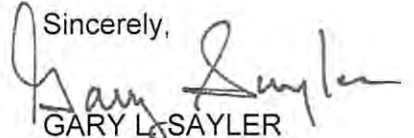
The IDANG is contacting you to initiate government-to-government consultation as part of the process for both Section 106 under NHPA and NEPA. At this time we are requesting comments, concerns, or issues associated with the proposed action. Please let me know if you would like to meet to discuss the proposed temporary deployment of the 366 FW to Gowen Field, and to plan how our staffs will communicate during the consultations.

SUBJECT: Government to Government Consultation

Page 2

We appreciate your continued interest in consulting with Boise AGS and look forward to working directly with the Shoshone-Paiute Council and staff in the NHPA Section 106 and NEPA processes. For questions, comments and inputs for the NHPA Section 106 or NEPA review process, please contact Mr. Jake Fruhlinger, Idaho National Guard (IDNG) Cultural Resources Program Manager and Native American Liaison at (208) 272-4192 or jake.c.fruhlinger.nfg@mail.mil.

General questions related to Gowen Field may be directed to Colonel Timothy Marsano, Public Affairs Officer (PAO) of the Idaho National Guard. Colonel Marsano can be reached at (208) 422-5268.

Sincerely,

GARY L. SAYLER
Major General
The Adjutant General, Idaho



MILITARY DIVISION, STATE OF IDAHO

4040 W. GUARD STREET, BLDG 600
BOISE, IDAHO 83705-5004

C.L. "BUTCH" OTTER
GOVERNOR

October 24, 2014

THE ADJUTANT GENERAL
GARY L. SAYLER

Eugene Greene, Jr., Chairman
Confederated Tribes of Warm Springs Reservation of Oregon
P.O. Box C
Warm Springs OR 97761

SUBJECT: Government to Government Consultation for Section 106 consultation under the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) review of proposed temporary relocation of the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to Boise Air Terminal Air Guard Station (AGS) (Gowen Field)

Dear Chairman Greene,

The United States Air Force (USAF) is preparing an environmental assessment (EA) for the Idaho Air National Guard (IDANG). This EA would evaluate potential environmental impacts associated with temporarily relocating the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to the Boise Air Terminal Air Guard Station (AGS) (Gowen Field).

A required airfield improvement project is scheduled to occur at Mountain Home AFB. In order to continue training and operational activities during this planned runway construction project, the USAF has proposed to temporarily relocate the 366 FW to Gowen Field. This temporary deployment of the 366 FW would include the relocation of up to 1500 personnel and 54 F-15 aircraft with associated equipment for 120 days. These activities are scheduled from approximately 27 April 2015 to 21 August 2015. While deployed to Gowen Field, the 366 FW would utilize unoccupied hangars and associated facilities of the Idaho ANG's 124th Wing (124 WG). Operationally, the proposed action would include a total of 2,200 sorties flown by the 366 FW during the 120 days. These training sorties would be flown Monday through Friday between 0730hrs and 2300hrs, in existing general and special use airspaces. No construction or demolition is anticipated for this action.

Due primarily to the temporary and short-term nature of the deployment (i.e., 120 days), and because most environmental resources at and in the vicinity of Gowen Field ANGB were recently addressed in a 2012 Environmental Impact Statement (EIS), a focused Environmental Assessment (EA) is proposed in accordance with Council on Environmental Quality regulations to comply with the National Environmental Policy Act of 1969.

The IDANG is contacting you to initiate government-to-government consultation as part of the process for both Section 106 under NHPA and NEPA. At this time we are requesting comments, concerns, or issues associated with the proposed action. Please let me know if you would like to meet to discuss the proposed temporary deployment of the 366 FW to Gowen Field, and to plan how our staffs will communicate during the consultations.

SUBJECT: Government to Government Consultation
Page 2

We appreciate your continued interest in consulting with Boise AGS and look forward to working directly with Confederated Tribes of Warm Springs Council and staff in the NHPA Section 106 and NEPA processes. For questions, comments and inputs for the NHPA Section 106 or NEPA review process, please contact Mr. Jake Fruhlinger, Idaho National Guard (IDNG) Cultural Resources Program Manager and Native American Liaison at (208) 272-4192 or jake.c.fruhlinger.nfg@mail.mil.

General questions related to Gowen Field may be directed to Colonel Timothy Marsano, Public Affairs Officer (PAO) of the Idaho National Guard. Colonel Marsano can be reached at (208) 422-5268.

Sincerely,

A handwritten signature in black ink that reads "Gary L. Saylor". The signature is written in a cursive style with a long horizontal stroke at the end.

GARY L. SAYLER
Major General
The Adjutant General, Idaho



MILITARY DIVISION, STATE OF IDAHO

4040 W. GUARD STREET, BLDG 600
BOISE, IDAHO 83705-5004

C.L. "BUTCH" OTTER
GOVERNOR

THE ADJUTANT GENERAL
GARY L. SAYLER

October 24, 2014

Charlotte Roderique, Chairwoman
Burns Paiute Tribe
100 Pasiago Street
Burns OR 9772

SUBJECT: Government to Government Consultation for Section 106 consultation under the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) review of proposed temporary relocation of the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to Boise Air Terminal Air Guard Station (AGS) (Gowen Field)

Dear Chairwoman Roderique,

The United States Air Force (USAF) is preparing an environmental assessment (EA) for the Idaho Air National Guard (IDANG). This EA would evaluate potential environmental impacts associated with temporarily relocating the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to the Boise Air Terminal Air Guard Station (AGS) (Gowen Field).

A required airfield improvement project is scheduled to occur at Mountain Home AFB. In order to continue training and operational activities during this planned runway construction project, the USAF has proposed to temporarily relocate the 366 FW to Gowen Field. This temporary deployment of the 366 FW would include the relocation of up to 1500 personnel and 54 F-15 aircraft with associated equipment for 120 days. These activities are scheduled from approximately 27 April 2015 to 21 August 2015. While deployed to Gowen Field, the 366 FW would utilize unoccupied hangars and associated facilities of the Idaho ANG's 124th Wing (124 WG). Operationally, the proposed action would include a total of 2,200 sorties flown by the 366 FW during the 120 days. These training sorties would be flown Monday through Friday between 0730hrs and 2300hrs, in existing general and special use airspaces. No construction or demolition is anticipated for this action.

Due primarily to the temporary and short-term nature of the deployment (i.e., 120 days), and because most environmental resources at and in the vicinity of Gowen Field ANGB were recently addressed in a 2012 Environmental Impact Statement (EIS), a focused Environmental Assessment (EA) is proposed in accordance with Council on Environmental Quality regulations to comply with the National Environmental Policy Act of 1969.

The IDANG is contacting you to initiate government-to-government consultation as part of the process for both Section 106 under NHPA and NEPA. At this time we are requesting comments, concerns, or issues associated with the proposed action. Please let me know if you would like to meet to discuss the proposed temporary deployment of the 366 FW to Gowen Field, and to plan how our staffs will communicate during the consultations.

SUBJECT: Government to Government Consultation
Page 2

We appreciate your continued interest in consulting with Boise AGS and look forward to working directly with the Burns Paiute Council and staff in the NHPA Section 106 and NEPA processes. For questions, comments and inputs for the NHPA Section 106 or NEPA review process, please contact Mr. Jake Fruhlinger, Idaho National Guard (IDNG) Cultural Resources Program Manager and Native American Liaison at (208) 272-4192 or jake.c.fruhlinger.nfg@mail.mil.

General questions related to Gowen Field may be directed to Colonel Timothy Marsano, Public Affairs Officer (PAO) of the Idaho National Guard. Colonel Marsano can be reached at (208) 422-5268.

Sincerely,

A handwritten signature in cursive script that reads "Gary L. Saylor". The signature is written in black ink and is positioned above the printed name.

GARY L. SAYLER
Major General
The Adjutant General, Idaho



MILITARY DIVISION, STATE OF IDAHO

4040 W. GUARD STREET, BLDG 600
BOISE, IDAHO 83705-5004

C.L. "BUTCH" OTTER
GOVERNOR

THE ADJUTANT GENERAL
GARY L. SAYLER

October 24, 2014

Carolyn Boyer-Smith, Cultural Resources Director
Shoshone-Bannock Tribes
P.O. Box 306
Fort Hall ID 83203

SUBJECT: Government to Government Consultation for Section 106 consultation under the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) review of proposed temporary relocation of the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to Boise Air Terminal Air Guard Station (AGS) (Gowen Field)

Dear Ms. Smith,

The United States Air Force (USAF) is preparing an environmental assessment (EA) for the Idaho Air National Guard (IDANG). This EA would evaluate potential environmental impacts associated with temporarily relocating the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to the Boise Air Terminal Air Guard Station (AGS) (Gowen Field).

A required airfield improvement project is scheduled to occur at Mountain Home AFB. In order to continue training and operational activities during this planned runway construction project, the USAF has proposed to temporarily relocate the 366 FW to Gowen Field. This temporary deployment of the 366 FW would include the relocation of up to 1500 personnel and 54 F-15 aircraft with associated equipment for 120 days. These activities are scheduled from approximately 27 April 2015 to 21 August 2015. While deployed to Gowen Field, the 366 FW would utilize unoccupied hangars and associated facilities of the Idaho ANG's 124th Wing (124 WG). Operationally, the proposed action would include a total of 2,200 sorties flown by the 366 FW during the 120 days. These training sorties would be flown Monday through Friday between 0730hrs and 2300hrs, in existing general and special use airspaces. No construction or demolition is anticipated for this action.

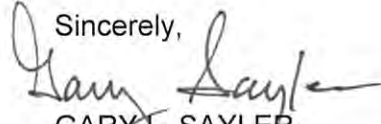
Due primarily to the temporary and short-term nature of the deployment (i.e. 120 days), and because most environmental resources at and in the vicinity of Gowen Field ANGB were recently addressed in a 2012 Environmental Impact Statement (EIS), a focused Environmental Assessment (EA) is proposed in accordance with Council on Environmental Quality regulations to comply with the National Environmental Policy Act of 1969.

The IDANG is contacting you to initiate government-to-government consultation as part of the process for both Section 106 under NHPA and NEPA. At this time we are requesting comments, concerns, or issues associated with the proposed action. Please let me know if you would like to meet to discuss the proposed temporary deployment of the 366 FW to Gowen Field, and to plan how our staffs will communicate during the consultations.

Subject: Government to Government Consultation
Page 2

We appreciate your continued interest in consulting with Boise AGS and look forward to working directly with the Shoshone-Bannock Council and staff in the NHPA Section 106 and NEPA processes. For questions, comments and inputs for the NHPA Section 106 or NEPA review process, please contact Mr. Jake Fruhlinger, Idaho National Guard (IDNG) Cultural Resources Program Manager and Native American Liaison at (208) 272-4192 or jake.c.fruhlinger.nfg@mail.mil.

General questions related to Gowen Field may be directed to Colonel Timothy Marsano, Public Affairs Officer (PAO) of the Idaho National Guard. Colonel Marsano can be reached at (208) 422-5268.

Sincerely,

GARY L. SAYLER
Major General
The Adjutant General, Idaho



MILITARY DIVISION, STATE OF IDAHO

4040 W. GUARD STREET, BLDG 600
BOISE, IDAHO 83705-5004

C.L. "BUTCH" OTTER
GOVERNOR

October 24, 2014

THE ADJUTANT GENERAL
GARY L. SAYLER

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

SUBJECT: Government to Government Consultation for Section 106 consultation under the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) review of proposed temporary relocation of the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to Boise Air Terminal Air Guard Station (AGS) (Gowen Field)

Dear Chairman Small,

The United States Air Force (USAF) is preparing an environmental assessment (EA) for the Idaho Air National Guard (IDANG). This EA would evaluate potential environmental impacts associated with temporarily relocating the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to the Boise Air Terminal Air Guard Station (AGS) (Gowen Field).

A required airfield improvement project is scheduled to occur at Mountain Home AFB. In order to continue training and operational activities during this planned runway construction project, the USAF has proposed to temporarily relocate the 366 FW to Gowen Field. This temporary deployment of the 366 FW would include the relocation of up to 1500 personnel and 54 F-15 aircraft with associated equipment for 120 days. These activities are scheduled from approximately 27 April 2015 to 21 August 2015. While deployed to Gowen Field, the 366 FW would utilize unoccupied hangars and associated facilities of the Idaho ANG's 124th Wing (124 WG). Operationally, the proposed action would include a total of 2,200 sorties flown by the 366 FW during the 120 days. These training sorties would be flown Monday through Friday between 0730hrs and 2300hrs, in existing general and special use airspaces. No construction or demolition is anticipated for this action.

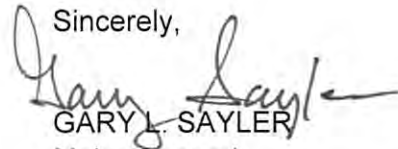
Due primarily to the temporary and short-term nature of the deployment (i.e. 120 days), and because most environmental resources at and in the vicinity of Gowen Field ANGB were recently addressed in a 2012 Environmental Impact Statement (EIS), a focused Environmental Assessment (EA) is proposed in accordance with Council on Environmental Quality regulations to comply with the National Environmental Policy Act of 1969.

The IDANG is contacting you to initiate government-to-government consultation as part of the process for both Section 106 under NHPA and NEPA. At this time we are requesting comments, concerns, or issues associated with the proposed action. Please let me know if you would like to meet to discuss the proposed temporary deployment of the 366 FW to Gowen Field, and to plan how our staffs will communicate during the consultations.

Subject: Government to Government Consultation
Page 2

We appreciate your continued interest in consulting with Boise AGS and look forward to working directly with the Shoshone-Bannock Council and staff in the NHPA Section 106 and NEPA processes. For questions, comments and inputs for the NHPA Section 106 or NEPA review process, please contact Mr. Jake Fruhlinger, Idaho National Guard (IDNG) Cultural Resources Program Manager and Native American Liaison at (208) 272-4192 or jake.c.fruhlinger.nfg@mail.mil.

General questions related to Gowen Field may be directed to Colonel Timothy Marsano, Public Affairs Officer (PAO) of the Idaho National Guard. Colonel Marsano can be reached at (208) 422-5268.

Sincerely,

GARY L. SAYLER
Major General
The Adjutant General, Idaho



MILITARY DIVISION, STATE OF IDAHO

4040 W. GUARD STREET, BLDG 600
BOISE, IDAHO 83705-5004

C.L. "BUTCH" OTTER
GOVERNOR

October 24, 2014

THE ADJUTANT GENERAL
GARY L. SAYLER

Tildon Smart, Chairman
Fort McDermitt Paiute and Shoshone Tribe
P.O. Box 457
McDermitt NV 89421

SUBJECT: Government to Government Consultation for Section 106 consultation under the National Historic Preservation Act (NHPA) and National Environmental Policy Act (NEPA) review of proposed temporary relocation of the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to Boise Air Terminal Air Guard Station (AGS) (Gowen Field)

Dear Chairman Smart,

The United States Air Force (USAF) is preparing an environmental assessment (EA) for the Idaho Air National Guard (IDANG). This EA would evaluate potential environmental impacts associated with temporarily relocating the 366th Fighter Wing (366 FW) training activities from Mountain Home Air Force Base (AFB) to the Boise Air Terminal Air Guard Station (AGS) (Gowen Field).

A required airfield improvement project is scheduled to occur at Mountain Home AFB. In order to continue training and operational activities during this planned runway construction project, the USAF has proposed to temporarily relocate the 366 FW to Gowen Field. This temporary deployment of the 366 FW would include the relocation of up to 1500 personnel and 54 F-15 aircraft with associated equipment for 120 days. These activities are scheduled from approximately 27 April 2015 to 21 August 2015. While deployed to Gowen Field, the 366 FW would utilize unoccupied hangars and associated facilities of the Idaho ANG's 124th Wing (124 WG). Operationally, the proposed action would include a total of 2,200 sorties flown by the 366 FW during the 120 days. These training sorties would be flown Monday through Friday between 0730hrs and 2300hrs, in existing general and special use airspaces. No construction or demolition is anticipated for this action.

Due primarily to the temporary and short-term nature of the deployment (i.e., 120 days), and because most environmental resources at and in the vicinity of Gowen Field ANGB were recently addressed in a 2012 Environmental Impact Statement (EIS), a focused Environmental Assessment (EA) is proposed in accordance with Council on Environmental Quality regulations to comply with the National Environmental Policy Act of 1969.

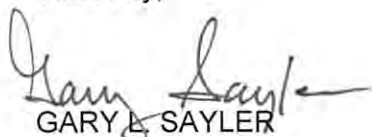
The IDANG is contacting you to initiate government-to-government consultation as part of the process for both Section 106 under NHPA and NEPA. At this time we are requesting comments, concerns, or issues associated with the proposed action. Please let me know if you would like to meet to discuss the proposed temporary deployment of the 366 FW to Gowen Field, and to plan how our staffs will communicate during the consultations.

Subject: Government to Government Consultation
Page 2

We appreciate your continued interest in consulting with Boise AGS and look forward to working directly with the Fort McDermitt Paiute and Shoshone Tribal Council and staff in the NHPA Section 106 and NEPA processes. For questions, comments and inputs for the NHPA Section 106 or NEPA review process, please contact Mr. Jake Fruhlinger, Idaho National Guard (IDNG) Cultural Resources Program Manager and Native American Liaison at (208) 272-4192 or jake.c.fruhlinger.nfg@mail.mil.

General questions related to Gowen Field may be directed to Colonel Timothy Marsano, Public Affairs Officer (PAO) of the Idaho National Guard. Colonel Marsano can be reached at (208) 422-5268.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary Saylor", with a horizontal line extending to the right.

GARY SAYLER

Major General

The Adjutant General, Idaho

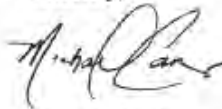
Force to continue to work closely with the IDFG to identify and implement conservation measures for greater sage-grouse local populations, including conservation measures to address potential effects of aircraft noise associated with the proposed temporary relocation of the 366th Fighter Wing to the Boise Municipal Airport.

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 November 10, 2014). The Service has also developed guidance for permitting non-lethal take of both the bald eagle and the golden eagle (*Aquila chrysaetos*). 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. We encourage the Air National Guard include project design features in action alternatives that avoid or minimize impacts to migratory birds to the extent possible, including bald and golden eagles, associated with the 366th Fighter Wing temporary relocation. The Service encourages the Air Force to continue their use of best management practices to minimize potential effects of the military training on migratory birds as described in existing Bird/Wildlife-Aircraft Strike Hazard (BASH) plans and applicable existing INRMPs, including the Mountain Home Air Force Base INRMP.

Thank you for your consideration of these public scoping comments. Please contact Barbara Schmidt of my staff at (208) 378-5259 if you require additional information.

Sincerely,



Michael Carrier
State Supervisor

cc: USFWS, Region 1, Portland (Stavrakas)
US Air Force, MHAFB (Rudeen)
IDFG, Jerome (McDonald)
IDFG, Nampa (Ward)

References Cited

- 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.

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
1	n/a	n/a	n/a	n/a	The Service recommends that the ANG develops project design features for all action alternatives that avoid or minimize the potential effects of the proposed temporary relocation of the 366 FW at the Boise Municipal Airport and its associated airspace on any listed, proposed, or candidate species.	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Proposed action would remain within the existing BOI noise contours; however, there would be an increase in the number of military aircraft departures/arrivals at Gowen Field. No change to military training locations would occur as part of the proposed action; however, there would be an increase in the number of F-15s travelling through the airspace from Gowen Field to the military training location. . We expect there to be no potential impacts to any listed, proposed, or candidate species due to the proposed 366 FW temporary relocation.
2	n/a	n/a	n/a	n/a	The Service recommends that the 366 FW military training activities include project design features for all action alternatives that avoid or minimize the potential impacts to slickspot peppergrass in the Boise Municipal	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Proposed action would remain within the existing BOI noise contours. No change to

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
					Airport area as well as continue to comply with the 2012 MHAFB INRMP when training in facilities and airspace for the MHAFB.		military training locations would occur as part of the proposed action. There would be no potential impacts to slickspot peppergrass due to the proposed 366 FW temporary relocation. The FW would continue to comply with all aspects of the 2012 MHAFB INRMP.
3	n/a	n/a	n/a	n/a	We encourage the AF 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 aircraft noise associated to comply with the proposed temporary relocation of the 366 FW at the Boise Municipal Airport.	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Proposed action would remain within the existing BOI noise contours; however, there would be an increase in the number of military aircraft flights at Gowen Field.. No change to military training locations would occur as part of the proposed action; however, there would be an increase in the number of F-15s travelling through the airspace from Gowen Field to the military training location.. The 366 FW would

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
							continue to work closely with the IDFG regarding GSG. We expect there to be negligible/ no potential impacts to GSG due to the proposed 366 FW temporary relocation.
4	n/a	n/a	n/a	n/a	The Service encourages the AF to continue their use of best management practices to minimize potential effects of the military training on bald and golden eagles and migratory birds as described in existing BASH plans and applicable existing INRMPs, including the MHAFB INRMP.	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	The 366 FW would use best management practice to minimize potential effects of military training on migratory birds. Additionally, Standard Operating Procedures protective of migratory birds are incorporated into 366th INRMP and will be utilized during the temporary relocation to Gowen Field.
5	n/a	n/a	n/a	n/a	Dear Colonel Marsano - I am writing in support of the F-15's possibly coming to Gowen Field AFB for training while the Mountain Home air strip is being resurfaced. I believe anything we can do, especially locally, to be supportive of our armed forces is prudent and I whole heartedly support it. Additionally, it helps those service men and also helps the local economy. I believe the resultant increase in noise will be a minimal distraction, and rather should send shivers of pride through Boise that we have such a resource so close by.	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Comment received

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
					Thank you for the opportunity to comment. Respectfully, Janie W. Potter (email)		
6	n/a	n/a	n/a	n/a	Dear Sirs: Until moving to Boise, I have lived for years near either Eielson AFB or Fairchild AFB and know what afterburner takeoffs sound like. Your Mountain Home runway is 13510 feet long compared to BOI at 9736. You will have to use maximum thrust afterburner takeoffs just in case a pilot needs to abort a takeoff and still have room to stop on the remaining runway. Your relocation to another air force base would provide the 3774 feet of runway that BOI lacks to make an emergency aborted takeoff. You are not providing or intentionally not disclosing relevant information in your TV announcements. I believe that the relocation to Boise has already been decided and that you are only going through the motions to make it look like other alternatives are really being considered. Have you made F15 relocation TV announcements at these other possible sites? If you have please identify them. Environmental impact studies in Florida have shown that the F-15 fighter has led to noise complaints from local communities in the USA. It seems likely that you will create a broad swathe of local political turmoil in Boise if you relocate them here. Mayor Dave Bieter will get a continual ear full when these aircraft are relocated here. Most people in Boise won't complain until after you move them and they experience a couple of afterburner takeoffs. If you do relocate these F15's here, are you planning on compensating or even buying out nearby homeowners who will be affected by the noise? A reasonable alternative would be to relocate your F15's to Nellis AFB or any runway that is isolated enough that the afterburners don't rattle the doors and	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Alternate locations are being considered. All proposed locations comply with the National Environmental Process Act (NEPA). If the proposed action moves forward, temporary relocation would not occur during the winter months.

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
					windows and wake up infants like they do when they have taken off from BOI to the southeast. I live on Warm Springs Mesa. In the winter with denser cold air, your noise pollution will be even worse than the occasional take off or low passes that your F15's have generated in the past at BOI when taking off or climbing using afterburners. Robert Collins (email)		
7	n/a	n/a	n/a	n/a	Colonel Marsano, My wife and I would like to voice our support for the temporary operation of F-15s from Mt. Home AFB at Gowen Field. Although they are a little noisier than the wonderful A-10s we have based here in Boise, we love the sound of Jet Noise and all they represent from the US Air Force! Best wishes and thank you for all you do to protect our great nation. Sincerely, Mark and Joan Peterson (email)	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Comment received
8	n/a	n/a	n/a	n/a	Dear Col. Marsano, I just saw the story on the web about the runway repair at MHAFB. I live 2 miles from the east end of the runway (as the crow flies) near the Simplot Sports Complex. My family and I would like to see the F-15s in full burner, max climb, at night. Thank you for your service. Tracy Whittington USAF (ret) (email)	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Comment received
9	n/a	n/a	n/a	n/a	Col Marsano, I am excited about the possibility of Mountain Home AFB's F-15 being temporarily stationed at Gowen Field. I think it would be great to have the F-15s in Boise. I do believe that most of the Boise and surrounding communities would agree. So count me in as an affirmative for the F-15s at Gowen Field. Thank you, Jeff Dinicola (email)	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Comment received

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
10	n/a	n/a	n/a	n/a	Hello Colonel Marsano Please allow my husband and me to express our support for bringing the F-15s to Gowen Field. We live by the airport, so we would be highly impacted by their flights in our area. However, to us, this sounds like freedom, and we respect and support the military and the training of pilots. Our son-in-law was an Air Force pilot, fighting in Afghanistan. If you are keeping a tally, please allow us two "yes" votes! Thank you Donna and Mike Monroe (email)	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Comment received
11	n/a	n/a	n/a	n/a	Col. Marsano Let me preface my remarks with a thank you to you and all those serving in the military. I'd like to voice my objection to bringing jets to Boise for training. My objection is based on noise and air pollution caused by the jets. I do not live near the airport, in fact, I live across the valley. So I am not in the direct take-off and landing path, however the noise level is significant enough that we are bothered by the noise in the house which is well insulated and has double glass windows throughout. When I attended a program the air Force put on last year they exhibited noise level comparisons between jets and other noise emitters. They compared the noise emitted from a jet to that of a jack hammer. During the remodeling of the Boise Airport I'm sure many jack hammers were used to break up concrete. I never heard any jack hammers or other sounds coming from the airport. If fact, there is no other sound in the valley that is so permeating. If there were it would be covered by noise ordinances the city has. With Mtn Home Air Base only 40 miles away it doesn't make sense to bring additional pollution to the valley where air quality is terrible according to the EPA. Obviously the Mayor and other politicians	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	The Air National Guard performed extensive noise analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. Modified take-off operations are identified in the EA, page 5. If the Preferred Alternative is chosen, the move would temporary. Members

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
					say they want the jets here because of jobs. They fail to mention that most of the people wouldn't lose their jobs and could work in Mtn Home, which is now only 30 minutes away with the 80 mile per hr speed limit. That's less than most commuters spend getting into Boise. If quality of life for the majority of residents in Boise is of any importance to the military, you should recognize that the City has grown way beyond the boundaries when Gowen field was "way out of town " and the planes made significant less noise than today's jet. To sit on the patio or work in the garden which should be relaxing time is often anything but with the noise of the jets. Thank you for your time Bill and Edie Morse (email)		will remain stationed at MHAFFB. They will commute during the temporary relocation.
12	Letter 1	n/a	n/a	n/a	See attached	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	The Air National Guard performed extensive noise analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. Modified take-off operations are

**Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)**

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
							identified in the EA, page 5. Night-flights nor weekend flights would occur during the relocation.
13	Letter 2	n/a	n/a	n/a		S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	The Air National Guard performed extensive noise analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. Modified take-off operations are identified in the EA, page 5. Night flights nor weekend flights would occur during the relocation.
14	Letter 3	n/a	n/a	n/a		S. Robertson, 366 CES/CEIE	The Air National Guard performed extensive noise

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
						H. Caye, 124 CES/CEV	analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. Modified take-off operations are identified in the EA, page 5. Air analysis was conducted during the EA process. Analysis resulted in no increase in air quality due to the proposed relocation of MHAFB 54 F15's. See Section 3.1 Air Quality.
15	Letter 4	n/a	n/a	n/a	See attached	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Comment received
16	Letter 5	n/a	n/a	n/a	See attached	S. Robertson, 366 CES/CEIE	Alternate locations are being considered. All proposed locations

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
						H. Caye, 124 CES/CEV	comply with the National Environmental Process Act (NEPA).
17	Letter 6	n/a	n/a	n/a	See attached	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	The Air National Guard performed extensive noise analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. Modified take-off operations are identified in the EA, page 5. Number of sorties a day could be up to 30 per day. Flying operations would only occur during the day. No weekend flying would occur.

Comment Response Matrix
Temporary Relocation of the 366 FW – Scoping (Nov 2014)

#	Location			Type of Comment	Comment	Reviewer	Response
	Page	Line	Section	S, C, A			
18	Letter 7	n/a	n/a	n/a	See attached	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	Comment received
19	Letter 8	n/a	n/a	n/a	See attached	S. Robertson, 366 CES/CEIE H. Caye, 124 CES/CEV	The Air National Guard performed extensive noise analysis to develop this alternative so that it meets the selection standard requiring no significant noise impacts on the community. As part of this analysis, 366 FW identified several adjustments to their typical flight profiles to avoid noise impacts on sensitive areas of the community. Modified take-off operations are identified in the EA, page 5. Air analysis was conducted during the EA process. Analysis resulted in no increase in air quality due to the proposed relocation of MHAFB 54 F15's. See Section 3.1 Air Quality.

To add additional rows, place cursor in the bottom right cell and hit << Tab>>.

Comment Types: C=Critical; S= Substantive; A=Administrative (See definitions below)

DEFINITIONS

Critical – Comments identifying deficiencies that, if not addressed, would cause the EIAP document to be legally insufficient.

Substantive – Comments identifying an item in the document that appears to be, or is potentially, incorrect, misleading, or confusing. Substantive comments may also identify a future requirement (e.g. consultation, public release, FONPA requirements) which may not currently be critical, but could become critical before completion of the project (e.g. completion of consultation is not required for a preliminary draft EA, but would be needed before signing a FONSI in most cases).

Administrative – Comments identifying minor inconsistencies between different sections or errors in typography and grammar.

Nick Brizzi
12105 W Bowmont St
Boise, ID 83713
(208) 323-7260

Col. Marsano;

I am writing to support the F15's from MHAFB coming to your facility. If I had my way we would have them here permanently, but after all the USAF is entitled to have some fun.

Regards,
Nick Brizzi

USN Vietnam Vet and Patriot Guard Rider.

Nick Brizzi 01/06/2015

January 19, 2015

To:

Col. Tim Marsano, Idaho National Guard Public Affairs Officer
4040 West Guard Street
Boise, Idaho 83705

From:

Steve Tornga
2124 Sunrise Rim Road
Boise, ID 83705

Colonel Marsano,

Thank you for your service to our country and for protecting our freedom.

I appreciate the opportunity to provide my comments regarding the possible transfer of up to 54 of the F15 Fighter Jets from Mountain Home Air Force Base to the Boise Municipal/Gowen Field location during construction at the Mountain Home Air Force Base.

We live on Sunrise Rim Road and have grown accustomed to the A10s (and in prior years to the F4) and Apache Helicopters. We live less than 1 mile from the runways. Currently, the noise and training schedules haven't affected us, primarily due to the normal daytime schedule for the flights and because the noise levels are reasonable.

In the last 2 years we've noticed a higher level of F15 air traffic. The noise level is substantially higher and has become a greater concern. We haven't commented because it's been infrequent and primarily during the weekend and only during the daytime. We have noticed more interrupted conversations, and notice that our pets, and our neighbors react a lot more to the F15's.

The recent news of stationing 54 of the F15's in Boise is a problem for our area. This noise will have a negative impact our quality of life and the quality of life in Boise. Putting 54 F15's at the Boise Airport, even temporarily, is a plan we oppose. The noise impact is not compatible with the population that growth around the airport. There was also no mention regarding the hours of operation of the 54 F15's. Any night time flights will cause a loss of sleep in a wide surrounding area of the airport.

The 2012 investigation on the potential F35 basing at Gowen Field was a major issue for our neighborhood and the surrounding area. The recent news reports have mentioned that the temporary F15 move to Boise could lead to more discussion regarding future F35 basing in Boise. The news report also mentioned that the noise level between the 2 aircraft is similar. Based on our investigation the F-35 is 2 to 3 times as loud and cause hearing loss and sleep interruption by over 30%. This project would have put our neighborhood into a category of "not suitable for residential use". The prior F35 discussion alerted us to the significant increase in sound between each of the aircraft: the A10, the F15, and F35.

We consider the Boise airport primarily as a civilian airport. The dramatic increase in noise from the F15's, F16's and F35 aircraft are too loud that they are a terrible choice near a highly populated area,

I oppose the positioning of F15's in Boise based on the increase in noise, reduced quality of life/negative economic impact, and a loss of property values.

Please consider the temporary relocation of the F15's for a better suited Air Force Base.

Sincerely,



January 19, 2015

To: Col Tim Marsano

From: Barbara Priest, Director in the Sunrise Rim Neighborhood Association

Dear Col Tim Marsano,

The Sunrise Rim Neighborhood Association is opposed to the F-15's using the Boise Airport & Gowen Field as a temporary Training range.

Here are our reasons for opposing to the proposed temporary F-15 Training Center in Boise:

- **Quality of Life** – *The dramatic increase in noise and pollution from these jets will lower our quality of life. In our neighborhood, we won't be able to hear each other talk inside our homes (even when the windows are closed) during F-15 flights. Summer months are the prime time to get out in our yards and enjoy them. We have backyard birthday parties, family reunions, weddings, and backyard barbecues already in the planning stages. None of which will be possible with F-15's taking off and landing.*
- **Our Health** – *The four months the F-15 base is located at the Boise Airport/Gowen Field airfield, the entire Sunrise Rim Neighborhood will be exposed to high levels of noise causing hearing loss, & sleep interruption. Addition to the increase in air pollution.*
- **Property Values** – *Our neighborhood will lose a percentage of our property value. Even though it is only 3-4 months, homes will sit on the market not sold, area business will go without patrons (hotels and restaurants) The noise levels of the F-15's will have a negative effect on 4 schools (and our kids) in our association area.*

We love our freedom, appreciate all the branches of our military, and support proposals for appropriate jobs. We also expect our elected officials to protect what makes Boise such a special place. We feel the Air Force's proposal would be a better fit for an existing Air Force Base. The Sunrise Rim Neighborhood Association finds this proposal incompatible with Boise's urban environment, and its citizens' health and lifestyle.

The 2012 investigation on the potential F35 basing at Gowen Field was a major issue for our neighborhood and the surrounding area. The recent news reports have mentioned that the temporary F15 move to Boise could lead to more discussion regarding future F35 basing in Boise. The news report also mentioned that the noise level between the 2 aircraft is similar. Based on our investigation the F-35 is 2 to 3 times as loud and cause hearing loss and sleep interruption by over 30%. This project would have put our neighborhood into a category of "not suitable for residential use". The prior F35 discussion alerted us to the significant increase in sound between each of the aircraft: the A10, the F15, and F35.

Shauna and Mark Shaltry
9583 W. Cedar Park St.
Boise, ID 83709
January 17, 2015

Dear Colonel Marsano,

We are writing to you to voice our support of temporary move of the F-15 squadron from Mountain Home Air Force Base to Gowen Field as reported in the Idaho Statesman.

We now live near the airport after moving from Eagle, and enjoy the various planes flying over. When the military jets fly over, it is the sound of freedom!

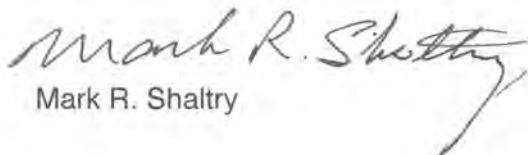
Gowen Field provides many benefits to those of us that call the Treasure Valley home, and we sincerely hope that the military's training capabilities are not impeded by the few who choose to complain the loudest.

Please feel free to contact us anytime if you need more information at 208 938-4087.

Thank you for your time and attention to this matter.

Sincerely,


Shauna L. Shaltry


Mark R. Shaltry

January 20, 2015

To:

Col. Tim Marsano
Idaho National Guard Public Affairs Officer
4040 West Guard Street
Boise, Idaho 83705

From:

Lyman & Patricia Larson
1725 West Sunrise Rim Road
Boise, ID 83705

Dear Colonel Marsano,

First off, let me thank you for your service to our fine country and for protecting our freedom!

Secondly, we thank you for the opportunity to provide comments regarding the possible transfer of up to 54 of the F15 Fighter Jets from Mountain Home Air Force Base to the Boise Municipal/Gowen Field location during construction at the Mountain Home Air Force Base.

The recent news regarding the stationing of 54 F15's in Boise is a problem for our neighborhood and the area. This noise will have a negative impact on our quality of life and the quality of life in Boise. Putting 54 F15's at the Boise Airport, even temporarily, is a plan we oppose.

Please consider the temporary relocation of the F15's to a better suited Air Force Base.

Lately we've noticed a higher level of F15 air traffic in Boise. The noise level is substantially higher and has become a greater concern. Thus far it has been infrequent and primarily limited to daytime and weekends.

In 2012 the investigation into potential F35 basing at Gowen Field was a significant concern for our neighborhood and the surrounding area. The recent news reports have mentioned that the temporary F15 move to Boise could lead to more discussion regarding future F35 basing in Boise.

Based upon our investigation the F-35 is 2 to 3 times as loud and cause hearing loss and sleep interruption by over 30%. This project would have put our neighborhood into a category of "not suitable for residential use".

We consider the Boise airport primarily as a civilian airport. The dramatic increase in noise from the F15's, F16's and F35 aircraft are too loud that they are a terrible choice near a highly populated area.

We oppose the positioning of F15's in Boise based on noise, reduced quality of life/negative economic impact, health, and a loss of property values.

Sincerely,


Lyman & Patricia Larson

February 2, 2015

Col. Tim Marsano,

After several attempts at writing this letter I've decided less is more. I will try.

The jets may take off east and west, but the roar comes north, especially when the afterburners are used with jets taking off in quick succession. Is it possible for the jets to turn quickly to the south and continue over the desert when the afterburners are used?

I have spoken to you several times in the past at different neighborhood meetings regarding jets over the valley. Sometime I would like you to come to my home and we could try to have a conversation about this when your exercises are going on. It can be painful. We would have to stop talking and even going inside does little to help with the noise.

If the F15s come it will be four months during spring and summer. Prime outdoor time. One of the things we treasure about the valley is the beauty and peacefulness we can find

outdoor. So, after months of cold gray winter we could have loud jets flying over.

Questions that have not been addressed that I can find are —

How many missions a day?

Times of day they would fly?

Would they fly at night?

This information would be helpful.

So many agencies are exempt from rules and regulations that citizens need to follow, i.e. noise ordinances. I am hopeful there may be some changes that could be helpful to eliminate at least some of the noise that will occur if the F15s are at Gowen Field. Is this possible?

Believe it or not, this is the shortest letter I have attempted to write you, so I am sending it.

Thank you,

Debbie Moore

6620 W. Randolph Dr.

Boise, ID. 83709

1-8-15

Dear Col Tim Marsano,

I am writing in regards to sending F15E's to Gowen for the Spring/Summer. As a proud military wife of an F15E pilot - this plan excites me! My family lives in Boise due to availability of spouse jobs for me. As opposed to my husband traveling out of state to fly while the runway is closed, he can actually shorten his commute. My toddler will love the opportunity to watch his dad fly!

Many other military families live in Boise and commute to Mountain Home so this will benefit a great number! And for the families that live in Mountain Home - they can meet in Boise for dinner and other activities not available in Mountain Home.

Moving the jets locally will keep our military families together! The guys are deployed / fly more than enough - hopefully this can happen!

Sincerely,

Mary Iannaccone + Griffin Iannaccone (2 yrs old)

Col. Tim Marsano
4040 West Guard Street
Boise, Idaho 83705

Tamie & Bob Baker
2013 S. Eagleson Road
Boise, Idaho 83705

February 11, 2015

Please be advised of our belief that the pending deployment of F-15's to Gowen Field to be a ludicrous decision for many reasons.

Having lived in our home for 12 years we have had the displeasure of experiencing F-15's and their impact on the quality of life to our valley. Our noise levels, air quality and peaceful lifestyle are all being compromised. Additionally, risks are high as training fighter jets cross paths with commercial air traffic... *never a good idea!*

Any financial impact to our community is outweighed by the negative impact of fighter jets on our residential community. **These fighting machines were never intended for urban use.**

It is our request that the F-15's looking for a home be assigned somewhere more appropriate, until one day as we all learn to get along, they can be scrapped altogether.



Tamie and Bob Baker

(See attached)

On an unresolved personal issue, during the previous major deployment of F-15's to Gowen Field you received calls from us frequently complaining about the noise and jet fuel residue. We also experienced several cracked windows during that time, and followed the tedious procedure of filing a claim for reimbursement from the government. **NOTHING WAS EVERY HEARD BACK.** I have attempted in vain to follow-up. I'm attaching that ignored paperwork as well.

THESE PLANES DO DAMAGE AND WE HAVE NO, ZIP, NADA RECOURSE !!!

APPENDIX B
AIR QUALITY CALCULATIONS

AIR CONFORMITY APPLICABILITY MODEL REPORT RECORD OF CONFORMITY ANALYSIS (ROCA)

Conformity Analysis Summary:

2015

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Boise-Northern Ada County, ID			
VOC	5.545		
NOx	13.472		
CO	55.624	100	No
SOx	0.313		
PM 10	2.183	100	No
PM 2.5	1.954		
Pb	0.000		
NH3	0.283		

All estimated emissions associated with this action are below the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

X

Lisa B. Lowe
GS-11 / Physical Scientist

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: GOWEN FIELD ANGB
County(s): Ada
Regulatory Area(s): Boise-Northern Ada County, ID

- Action Title: Relocation of the 366th Fighter Wing

- Project Number/s (if applicable):

- Projected Action Start Date: 5 / 2015

- Action Purpose and Need:

The purpose of the Proposed Action is to facilitate continued mission execution by the 366 FW, its primary objective being the training of air-to-air combat pilots and serving the nation in times of peace and war.

- Action Description:

The 366th Fighter Wing (366 FW), Mountain Home Air Force Base (MHAFB) Idaho, has recently approved a comprehensive airfield construction project at MHAFB, Idaho. In order to continue training and operational activities during this planned runway construction project, MHAFB has proposed to temporarily relocate the 366 FW currently operating at MHAFB to Gowen Field Air National Guard Base (ANGB). Gowen Field is located on the south side of the Boise Municipal Airport (BOI) in Boise, Idaho. This temporary relocation of 54 F-15E aircraft, associated support equipment, and 1500 personnel beginning 27 April 2015 to 21 Aug 2015. Personnel would be transported daily to and from home station. While relocated to Gowen Field ANGB, the 366 FW would utilize existing facilities. Operationally, the implementation of the Proposed Action would include a total of 2,200 sorties, departing from and returning to BOI with flight operations conducted in military operation airspace. Flight operations would occur during day light hours, Monday thru Friday.

The 366 FW would transport mobile aircraft arresting systems, airfield sweeper, AGE, Deployed Debrief Facilities, and various general support equipment and vehicles. It is anticipated that this equipment would require approximately 50 truckloads for transportation. The 366 FW does not propose construction of any new facilities or demolition to support this action.

A review of regional installations and airfields capable of providing an appropriate alternative site location for the Proposed Action was conducted; however, no regional alternative sites were identified that could provide adequate and vacant airfield facility space. Therefore, only the no-Action Alternative will be carried forward for analysis in the Environmental Assessment.

- Point of Contact

Name: Lisa Lowe
Title: GS-11 / Physical Scientist
Organization: 366 CES/CEIE
Email: lisa.lowe.2@us.af.mil
Phone Number: 208-828-6667

- Activity List:

	Activity Type	Activity Title
2.	Aircraft	18 F-15E aircraft with Engine Type F100-PW-220
3.	Aircraft	24 F-15E aircraft with Engine Type F100-PW-229
4.	Aircraft	12 F-15SG aircraft with Engine Type F110-GE-129
5.	Personnel	1,500 Personnel

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2. Aircraft

2.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location

County: Ada

Regulatory Area(s): Boise-Northern Ada County, ID; Boise-Northern Ada County, ID

- Activity Title: 18 F-15E aircraft with Engine Type F100-PW-220

- Activity Description:

18 F-15E aircraft with Engine Type F100-PW-220 would fly approximately 733 sorties from 27 April to 21 August 2015.

- Activity Start Date

Start Month: 5

Start Year: 2015

- Activity End Date

Indefinite: No

End Month: 8

End Year: 2015

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	2.099932
SO _x	0.088555
NO _x	4.188418
CO	9.616609
PM 10	0.756109

Pollutant	Total Emissions (TONs)
PM 2.5	0.689867
Pb	0.000000
NH ₃	0.000000

2.2 Aircraft & Engines

2.2.1 Aircraft & Engines Assumptions

- Aircraft & Engine

Aircraft Designation: F-15E

Engine Model: F100-PW-220

Primary Function: Combat

Number of Engines: 2

- Aircraft & Engine Surrogate

Is Aircraft & Engine a Surrogate? No

Original Aircraft Name:

Original Engine Name:

2.2.2 Aircraft & Engines Emission Factor(s)

- Aircraft & Engine Emissions Factors (lb/1000lb fuel)

	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO ₂ e
Idle	1084.00	7.94	1.06	4.61	35.30	2.06	1.85	3252.46
Approach	3837.00	5.12	1.06	12.53	1.92	2.63	2.37	3252.46

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Intermediate	5770.00	2.89	1.06	22.18	0.86	2.06	1.85	3252.46
Military	9679.00	1.79	1.06	29.32	0.86	1.33	1.20	3252.46
After Burn	41682.00	1.53	1.06	8.37	11.99	1.15	1.04	3252.46

2.3 Flight Operations

2.3.1 Flight Operations Assumptions

- Flight Operations

Number of Aircraft:	18
Number of Annual LTOs (Landing and Take-off) cycles:	41
Number of Annual TGOs (Touch-and-Go) cycles:	0

- Default Settings Used: Yes

- Flight Operations TIMs (Time In Mode)

Taxi/Idle Out (mins):	18.5 (default)
Takeoff (mins):	0.4 (default)
Climb Out (mins):	0.8 (default)
Approach (mins):	3.5 (default)
Taxi/Idle In (mins):	11.3 (default)

- Trim Test

Idle (mins):	12 (default)
Approach (mins):	27 (default)
Intermediate (mins):	9 (default)
Military (mins):	9 (default)
AfterBurn (mins):	3 (default)

2.3.2 Flight Operations Formula(s)

- Aircraft Emissions per Mode for LTOs per Year

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * NA * LTO / 2000$$

AEM_{POL}: Aircraft Emissions per Pollutant & Mode (TONs)

TIM: Time in Mode (min)

60: Conversion Factor minutes to hours

FC: Fuel Flow Rate (lb/hr)

1000: Conversion Factor pounds to 1000pounds

EF: Emission Factor (lb/1000lb fuel)

NE: Number of Engines

NA: Number of Aircraft

LTO: Number of Landing and Take-off Cycles

2000: Conversion Factor pounds to TONs

- Aircraft Emissions for LTOs per Year

$$AE_{LTO} = AEM_{IDLE_IN} + AEM_{IDLE_OUT} + AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

AE_{LTO}: Aircraft Emissions (TONs)

AEM_{IDLE_IN}: Aircraft Emissions for Idle-In Mode (TONs)

AEM_{IDLE_OUT}: Aircraft Emissions for Idle-Out Mode (TONs)

AEM_{APPROACH}: Aircraft Emissions for Approach Mode (TONs)

AEM_{CLIMBOUT}: Aircraft Emissions for Climb-Out Mode (TONs)

AEM_{TAKEOFF}: Aircraft Emissions for Take-Off Mode (TONs)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Aircraft Emissions per Mode for TGOs per Year

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * NA * TGO / 2000$$

- AEM_{POL}: Aircraft Emissions per Pollutant & Mode (TONs)
- TIM: Time in Mode (min)
- 60: Conversion Factor minutes to hours
- FC: Fuel Flow Rate (lb/hr)
- 1000: Conversion Factor pounds to 1000pounds
- EF: Emission Factor (lb/1000lb fuel)
- NE: Number of Engines
- NA: Number of Aircraft
- TGO: Number of Touch-and-Go Cycles
- 2000: Conversion Factor pounds to TONS

- Aircraft Emissions for TGOs per Year

$$AE_{TGO} = AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

- AE_{TGO}: Aircraft Emissions (TONs)
- AEM_{APPROACH}: Aircraft Emissions for Approach Mode (TONs)
- AEM_{CLIMBOUT}: Aircraft Emissions for Climb-Out Mode (TONs)
- AEM_{TAKEOFF}: Aircraft Emissions for Take-Off Mode (TONs)

- Aircraft Emissions per Mode for Trim per Year

$$AEPS_{POL} = (TD / 60) * (FC / 1000) * EF * NE * NA * NTT / 2000$$

- AEPS_{POL}: Aircraft Emissions per Pollutant & Power Setting (TONs)
- TD: Test Duration (min)
- 60: Conversion Factor minutes to hours
- FC: Fuel Flow Rate (lb/hr)
- 1000: Conversion Factor pounds to 1000pounds
- EF: Emission Factor (lb/1000lb fuel)
- NE: Number of Engines
- NA: Number of Aircraft
- NTT: Number of Trim Test
- 2000: Conversion Factor pounds to TONS

- Aircraft Emissions for Trim per Year

$$AE_{TRIM} = AEPS_{IDLE} + AEPS_{APPROACH} + AEPS_{INTERMEDIATE} + AEPS_{MILITARY} + AEPS_{AFTERBURN}$$

- AE_{TRIM}: Aircraft Emissions (TONs)
- AEPS_{IDLE}: Aircraft Emissions for Idle Power Setting (TONs)
- AEPS_{APPROACH}: Aircraft Emissions for Approach Power Setting (TONs)
- AEPS_{INTERMEDIATE}: Aircraft Emissions for Intermediate Power Setting (TONs)
- AEPS_{MILITARY}: Aircraft Emissions for Military Power Setting (TONs)
- AEPS_{AFTERBURN}: Aircraft Emissions for After Burner Power Setting (TONs)

2.4 Auxiliary Power Unit (APU)

2.4.1 Auxiliary Power Unit (APU) Assumptions

- Default Settings Used: Yes

- Auxiliary Power Unit (APU) (default)

Number of APU per Aircraft	Operation Hours for Each LTO	Exempt Source?	Designation	Manufacturer

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2.4.2 Auxiliary Power Unit (APU) Emission Factor(s)

- Auxiliary Power Unit (APU) Emission Factor (lb/hr)

Designation	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO ₂ e
-------------	-----------	-----	-----------------	-----------------	----	-------	--------	-------------------

2.4.3 Auxiliary Power Unit (APU) Formula(s)

- Auxiliary Power Unit (APU) Emissions per Year

$$APU_{POL} = APU * OH * LTO * NA * EF_{POL} / 2000$$

APU_{POL}: Auxiliary Power Unit (APU) Emissions per Pollutant (TONs)

APU: Number of Auxiliary Power Units

OH: Operation Hours for Each LTO (hour)

LTO: Number of LTOs

NA: Number of Aircraft

EF_{POL}: Emission Factor for Pollutant (lb/hr)

2000: Conversion Factor pounds to tons

2.5 Aircraft Engine Test Cell

2.5.1 Aircraft Engine Test Cell Assumptions

- Engine Test Cell

Total Number of Aircraft Engines Tested Annually: 36

- Default Settings Used: Yes

- Annual Run-ups / Test Durations

Annual Run-ups (Per Aircraft Engine): 1 (default)

Idle Duration (mins): 12 (default)

Approach Duration (mins): 27 (default)

Intermediate Duration (mins): 9 (default)

Military Duration (mins): 9 (default)

After Burner Duration (mins): 3 (default)

2.5.2 Aircraft Engine Test Cell Emission Factor(s)

- See Aircraft & Engines Emission Factor(s)

2.5.3 Aircraft Engine Test Cell Formula(s)

- Aircraft Engine Test Cell Emissions per Pollutant & Power Setting (TONs)

$$TestCellPS_{POL} = (TD / 60) * (FC / 1000) * EF * NE * ARU / 2000$$

TestCellPS_{POL}: Aircraft Engine Test Cell Emissions per Pollutant & Power Setting (TONs)

TD: Test Duration (min)

60: Conversion Factor minutes to hours

FC: Fuel Flow Rate (lb/hr)

1000: Conversion Factor pounds to 1000pounds

EF: Emission Factor (lb/1000lb fuel)

NE: Total Number of Engines

ARU: Annual Run-ups (Per Aircraft Engine)

2000: Conversion Factor pounds to TONs

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Aircraft Engine Test Cell Emissions per Year

$$\text{TestCell} = \text{TestCellPS}_{\text{IDLE}} + \text{TestCellPS}_{\text{APPROACH}} + \text{TestCellPS}_{\text{INTERMEDIATE}} + \text{TestCellPS}_{\text{MILITARY}} + \text{TestCellPS}_{\text{AFTERBURN}}$$

TestCell: Aircraft Engine Test Cell Emissions (TONs)

TestCellPS_{IDLE}: Aircraft Engine Test Cell Emissions for Idle Power Setting (TONs)

TestCellPS_{APPROACH}: Aircraft Engine Test Cell Emissions for Approach Power Setting (TONs)

TestCellPS_{INTERMEDIATE}: Aircraft Engine Test Cell Emissions for Intermediate Power Setting (TONs)

TestCellPS_{MILITARY}: Aircraft Engine Test Cell Emissions for Military Power Setting (TONs)

TestCellPS_{AFTERBURN}: Aircraft Engine Test Cell Emissions for After Burner Power Setting (TONs)

2.6 Aerospace Ground Equipment (AGE)

2.6.1 Aerospace Ground Equipment (AGE) Assumptions

- Default Settings Used: Yes

- AGE Usage

Number of Annual LTO (Landing and Take-off) cycles for AGE: 41

- Aerospace Ground Equipment (AGE) (default)

Total Number of AGE	Operation Hours for Each LTO	Exempt Source?	AGE Type	Designation
18	2	No	Air Compressor	MC-11
1	1	No	Air Compressor	MC-1A - 20hp
1	0.5	No	Air Conditioner	MA-3
18	1	No	Bomb Lift	MJ-1B
18	0.33	No	Generator Set	A/M32A-86D
18	0.5	No	Heater	H1
18	0.5	No	Hydraulic Test Stand	MJ-2/TTU-228 - 130hp
18	8	No	Light Cart	NF-2
18	0.33	No	Start Cart	A/M32A-60A

2.6.2 Aerospace Ground Equipment (AGE) Emission Factor(s)

- Aerospace Ground Equipment (AGE) Emission Factor (lb/hr)

Designation	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO _{2e}
MC-11	1.8	0.276	0.004	0.177	12.262	0.109	0.100	34.8
MC-1A - 20hp	1.2	0.177	0.008	0.496	0.234	0.109	0.105	27.0
MA-3	3.8	0.011	0.027	0.497	0.133	0.109	0.105	86.1
MJ-1B	0.0	3.040	0.219	4.780	3.040	0.800	0.776	141.2
A/M32A-86D	6.5	0.294	0.046	6.102	0.457	0.091	0.089	147.0
H1	0.4	0.100	0.011	0.160	0.180	0.006	0.006	8.9
MJ-2/TTU-228 - 130hp	7.4	0.195	0.053	3.396	0.794	0.089	0.086	168.8
NF-2	0.0	0.010	0.043	0.110	0.080	0.010	0.010	22.1
A/M32A-60A	0.0	0.270	0.306	1.820	5.480	0.211	0.205	221.1

2.6.3 Aerospace Ground Equipment (AGE) Formula(s)

- Aerospace Ground Equipment (AGE) Emissions per Year

$$\text{AGE}_{\text{POL}} = \text{AGE} * \text{OH} * \text{LTO} * \text{EF}_{\text{POL}} / 2000$$

AGE_{POL}: Aerospace Ground Equipment (AGE) Emissions per Pollutant (TONs)

AGE: Total Number of Aerospace Ground Equipment

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

OH: Operation Hours for Each LTO (hour)
LTO: Number of LTOs
EF_{POL}: Emission Factor for Pollutant (lb/hr)
2000: Conversion Factor pounds to tons

3. Aircraft

3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location

County: Ada

Regulatory Area(s): Boise-Northern Ada County, ID; Boise-Northern Ada County, ID

- Activity Title: 24 F-15E aircraft with Engine Type F100-PW-229

- Activity Description:

24 F-15E aircraft with Engine Type F100-PW-229 would fly approximately 978 sorties over from 27 April to 21 August 2015.

- Activity Start Date

Start Month: 5

Start Year: 2015

- Activity End Date

Indefinite: No

End Month: 8

End Year: 2015

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	1.043600
SO _x	0.117875
NO _x	5.054979
CO	8.058122
PM 10	0.892480

Pollutant	Total Emissions (TONs)
PM 2.5	0.815295
Pb	0.000000
NH ₃	0.000000

3.2 Aircraft & Engines

3.2.1 Aircraft & Engines Assumptions

- Aircraft & Engine

Aircraft Designation: F-15E

Engine Model: F100-PW-229

Primary Function: Combat

Number of Engines: 2

- Aircraft & Engine Surrogate

Is Aircraft & Engine a Surrogate? No

Original Aircraft Name:

Original Engine Name:

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

3.2.2 Aircraft & Engines Emission Factor(s)

- Aircraft & Engine Emissions Factors (lb/1000lb fuel)

	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO _{2e}
Idle	1087.00	0.45	1.06	3.80	10.17	2.06	1.85	3252.46
Approach	3098.00	0.24	1.06	15.08	1.17	2.63	2.37	3252.46
Intermediate	5838.00	0.35	1.06	17.54	0.15	2.06	1.85	3252.46
Military	11490.00	0.31	1.06	29.29	0.33	1.33	1.20	3252.46
After Burn	20793.00	5.26	1.06	14.30	21.51	1.15	1.04	3252.46

3.3 Flight Operations

3.3.1 Flight Operations Assumptions

- Flight Operations

Number of Aircraft:	24
Number of Annual LTOs (Landing and Take-off) cycles:	41
Number of Annual TGOs (Touch-and-Go) cycles:	0

- Default Settings Used: Yes

- Flight Operations TIMs (Time In Mode)

Taxi/Idle Out (mins):	18.5 (default)
Takeoff (mins):	0.4 (default)
Climb Out (mins):	0.8 (default)
Approach (mins):	3.5 (default)
Taxi/Idle In (mins):	11.3 (default)

- Trim Test

Idle (mins):	12 (default)
Approach (mins):	27 (default)
Intermediate (mins):	9 (default)
Military (mins):	9 (default)
AfterBurn (mins):	3 (default)

3.3.2 Flight Operations Formula(s)

- Aircraft Emissions per Mode for LTOs per Year

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * NA * LTO / 2000$$

AEM_{POL}: Aircraft Emissions per Pollutant & Mode (TONs)

TIM: Time in Mode (min)

60: Conversion Factor minutes to hours

FC: Fuel Flow Rate (lb/hr)

1000: Conversion Factor pounds to 1000pounds

EF: Emission Factor (lb/1000lb fuel)

NE: Number of Engines

NA: Number of Aircraft

LTO: Number of Landing and Take-off Cycles

2000: Conversion Factor pounds to TONs

- Aircraft Emissions for LTOs per Year

$$AE_{LTO} = AEM_{IDLE_IN} + AEM_{IDLE_OUT} + AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

AE_{LTO}: Aircraft Emissions (TONs)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

AEM_{IDLE_IN}: Aircraft Emissions for Idle-In Mode (TONs)
AEM_{IDLE_OUT}: Aircraft Emissions for Idle-Out Mode (TONs)
AEM_{APPROACH}: Aircraft Emissions for Approach Mode (TONs)
AEM_{CLIMBOUT}: Aircraft Emissions for Climb-Out Mode (TONs)
AEM_{TAKEOFF}: Aircraft Emissions for Take-Off Mode (TONs)

- Aircraft Emissions per Mode for TGOs per Year

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * NA * TGO / 2000$$

AEM_{POL}: Aircraft Emissions per Pollutant & Mode (TONs)
TIM: Time in Mode (min)
60: Conversion Factor minutes to hours
FC: Fuel Flow Rate (lb/hr)
1000: Conversion Factor pounds to 1000pounds
EF: Emission Factor (lb/1000lb fuel)
NE: Number of Engines
NA: Number of Aircraft
TGO: Number of Touch-and-Go Cycles
2000: Conversion Factor pounds to TONs

- Aircraft Emissions for TGOs per Year

$$AE_{TGO} = AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

AE_{TGO}: Aircraft Emissions (TONs)
AEM_{APPROACH}: Aircraft Emissions for Approach Mode (TONs)
AEM_{CLIMBOUT}: Aircraft Emissions for Climb-Out Mode (TONs)
AEM_{TAKEOFF}: Aircraft Emissions for Take-Off Mode (TONs)

- Aircraft Emissions per Mode for Trim per Year

$$AEPS_{POL} = (TD / 60) * (FC / 1000) * EF * NE * NA * NTT / 2000$$

AEPS_{POL}: Aircraft Emissions per Pollutant & Power Setting (TONs)
TD: Test Duration (min)
60: Conversion Factor minutes to hours
FC: Fuel Flow Rate (lb/hr)
1000: Conversion Factor pounds to 1000pounds
EF: Emission Factor (lb/1000lb fuel)
NE: Number of Engines
NA: Number of Aircraft
NTT: Number of Trim Test
2000: Conversion Factor pounds to TONs

- Aircraft Emissions for Trim per Year

$$AE_{TRIM} = AEPS_{IDLE} + AEPS_{APPROACH} + AEPS_{INTERMEDIATE} + AEPS_{MILITARY} + AEPS_{AFTERBURN}$$

AE_{TRIM}: Aircraft Emissions (TONs)
AEPS_{IDLE}: Aircraft Emissions for Idle Power Setting (TONs)
AEPS_{APPROACH}: Aircraft Emissions for Approach Power Setting (TONs)
AEPS_{INTERMEDIATE}: Aircraft Emissions for Intermediate Power Setting (TONs)
AEPS_{MILITARY}: Aircraft Emissions for Military Power Setting (TONs)
AEPS_{AFTERBURN}: Aircraft Emissions for After Burner Power Setting (TONs)

3.4 Auxiliary Power Unit (APU)

3.4.1 Auxiliary Power Unit (APU) Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Default Settings Used: Yes

- Auxiliary Power Unit (APU) (default)

Number of APU per Aircraft	Operation Hours for Each LTO	Exempt Source?	Designation	Manufacturer
----------------------------	------------------------------	----------------	-------------	--------------

3.4.2 Auxiliary Power Unit (APU) Emission Factor(s)

- Auxiliary Power Unit (APU) Emission Factor (lb/hr)

Designation	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO ₂ e
-------------	-----------	-----	-----------------	-----------------	----	-------	--------	-------------------

3.4.3 Auxiliary Power Unit (APU) Formula(s)

- Auxiliary Power Unit (APU) Emissions per Year

$$APU_{POL} = APU * OH * LTO * NA * EF_{POL} / 2000$$

APU_{POL}: Auxiliary Power Unit (APU) Emissions per Pollutant (TONs)

APU: Number of Auxiliary Power Units

OH: Operation Hours for Each LTO (hour)

LTO: Number of LTOs

NA: Number of Aircraft

EF_{POL}: Emission Factor for Pollutant (lb/hr)

2000: Conversion Factor pounds to tons

3.5 Aircraft Engine Test Cell

3.5.1 Aircraft Engine Test Cell Assumptions

- Engine Test Cell

Total Number of Aircraft Engines Tested Annually: 40

- Default Settings Used: No

- Annual Run-ups / Test Durations

Annual Run-ups (Per Aircraft Engine): 1

Idle Duration (mins): 12

Approach Duration (mins): 27

Intermediate Duration (mins): 9

Military Duration (mins): 9

After Burner Duration (mins): 3

3.5.2 Aircraft Engine Test Cell Emission Factor(s)

- See Aircraft & Engines Emission Factor(s)

3.5.3 Aircraft Engine Test Cell Formula(s)

- Aircraft Engine Test Cell Emissions per Pollutant & Power Setting (TONs)

$$TestCellPS_{POL} = (TD / 60) * (FC / 1000) * EF * NE * ARU / 2000$$

TestCellPS_{POL}: Aircraft Engine Test Cell Emissions per Pollutant & Power Setting (TONs)

TD: Test Duration (min)

60: Conversion Factor minutes to hours

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

FC: Fuel Flow Rate (lb/hr)
 1000: Conversion Factor pounds to 1000pounds
 EF: Emission Factor (lb/1000lb fuel)
 NE: Total Number of Engines
 ARU: Annual Run-ups (Per Aircraft Engine)
 2000: Conversion Factor pounds to TONS

- Aircraft Engine Test Cell Emissions per Year

$$\text{TestCell} = \text{TestCellPS}_{\text{IDLE}} + \text{TestCellPS}_{\text{APPROACH}} + \text{TestCellPS}_{\text{INTERMEDIATE}} + \text{TestCellPS}_{\text{MILITARY}} + \text{TestCellPS}_{\text{AFTERBURN}}$$

TestCell: Aircraft Engine Test Cell Emissions (TONs)
 TestCellPS_{IDLE}: Aircraft Engine Test Cell Emissions for Idle Power Setting (TONs)
 TestCellPS_{APPROACH}: Aircraft Engine Test Cell Emissions for Approach Power Setting (TONs)
 TestCellPS_{INTERMEDIATE}: Aircraft Engine Test Cell Emissions for Intermediate Power Setting (TONs)
 TestCellPS_{MILITARY}: Aircraft Engine Test Cell Emissions for Military Power Setting (TONs)
 TestCellPS_{AFTERBURN}: Aircraft Engine Test Cell Emissions for After Burner Power Setting (TONs)

3.6 Aerospace Ground Equipment (AGE)

3.6.1 Aerospace Ground Equipment (AGE) Assumptions

- Default Settings Used: Yes

- AGE Usage

Number of Annual LTO (Landing and Take-off) cycles for AGE: 41

- Aerospace Ground Equipment (AGE) (default)

Total Number of AGE	Operation Hours for Each LTO	Exempt Source?	AGE Type	Designation
24	2	No	Air Compressor	MC-11
24	1	No	Bomb Lift	MJ-1B
24	0.33	No	Generator Set	A/M32A-86D
24	0.5	No	Heater	H1
24	0.5	No	Hydraulic Test Stand	MJ-2/TTU-228 - 130hp
24	8	No	Light Cart	NF-2
24	0.33	No	Start Cart	A/M32A-60A

3.6.2 Aerospace Ground Equipment (AGE) Emission Factor(s)

- Aerospace Ground Equipment (AGE) Emission Factor (lb/hr)

Designation	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO _{2e}
MC-11	1.8	0.276	0.004	0.177	12.262	0.109	0.100	34.8
MJ-1B	0.0	3.040	0.219	4.780	3.040	0.800	0.776	141.2
A/M32A-86D	6.5	0.294	0.046	6.102	0.457	0.091	0.089	147.0
H1	0.4	0.100	0.011	0.160	0.180	0.006	0.006	8.9
MJ-2/TTU-228 - 130hp	7.4	0.195	0.053	3.396	0.794	0.089	0.086	168.8
NF-2	0.0	0.010	0.043	0.110	0.080	0.010	0.010	22.1
A/M32A-60A	0.0	0.270	0.306	1.820	5.480	0.211	0.205	221.1

3.6.3 Aerospace Ground Equipment (AGE) Formula(s)

- Aerospace Ground Equipment (AGE) Emissions per Year

$$\text{AGE}_{\text{POL}} = \text{AGE} * \text{OH} * \text{LTO} * \text{EF}_{\text{POL}} / 2000$$

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

AGE_{POL}: Aerospace Ground Equipment (AGE) Emissions per Pollutant (TONs)
AGE: Total Number of Aerospace Ground Equipment
OH: Operation Hours for Each LTO (hour)
LTO: Number of LTOs
EF_{POL}: Emission Factor for Pollutant (lb/hr)
2000: Conversion Factor pounds to tons

4. Aircraft

4.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location

County: Ada

Regulatory Area(s): Boise-Northern Ada County, ID; Boise-Northern Ada County, ID

- Activity Title: 12 F-15SG aircraft with Engine Type F110-GE-129

- Activity Description:

12 F-15SG aircraft with Engine Type F110-GE-129 would fly approximately 489 sorties from 27 April to 21 August 2015.

- Activity Start Date

Start Month: 5

Start Year: 2015

- Activity End Date

Indefinite: No

End Month: 8

End Year: 2015

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.566706
SO _x	0.082632
NO _x	2.695556
CO	4.355248
PM 10	0.463218

Pollutant	Total Emissions (TONs)
PM 2.5	0.416338
Pb	0.000000
NH ₃	0.000000

4.2 Aircraft & Engines

4.2.1 Aircraft & Engines Assumptions

- Aircraft & Engine

Aircraft Designation: F-15E

Engine Model: F100-PW-229

Primary Function: Combat

Number of Engines: 2

- Aircraft & Engine Surrogate

Is Aircraft & Engine a Surrogate? No

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Original Aircraft Name:

Original Engine Name:

4.2.2 Aircraft & Engines Emission Factor(s)

- Aircraft & Engine Emissions Factors (lb/1000lb fuel)

	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO _{2e}
Idle	1087.00	0.45	1.06	3.80	10.17	2.06	1.85	3252.46
Approach	3098.00	0.24	1.06	15.08	1.17	2.63	2.37	3252.46
Intermediate	5838.00	0.35	1.06	17.54	0.15	2.06	1.85	3252.46
Military	11490.00	0.31	1.06	29.29	0.33	1.33	1.20	3252.46
After Burn	20793.00	5.26	1.06	14.30	21.51	1.15	1.04	3252.46

4.3 Flight Operations

4.3.1 Flight Operations Assumptions

- Flight Operations

Number of Aircraft:	12
Number of Annual LTOs (Landing and Take-off) cycles:	41
Number of Annual TGOs (Touch-and-Go) cycles:	0

- Default Settings Used: Yes

- Flight Operations TIMs (Time In Mode)

Taxi/Idle Out (mins):	18.5 (default)
Takeoff (mins):	0.4 (default)
Climb Out (mins):	0.8 (default)
Approach (mins):	3.5 (default)
Taxi/Idle In (mins):	11.3 (default)

- Trim Test

Idle (mins):	12 (default)
Approach (mins):	27 (default)
Intermediate (mins):	9 (default)
Military (mins):	9 (default)
AfterBurn (mins):	3 (default)

4.3.2 Flight Operations Formula(s)

- Aircraft Emissions per Mode for LTOs per Year

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * NA * LTO / 2000$$

AEM_{POL}: Aircraft Emissions per Pollutant & Mode (TONs)

TIM: Time in Mode (min)

60: Conversion Factor minutes to hours

FC: Fuel Flow Rate (lb/hr)

1000: Conversion Factor pounds to 1000pounds

EF: Emission Factor (lb/1000lb fuel)

NE: Number of Engines

NA: Number of Aircraft

LTO: Number of Landing and Take-off Cycles

2000: Conversion Factor pounds to TONS

- Aircraft Emissions for LTOs per Year

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

$$AE_{LTO} = AEM_{IDLE_IN} + AEM_{IDLE_OUT} + AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

AE_{LTO} : Aircraft Emissions (TONs)

AEM_{IDLE_IN} : Aircraft Emissions for Idle-In Mode (TONs)

AEM_{IDLE_OUT} : Aircraft Emissions for Idle-Out Mode (TONs)

$AEM_{APPROACH}$: Aircraft Emissions for Approach Mode (TONs)

$AEM_{CLIMBOUT}$: Aircraft Emissions for Climb-Out Mode (TONs)

$AEM_{TAKEOFF}$: Aircraft Emissions for Take-Off Mode (TONs)

- Aircraft Emissions per Mode for TGOs per Year

$$AEM_{POL} = (TIM / 60) * (FC / 1000) * EF * NE * NA * TGO / 2000$$

AEM_{POL} : Aircraft Emissions per Pollutant & Mode (TONs)

TIM: Time in Mode (min)

60: Conversion Factor minutes to hours

FC: Fuel Flow Rate (lb/hr)

1000: Conversion Factor pounds to 1000pounds

EF: Emission Factor (lb/1000lb fuel)

NE: Number of Engines

NA: Number of Aircraft

TGO: Number of Touch-and-Go Cycles

2000: Conversion Factor pounds to TONS

- Aircraft Emissions for TGOs per Year

$$AE_{TGO} = AEM_{APPROACH} + AEM_{CLIMBOUT} + AEM_{TAKEOFF}$$

AE_{TGO} : Aircraft Emissions (TONs)

$AEM_{APPROACH}$: Aircraft Emissions for Approach Mode (TONs)

$AEM_{CLIMBOUT}$: Aircraft Emissions for Climb-Out Mode (TONs)

$AEM_{TAKEOFF}$: Aircraft Emissions for Take-Off Mode (TONs)

- Aircraft Emissions per Mode for Trim per Year

$$AEPS_{POL} = (TD / 60) * (FC / 1000) * EF * NE * NA * NTT / 2000$$

$AEPS_{POL}$: Aircraft Emissions per Pollutant & Power Setting (TONs)

TD: Test Duration (min)

60: Conversion Factor minutes to hours

FC: Fuel Flow Rate (lb/hr)

1000: Conversion Factor pounds to 1000pounds

EF: Emission Factor (lb/1000lb fuel)

NE: Number of Engines

NA: Number of Aircraft

NTT: Number of Trim Test

2000: Conversion Factor pounds to TONS

- Aircraft Emissions for Trim per Year

$$AE_{TRIM} = AEPS_{IDLE} + AEPS_{APPROACH} + AEPS_{INTERMEDIATE} + AEPS_{MILITARY} + AEPS_{AFTERBURN}$$

AE_{TRIM} : Aircraft Emissions (TONs)

$AEPS_{IDLE}$: Aircraft Emissions for Idle Power Setting (TONs)

$AEPS_{APPROACH}$: Aircraft Emissions for Approach Power Setting (TONs)

$AEPS_{INTERMEDIATE}$: Aircraft Emissions for Intermediate Power Setting (TONs)

$AEPS_{MILITARY}$: Aircraft Emissions for Military Power Setting (TONs)

$AEPS_{AFTERBURN}$: Aircraft Emissions for After Burner Power Setting (TONs)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

4.4 Auxiliary Power Unit (APU)

4.4.1 Auxiliary Power Unit (APU) Assumptions

- Default Settings Used: Yes

- Auxiliary Power Unit (APU) (default)

Number of APU per Aircraft	Operation Hours for Each LTO	Exempt Source?	Designation	Manufacturer
1	1	No	T-62T-40-8	

4.4.2 Auxiliary Power Unit (APU) Emission Factor(s)

- Auxiliary Power Unit (APU) Emission Factor (lb/hr)

Designation	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO _{2e}
T-62T-40-8	272.6	0.493	0.289	1.216	3.759	0.131	0.037	910.8

4.4.3 Auxiliary Power Unit (APU) Formula(s)

- Auxiliary Power Unit (APU) Emissions per Year

$$APU_{POL} = APU * OH * LTO * NA * EF_{POL} / 2000$$

APU_{POL}: Auxiliary Power Unit (APU) Emissions per Pollutant (TONs)

APU: Number of Auxiliary Power Units

OH: Operation Hours for Each LTO (hour)

LTO: Number of LTOs

NA: Number of Aircraft

EF_{POL}: Emission Factor for Pollutant (lb/hr)

2000: Conversion Factor pounds to tons

4.5 Aircraft Engine Test Cell

4.5.1 Aircraft Engine Test Cell Assumptions

- Engine Test Cell

 Total Number of Aircraft Engines Tested Annually: 24

- Default Settings Used: Yes

- Annual Run-ups / Test Durations

 Annual Run-ups (Per Aircraft Engine): 1 (default)

 Idle Duration (mins): 12 (default)

 Approach Duration (mins): 27 (default)

 Intermediate Duration (mins): 9 (default)

 Military Duration (mins): 9 (default)

 After Burner Duration (mins): 3 (default)

4.5.2 Aircraft Engine Test Cell Emission Factor(s)

- See Aircraft & Engines Emission Factor(s)

4.5.3 Aircraft Engine Test Cell Formula(s)

- Aircraft Engine Test Cell Emissions per Pollutant & Power Setting (TONs)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

$$\text{TestCellPS}_{\text{POL}} = (\text{TD} / 60) * (\text{FC} / 1000) * \text{EF} * \text{NE} * \text{ARU} / 2000$$

TestCellPS_{POL}: Aircraft Engine Test Cell Emissions per Pollutant & Power Setting (TONs)

TD: Test Duration (min)

60: Conversion Factor minutes to hours

FC: Fuel Flow Rate (lb/hr)

1000: Conversion Factor pounds to 1000pounds

EF: Emission Factor (lb/1000lb fuel)

NE: Total Number of Engines

ARU: Annual Run-ups (Per Aircraft Engine)

2000: Conversion Factor pounds to TONs

- Aircraft Engine Test Cell Emissions per Year

$$\text{TestCell} = \text{TestCellPS}_{\text{IDLE}} + \text{TestCellPS}_{\text{APPROACH}} + \text{TestCellPS}_{\text{INTERMEDIATE}} + \text{TestCellPS}_{\text{MILITARY}} + \text{TestCellPS}_{\text{AFTERBURN}}$$

TestCell: Aircraft Engine Test Cell Emissions (TONs)

TestCellPS_{IDLE}: Aircraft Engine Test Cell Emissions for Idle Power Setting (TONs)

TestCellPS_{APPROACH}: Aircraft Engine Test Cell Emissions for Approach Power Setting (TONs)

TestCellPS_{INTERMEDIATE}: Aircraft Engine Test Cell Emissions for Intermediate Power Setting (TONs)

TestCellPS_{MILITARY}: Aircraft Engine Test Cell Emissions for Military Power Setting (TONs)

TestCellPS_{AFTERBURN}: Aircraft Engine Test Cell Emissions for After Burner Power Setting (TONs)

4.6 Aerospace Ground Equipment (AGE)

4.6.1 Aerospace Ground Equipment (AGE) Assumptions

- Default Settings Used: Yes

- AGE Usage

Number of Annual LTO (Landing and Take-off) cycles for AGE: 41

- Aerospace Ground Equipment (AGE) (default)

Total Number of AGE	Operation Hours for Each LTO	Exempt Source?	AGE Type	Designation
12	2	No	Air Compressor	MC-11
12	1	No	Bomb Lift	MJ-1B
12	0.33	No	Generator Set	A/M32A-86D
12	0.5	No	Heater	H1
12	0.5	No	Hydraulic Test Stand	MJ-2/TTU-228 - 130hp
12	8	No	Light Cart	NF-2
12	0.33	No	Start Cart	A/M32A-60A

4.6.2 Aerospace Ground Equipment (AGE) Emission Factor(s)

- Aerospace Ground Equipment (AGE) Emission Factor (lb/hr)

Designation	Fuel Flow	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	CO _{2e}
MC-11	1.8	0.276	0.004	0.177	12.262	0.109	0.100	34.8
MJ-1B	0.0	3.040	0.219	4.780	3.040	0.800	0.776	141.2
A/M32A-86D	6.5	0.294	0.046	6.102	0.457	0.091	0.089	147.0
H1	0.4	0.100	0.011	0.160	0.180	0.006	0.006	8.9
MJ-2/TTU-228 - 130hp	7.4	0.195	0.053	3.396	0.794	0.089	0.086	168.8
NF-2	0.0	0.010	0.043	0.110	0.080	0.010	0.010	22.1
A/M32A-60A	0.0	0.270	0.306	1.820	5.480	0.211	0.205	221.1

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

4.6.3 Aerospace Ground Equipment (AGE) Formula(s)

- Aerospace Ground Equipment (AGE) Emissions per Year

$$AGE_{POL} = AGE * OH * LTO * EF_{POL} / 2000$$

AGE_{POL}: Aerospace Ground Equipment (AGE) Emissions per Pollutant (TONs)

AGE: Total Number of Aerospace Ground Equipment

OH: Operation Hours for Each LTO (hour)

LTO: Number of LTOs

EF_{POL}: Emission Factor for Pollutant (lb/hr)

2000: Conversion Factor pounds to tons

5. Personnel

5.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location

County: Ada

Regulatory Area(s): Boise-Northern Ada County, ID; Boise-Northern Ada County, ID

- Activity Title: 1,500 Personnel

- Activity Description:

- Activity Start Date

Start Month: 5

Start Year: 2015

- Activity End Date

Indefinite: No

End Month: 8

End Year: 2015

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	1.834720
SO _x	0.023697
NO _x	1.532812
CO	33.594178
PM 10	0.071325

Pollutant	Total Emissions (TONs)
PM 2.5	0.032706
Pb	0.000000
NH ₃	0.282831

5.2 Personnel Assumptions

- Number of Personnel

Active Duty Personnel: 1500

Civilian Personnel: 0

Support Contractor Personnel: 0

Air National Guard (ANG) Personnel: 0

Reserve Personnel: 0

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- **Default Settings Used:** No

- **Average Personnel Round Trip Commute (mile):** 20

- Personnel Work Schedule

Active Duty Personnel: 5 Days Per Week
Civilian Personnel: 5 Days Per Week
Support Contractor Personnel: 5 Days Per Week
Air National Guard (ANG) Personnel: 5 Days Per Week
Reserve Personnel: 4 Days Per Month

5.3 Personnel On Road Vehicle Mixture

- **On Road Vehicle Mixture (%)**

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

5.4 Personnel Emission Factor(s)

- **On Road Vehicle Emission Factors (grams/mile)**

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	Pb	NH ₃	CO ₂
LDGV	00.4750	00.0068	00.3770	10.8200	00.0248	00.0113		00.1017	00368.0
LDGT	00.7130	00.0095	00.6200	12.4300	00.0249	00.0113		00.1017	00516.2
HDGV	00.6310	00.0165	01.0910	08.8700	00.0432	00.0275		00.0451	00904.8
LDDV	00.1110	00.0029	00.1370	00.7480	00.0447	00.0295		00.0068	00314.1
LDDT	00.3450	00.0056	00.3830	00.6140	00.0533	00.0375		00.0068	00598.6
HDDV	00.3090	00.0116	02.4520	00.7240	00.0970	00.0707		00.0270	01243.4
MC	02.0000	00.0033	01.2800	15.1400	00.0372	00.0207		00.0113	00177.4

5.5 Personnel Formula(s)

- **Personnel Vehicle Miles Travel for Work Days per Year**

$$VMT_p = NP * WD * AC$$

VMT_p: Personnel Vehicle Miles Travel (miles/year)

NP: Number of Personnel

WD: Work Days per Year

AC: Average Commute (miles)

- **Total Vehicle Miles Travel per Year**

$$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$$

VMT_{Total}: Total Vehicle Miles Travel (miles)

VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)

VMT_C: Civilian Personnel Vehicle Miles Travel (miles)

VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)

VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)

VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- **Vehicle Emissions per Year**

$$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$$

V_{POL}: Vehicle Emissions (TONs)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

APPENDIX C
DETAILS OF NOISE ANALYSIS

APPENDIX C DETAILS OF NOISE ANALYSIS

NOISEMAP, through its BASEOPS program, allows entry of runway coordinates, airfield information, flight tracks, flight profiles (e.g., engine thrust settings, altitudes, and speeds) along each flight track for each aircraft, numbers of flight operations, run-up coordinates, run-up profiles, and run-up operations.

Table C-1 lists the modeling parameters used for this noise analysis. NOISEMAP's (and INM's) output comprises a regularly spaced "grid" file containing DNL values. The NMPLOT program uses the grid file to plot contours of equal DNL which can then be overlaid onto maps to depict current noise exposure levels in the BOI airfield environment. For the plotting of DNL contours, a grid point spacing of 500 feet was utilized.

NOISEMAP's ability to account for the effects of sound propagation includes two different ground impedance conditions: "soft ground" (e.g., grass-covered ground) with a flow resistivity of 200 kPa-s/m² or "hard ground" (e.g., between asphalt and water) with a flow resistivity of 1,000,000 kPa-s/m². This study considered all areas in and around Gowen Field as soft ground for modeling purposes, consistent with the previous EA. INM does not have the ability to account for impedance effects. INM was run with elevation enabled. The modeling for this project does not include the effect of shielding of on-base buildings.

The weather data is identical to that used in the 2009 EA (Oregon Air National Guard 2009).

Table C-1. Noise Modeling Parameters

Software	Analysis	Version
NMAP	F-15, A-10, H-60 Aircraft	7.2
INM	All other Aircraft (Fixed Wing and Helo)	7.0a
Parameter	Description	
Receiver Grid Spacing	500 ft in x and y	
Metric	DNL (dBA)	
Basis	Annual Average Daily Operations (AAD)	
Topography		
Elevation Data Source	1/3 arc-second NED	
Elevation (ELV) and Impedance (IMP) Grid spacing (NMAP only)	250 ft in x and y	
Flow Resistivity of Ground (soft) NMAP only	200 kPa-s/m ²	
Flow Resistivity of Water (hard) NMAP only	1,000,000 kPa-s/m ²	
Modeled Weather (Oregon Air National Guard 2009)		
Temperature	62.6 °F	
Relative Humidity	41%	
Barometric Pressure	29.92 inHg	

Baseline Scenario

The Baseline operations at BOI have a mix of civil operations and military A-10 and H-60 operations. H-60

operations were modeled with NOISEMAP's SK-70 aircraft as a surrogate as this is the closest type to the H-60 in its database. The operations, runway utilization, and flight track utilization for the civil and military aircraft is identical to the modeling in the 2009 NEM Baseline Scenario from the 2009 EA (Oregon Air National Guard 2009). Table C-2 presents the annual Baseline operations at BOI. There are 169,510 annual civil operations at BOI, 7,510 annual military A-10 operations, and 4,800 annual military H-60 operations.

Table C-2. Annual Flight Operations at Gowen Field ANGB for Baseline Scenario

Category	Group	Aircraft	Modeled Aircraft Type	Engine	Departure			Arrival			Closed Pattern ⁽¹⁾			TOTAL		
					Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total
Civil	Heavy Jet	Airbus A300	A300B4-203	CF6-50C2	842	-	842	590	253	843	-	-	-	1,432	253	1,685
	Large Jet	Airbus A319-131	A319-131	V2522-A5 Engines	1,141	327	1,468	1,086	382	1,468	-	-	-	2,227	709	2,936
		Airbus A320-232	A320-232	V2527-A5 Engines	-	-	-	-	-	-	-	-	-	-	-	-
		Boeing FE	727EM2	JT8D-15	274	-	274	41	233	274	-	-	-	315	233	548
		Boeing 73	737N17	JT8D-17 N	183	37	220	160	60	220	-	-	-	343	97	440
		Boeing 737-300	737300	CFM56-3B-2	5,397	473	5,870	4,670	1,200	5,870	-	-	-	10,067	1,673	11,740
		Boeing 737-500	737500	CFM56-3B-1	1,468	-	1,468	1,174	293	1,467	-	-	-	2,642	293	2,935
		Boeing 737-700	737700	CFM56-7B	1,349	118	1,467	1,168	300	1,468	-	-	-	2,517	418	2,935
		Boeing 737-800	737800	CFM56-7B26	881	-	881	440	440	880	-	-	-	1,321	440	1,761
		Boeing 75	757RR	RB211-535	674	-	674	404	270	674	-	-	-	1,078	270	1,348
		Bombardier Challenger 600	CL600	ALF502L	48	-	48	48	-	48	-	-	-	96	-	96
	Bombardier Challenger 601	CL601	CF34-3A	9,771	2,155	11,926	10,189	1,736	11,925	-	-	-	19,960	3,891	23,851	
	McDonnell DC95HW	DC95HW	JT8D17 w/	316	-	316	316	-	316	-	-	-	632	-	632	
	McDonnell Douglas MD-83	MD83	JT8D-219	587	-	587	587	-	587	-	-	-	1,174	-	1,174	
	Dassault FAL20	FAL20	CF700-2D-	809	96	905	809	96	905	-	-	-	1,618	192	1,810	
	LEAR 25 (Stage 2)	LEAR25	CJ610-8	306	-	306	306	-	306	-	-	-	612	-	612	
	Gulfstream GII (Stage 2)	GII	SPEY 511-8	80	-	80	40	40	80	-	-	-	120	40	160	
	Gulfstream	GIII	SPEY 511	32	-	32	32	-	32	-	-	-	64	-	64	
	Cessna C172	CNA500	JT15D-4	969	-	969	937	31	968	-	-	-	1,906	31	1,937	
	Cessna C172	CIT3	TFE731-3-	134	-	134	134	-	134	-	-	-	268	-	268	
	Business Jet	Cessna Citation X	CNA750	Royce Allison AE3007C	159	-	159	159	-	159	-	-	-	318	-	318
		Gulfstream GIV-SP	GIV	TAY 611-8	45	32	77	76	-	76	-	-	-	121	32	153
		IAI Astra 1125	IA1125	TFE731-3A	86	-	86	86	-	86	-	-	-	172	-	172
		LEAR 36	LEAR35	TFE731-2	2,163	599	2,762	2,592	170	2,762	-	-	-	4,755	769	5,524
		Hawker Beechcraft 400	MU3001	JT15D-4	1,064	96	1,160	1,048	112	1,160	-	-	-	2,112	208	2,320
		Cessna 441	CNA441	TPE331-8	4,971	459	5,430	4,551	879	5,430	-	-	-	9,522	1,338	10,860
	Turboprop	Bombardier DASH 8-300	DHC830	PW123	5,870	-	5,870	5,870	-	5,870	-	-	-	11,740	-	11,740
		Beechcraft 1985 1-ENG VP PROP	BEC58P	TS10-520-	14,307	2,092	16,399	14,508	1,892	16,400	588	81	669	29,403	4,065	33,468
	Prop	Augusta A109	A109		1,212	404	1,616	1,212	404	1,616	-	-	-	2,424	808	3,232
		Helo	UH-60A		1,800	600	2,400	1,800	600	2,400	-	-	-	3,600	1,200	4,800
	Military	Fighter Jet	F-15E PW	F-15E	PW-229	-	-	-	-	-	-	-	-	-	-	-
		Fighter Jet	F-15SG (R)	F-15E		-	-	-	-	-	-	-	-	-	-	-
		Attack Jet	A-10A	A-10A		2,253	1,502	3,755	2,253	1,502	3,755	-	-	-	4,506	3,004
Helo	Sikorsky S-70 (UH-60A)	UH-60A		1,800	600	2,400	1,800	600	2,400	-	-	-	3,600	1,200	4,800	
Civil					74,820	7,362	82,182	72,564	9,616	82,180	4,923	225	5,148	152,307	17,203	169,510
Military					4,053	2,102	6,155	4,053	2,102	6,155	-	-	-	8,106	4,204	12,310
Grand Total					78,873	9,464	88,337	76,617	11,718	88,335	4,923	225	5,148	160,413	21,407	181,820

Notes:
(1) Counted as 2 operations per circuit

Table C-3 lists the average daily runway utilization for the civil aircraft. All civilian operation types are primarily headed in the northwest direction (“10” direction), especially during DNL nighttime hours (2200-0700). As for left/right utilization, Runways 10L and 28L are utilized more than 10R and 28R for daytime (0700-2200) and nighttime (2200-0700) arrivals, and daytime departures. For nighttime departures, Runway 28R is utilized more than 28L. For closed patterns, 90% of pattern operations utilize Runway 10R over 10L. Runway 28L is used for 90% of the patterns in to the northeast (“28” direction) versus Runway 28R.

Table C-3.

a) Average Daily Directional Utilization for Civil Aircraft at Gowen Field ANGB

Operation Type	Direction	Day (0700-2200)	Night (2200-0700)
Departure	10	54%	71%
	28	46%	29%
Arrival	10	52%	68%
	28	48%	32%
Closed Pattern	10	51%	78%
	28	49%	22%

b) Average Daily Left/Right Runway Utilization for Civil Aircraft at Gowen Field ANGB

Operation Type	Direction	Runway ID	Day (0700-2200)	Night (2200-0700)
Departure	10	10L	59%	82%
		10R	41%	18%
	28	28L	51%	33%
		28R	49%	67%
Arrival	10	10L	57%	55%
		10R	43%	45%
	28	28L	53%	57%
		28R	47%	43%
Closed Pattern	10	10L	10%	10%
		10R	90%	90%
	28	28L	90%	90%
		28R	10%	10%

Table C-4 lists the average daily directional utilization and left/right utilization for the military aircraft. The A-10 utilizes Runways 10L, 10R, and 28L and primarily uses Runway 10R for departures and 28L for arrivals. The H-60 only uses Runways 10R and 28L, and primarily uses Runway 10R for both arrivals and departures.

Modeled flight tracks, flight track utilization and flight profiles (altitude, power and speed schedules on each flight track) for the Baseline scenario would be identical to the modeling in the 2009 NEM Baseline from the 2009 EA.

Table C-4.

a) Average Daily Directional Utilization for Military Aircraft at Gowen Field ANGB

Operation Type	Direction	A-10		H-60		Proposed F-15	
		Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)
Departure	10	92%	92%	71%	71%	20%	20%
	28	8%	8%	29%	29%	80%	80%
Arrival	10	40%	40%	58%	58%	45%	45%
	28	60%	60%	42%	42%	55%	55%
Closed Pattern	10	-	-	-	-	45%	45%
	28	-	-	-	-	55%	55%

b) Average Daily Left/Right Runway Utilization for Military Aircraft at Gowen Field ANGB

Operation Type	Direction	Runway ID	A-10A		H-60 (modeled as SK-70/UH-60A)		Proposed F-15	
			Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)	Day (0700-2200)	Night (2200-0700)
Departure	10	10L	41%	41%	-	-	-	-
		10R	59%	59%	100%	100%	100%	100%
	28	28L	100%	100%	100%	100%	100%	100%
		28R	0%	0%	-	-	-	-
Arrival	10	10L	60%	60%	-	-	-	-
		10R	40%	40%	100%	100%	100%	100%
	28	28L	100%	100%	100%	100%	100%	100%
		28R	0%	0%	-	-	-	-
Closed Pattern	10	10L	-	-	-	-	0%	0%
		10R	-	-	-	-	100%	100%
	28	28L	-	-	-	-	100%	100%
		28R	-	-	-	-	0%	0%

Preferred Alternative

Table C-7 details the flight operations for the Preferred Alternative. Civil aircraft at Gowen Field ANGB would be modeled identically as the Baseline Scenario and would account for approximately 170,000 annual flight operations. Military A-10A and H-60 operations would also be the same as under the Baseline Scenario and would total approximately 12,000 operations per year (one sortie represents at least one arrival and one departure operation). By comparison, there would be 990 operations (from the 450 sorties) for the proposed F-15 aircraft during the relocation. Of those 990 operations, 450 would be arrivals (23% of these would be straight-in and 77% would be breaks or pitch-outs), 450 would be Afterburner departures¹, and 90 are VFR Closed Patterns.

¹ Afterburner would only be used within the airport boundary, during takeoff roll and initial climbout.

Table C-7. Annual Flight Operations at Gowen Field ANGB Airport for Preferred Alternative

Category	Group	Aircraft	Modeled Aircraft Type	Engine	Departure			Arrival			Closed Pattern ⁽¹⁾			TOTAL			
					Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	Day (0700-2200)	Night (2200-0700)	Total	
Civil	Heavy Jet	Airbus A300	A300B4-203	CF6-50C2	842	-	842	590	253	843	-	-	-	1,432	253	1,685	
	Large Jet	Airbus A319-131	A319-131	V2522-A5 Engines	1,141	327	1,468	1,086	382	1,468	-	-	-	2,227	709	2,936	
		Airbus A320-232	A320-232	V2527-A5 Engines	-	-	-	-	-	-	-	-	-	-	-	-	
		Boeing FE 727EM2	727EM2	JT8D-15	274	-	274	41	233	274	-	-	-	315	233	548	
		Boeing 737	737N17	JT8D-17 N	183	37	220	160	60	220	-	-	-	343	97	440	
		Boeing 737-300	737300	CFM56-3B-2	5,397	473	5,870	4,670	1,200	5,870	-	-	-	10,067	1,673	11,740	
		Boeing 737-500	737500	CFM56-3B-1	1,468	-	1,468	1,174	293	1,467	-	-	-	2,642	293	2,935	
		Boeing 737-700	737700	CFM56-7B	1,349	118	1,467	1,168	300	1,468	-	-	-	2,517	418	2,935	
		Boeing 737-800	737800	CFM56-7B26	881	-	881	440	440	880	-	-	-	1,321	440	1,761	
		Boeing 757	757RR	RB211-535	674	-	674	404	270	674	-	-	-	1,078	270	1,348	
		Bombardier Challenger 600	CL600	ALF502L	48	-	48	48	-	48	-	-	-	96	-	96	
	Bombardier Challenger 601	CL601	CF34-3A	9,771	2,155	11,926	10,189	1,736	11,925	-	-	-	19,960	3,891	23,851		
	McDonnell Douglas MD-83	DC95HW	JT8D17 w/ MD83	316	-	316	316	-	316	-	-	-	632	-	632		
	McDonnell Douglas MD-83	MD83	JT8D-219	587	-	587	587	-	587	-	-	-	1,174	-	1,174		
	Dassault FAL20	FAL20	CF700-2D	809	96	905	809	96	905	-	-	-	1,618	192	1,810		
	LEAR 25 (Stage 2)	LEAR25	CJ610-8	306	-	306	306	-	306	-	-	-	612	-	612		
	Gulfstream GII (Stage 2)	GII	SPEY 511-8	80	-	80	40	40	80	-	-	-	120	40	160		
	Gulfstream GIII	GIII	SPEY 511	32	-	32	32	-	32	-	-	-	64	-	64		
	Cessna C172	CNA500	JT15D-4	969	-	969	937	31	968	-	-	-	1,906	31	1,937		
	Cessna C172	CIT3	TFE731-3-Rolls Royce Allison AE3007C	134	-	134	134	-	134	-	-	-	268	-	268		
	Cessna Citation X	CNA750	TAY 611-8	159	-	159	159	-	159	-	-	-	318	-	318		
	Gulfstream GIV-SP	GIV	TFE731-3A	45	32	77	76	-	76	-	-	-	121	32	153		
	IAI Astra 1125	IA1125	TFE731-2	86	-	86	86	-	86	-	-	-	172	-	172		
	LEAR 36	LEAR35	JT15D-4	2,163	599	2,762	2,592	170	2,762	-	-	-	4,755	769	5,524		
	Hawker Beechcraft 400	MU3001	TPE331-8	1,064	96	1,160	1,048	112	1,160	-	-	-	2,112	208	2,320		
	Cessna 441	CNA441	DHC830	4,971	459	5,430	4,551	879	5,430	-	-	-	9,522	1,338	10,860		
	Bombardier DASH 8-300	DHC830	PW123	5,870	-	5,870	5,870	-	5,870	-	-	-	11,740	-	11,740		
	Beechcraft 1985 1-ENG VP PROP	BEC58P	TS10-520	14,307	2,092	16,399	14,508	1,892	16,400	588	81	669	29,403	4,065	33,468		
	Helo	Augusta A109	A109	1,212	404	1,616	1,212	404	1,616	-	-	-	2,424	808	3,232		
	Military	Fighter Jet	F-15E PW	F-15E	PW-229	305	-	305	294	11	305	61	-	61	660	11	671
			F-15SG (R)	F-15E		145	-	145	140	5	145	29	-	29	314	5	319
			F-35A	F-35A		-	-	-	-	-	-	-	-	-	-	-	-
		Attack Jet	A-10A	A-10A		2,253	1,502	3,755	2,253	1,502	3,755	-	-	-	4,506	3,004	7,510
	Helo	Sikorsky S-70 (UH-60A)	UH-60A		1,800	600	2,400	1,800	600	2,400	-	-	-	3,600	1,200	4,800	
	Civil					74,820	7,362	82,182	72,564	9,616	82,180	4,923	225	5,148	152,307	17,203	169,510
	Military					4,503	2,102	6,605	4,487	2,118	6,605	90	-	90	9,080	4,220	13,300
	Grand Total					79,323	9,464	88,787	77,051	11,734	88,785	5,013	225	5,238	161,387	21,423	182,810

Notes:

(1) Counted as 2 operations per circuit

(2) consists of operations for the 389 FS and the 391 FS

All F-15E Departures are Afterburner Departures. Afterburner is only used during takeoff roll and is secured by the upwind end of the runway.

As shown in Table C-4, the proposed F-15 aircraft would only utilize Runway 10R/28L. The majority (80%) of the departures would depart Runway 28L whereas 55% of arrivals would utilize Runway 28L.

In order to avoid significant noise impacts, the 366 FW would:

- a) utilize modified departure flight tracks on Runway 10R² and
- b) climb at an angle of 15 degrees to an altitude of 5,000 ft MSL³.

See Figures C-1, C-2, and C-3 for the modeled F-15 departure, arrival, and closed pattern flight tracks, respectively. All of these tracks were previously modeled in the Klamath Falls EA (Oregon National Air Guard 2009), except the Runway 10R departure tracks were modified to turn south sooner instead of flying over noise sensitive areas east of the airport. For the arrivals, there are four sets of tracks, and each set has a straight-in track and a pitch-out (overhead break) track that are identical up to the runway threshold. There are two modeled closed pattern tracks: one on Runway 10R and the other on Runway 28L.

Flight track utilization for the F-15 aircraft would be identical to the utilization modeled in the 2009 EA.

The F-15E straight-in and break arrival flight profiles were derived from similar F-15E flight profiles flown at Joint Base Elmendorf-Richardson from the F-22 Plus-Up EA (USAF 2011). The F-15E closed pattern flight profile is the same profile that the 366 FW currently flies at Mountain Home AFB but modified to conform to the course rules at BOI. The F-15E afterburner departure profile was derived from the standard NMAP database afterburner departure for the F-15E, but modified based on how the 366 FW is expected to takeoff at Gowen Field (Roberts 2014).

² Departing Runway 10R, the F-15 aircraft would turn south sooner than previously modeled (just past the runway threshold).

³ Only applies to F-15 aircraft with PW-229 engine

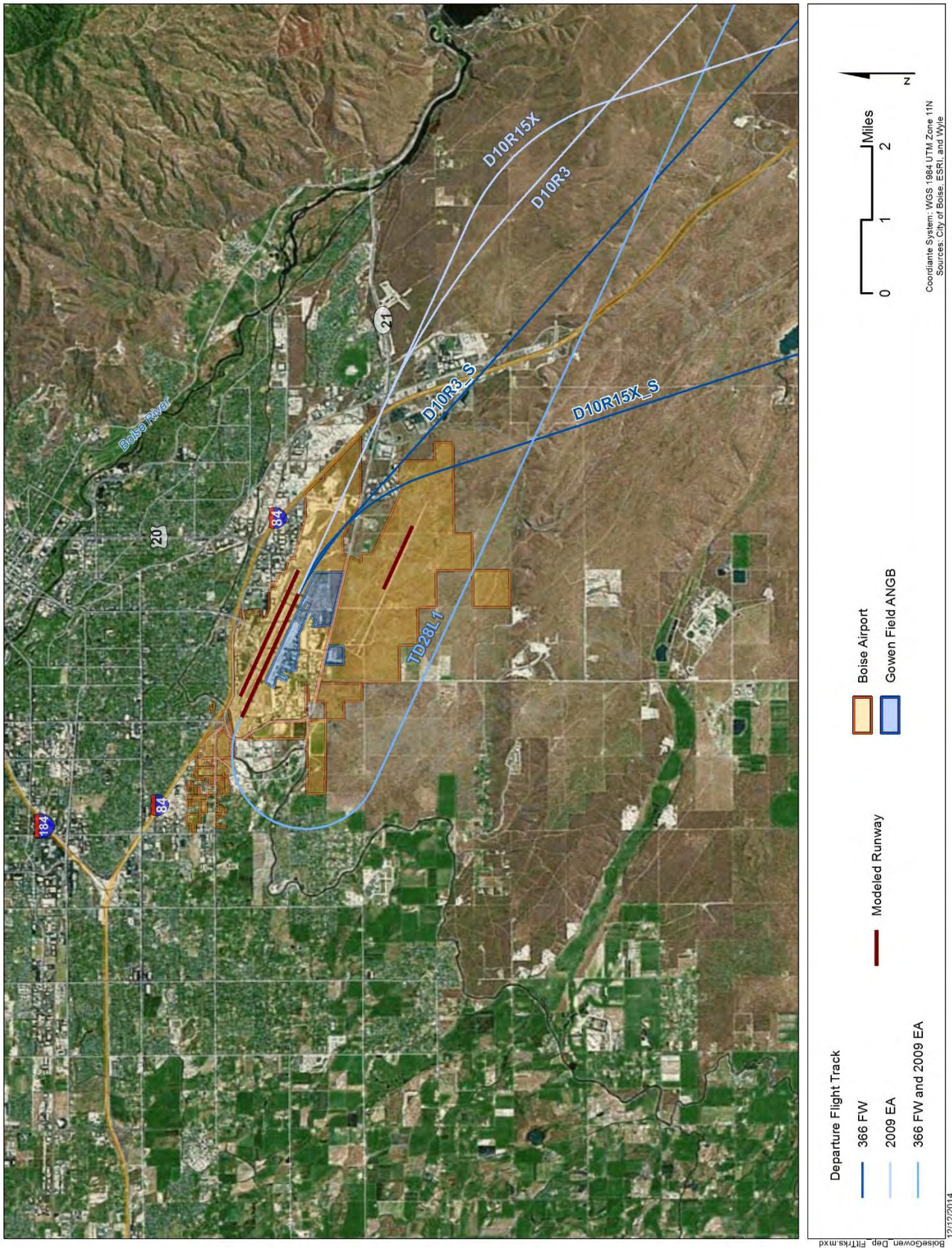


Figure C-1. Modeled F-15 Departure Flight Tracks at Gowen Field ANGB for Preferred Alternative

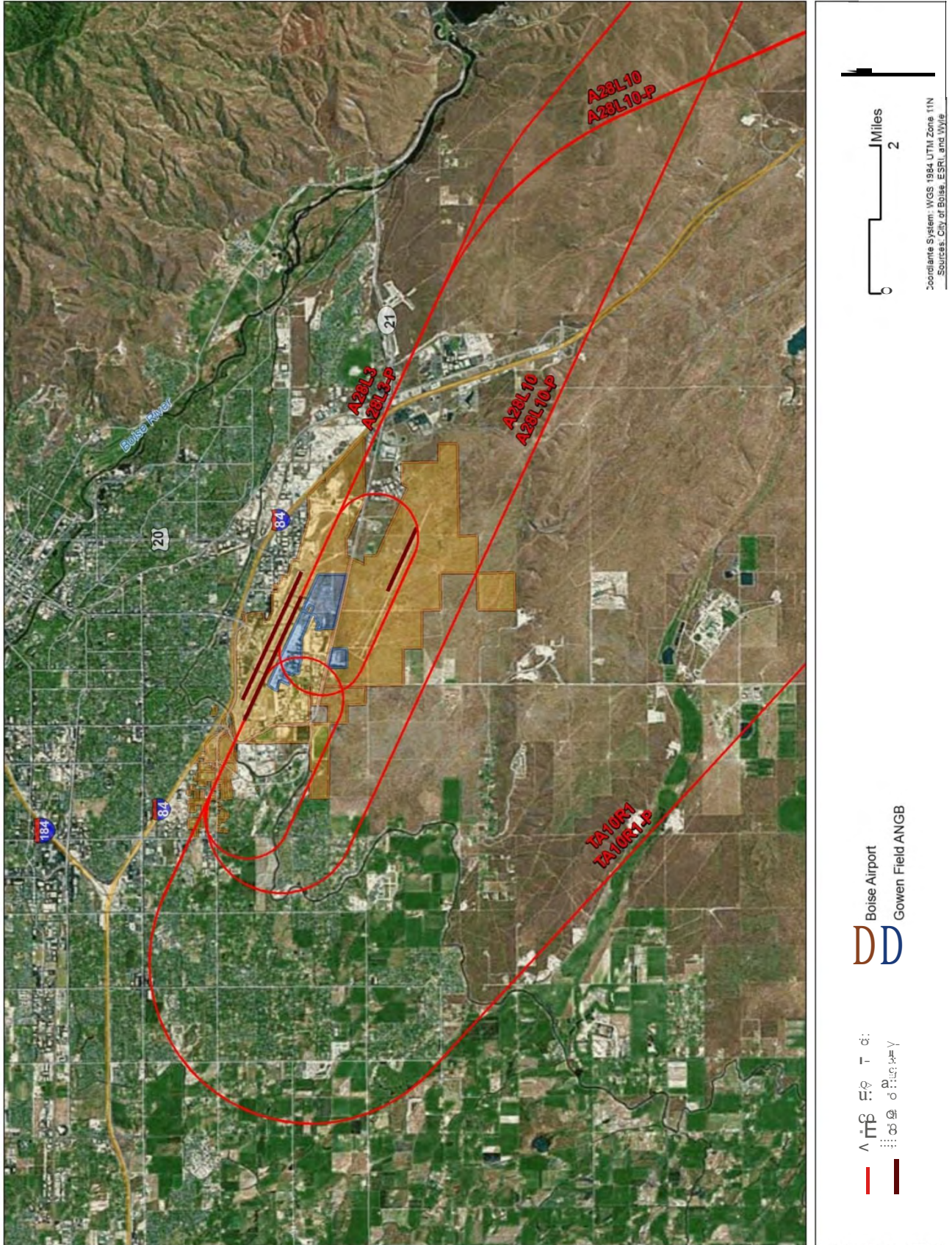


Figure C-2. Modeled F-15 Arrival Flight Tracks at Gowen Field ANGB for Preferred Alternative



BoiseGowen_Pat_FITTrs.mxd

12/10/2014

▭ Boise Airport
▭ Gowen Field ANGB
— Pattern Flight Track
— Modeled Runway

0 2,000 4,000 Feet
 N

Coordinates System: WGS 1984 UTM Zone 11N
 Sources: City of Boise, ESRI, and Wyle

Figure C-3. Modeled F-15 Closed Pattern Flight Tracks at Gowen Field ANGB for Preferred Alternative

APPENDIX D
F-15 SAFETY HISTORY

F-15 FLIGHT MISHAP HISTORY
(All Rates per 100,000 Flying Hours)

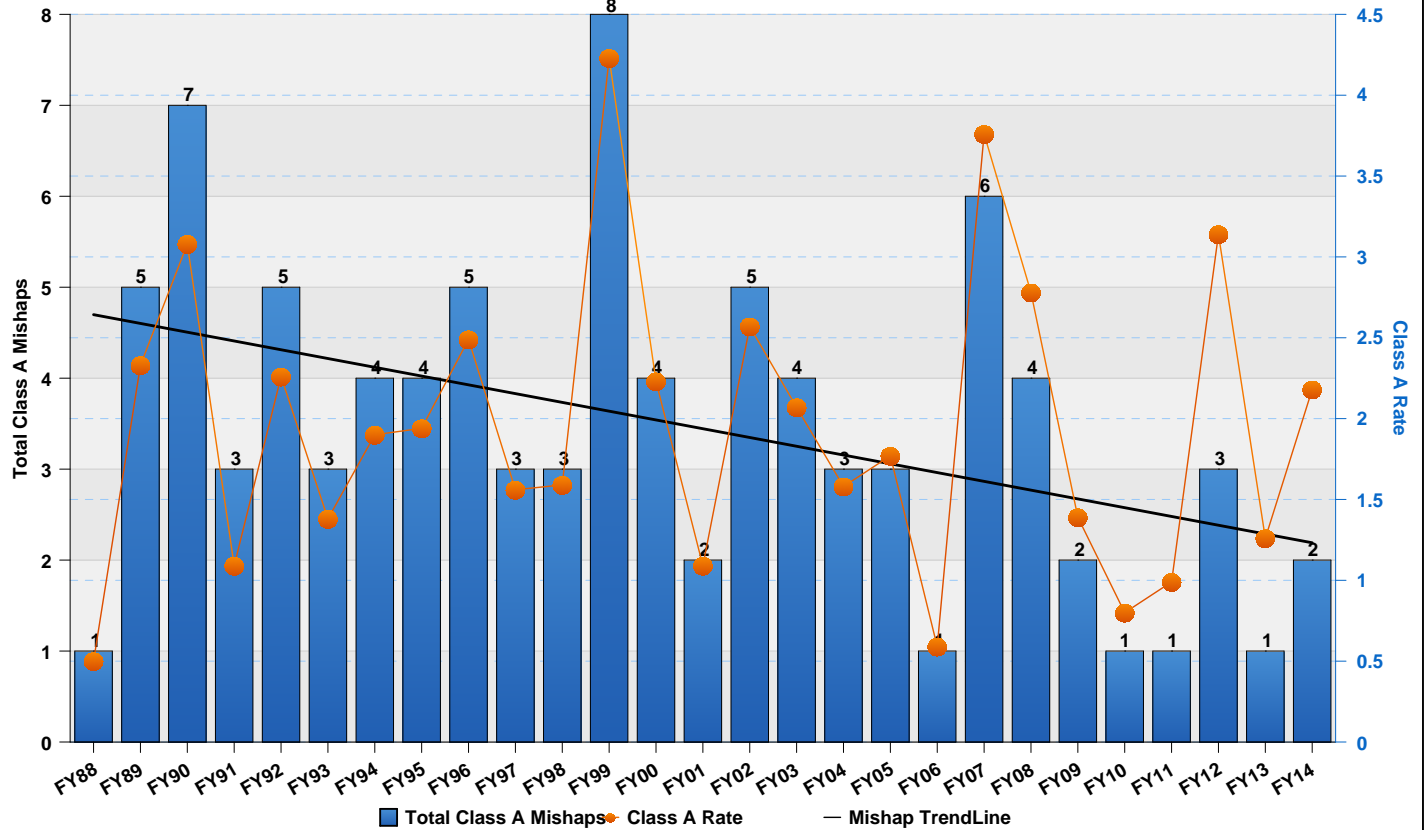
YEAR	CLASS A		CLASS B		DESTROYED		FATAL		HOURS	CUM HRS
	Total Class A Mishaps	Class A Rate	Total Class B Mishaps	Class B Rate	Total Destroyed	Destroyed Rate	PILOT	ALL		
CY72	0	0.00	0	0.00	0	0.00	0	0	25	25
CY73	0	0.00	0	0.00	0	0.00	0	0	826	851
CY74	0	0.00	2	94.79	0	0.00	0	0	2,110	2,961
CY75	1	22.02	0	0.00	1	22.02	0	0	4,541	7,502
CY76	0	0.00	0	0.00	0	0.00	0	0	17,803	25,305
CY77	6	14.16	15	35.40	2	4.72	1	2	42,369	67,674
CY78	8	11.59	30	43.46	7	10.14	1	1	69,023	136,697
CY79	5	5.16	15	15.47	5	5.16	3	3	96,959	233,656
CY80	5	4.57	20	18.30	3	2.74	2	2	109,309	342,965
CY81	5	3.78	4	3.02	6	4.54	5	6	132,291	475,256
CY82	3	1.96	4	2.61	4	2.61	2	2	153,369	628,625
CY83	4	2.36	5	2.95	6	3.54	1	1	169,438	798,063
CY84	3	1.71	2	1.14	4	2.28	1	2	175,515	973,578
CY85	5	2.70	5	2.70	4	2.16	2	2	185,324	1,158,902
CY86	7	3.53	5	2.52	8	4.04	4	4	198,095	1,356,997
TY87	3	1.94	0	0.00	3	1.94	2	2	154,821	1,511,818
FY88	1	0.50	3	1.49	2	0.99	0	0	201,099	1,712,917
FY89	5	2.33	0	0.00	4	1.86	2	2	214,592	1,927,509
FY90	7	3.08	6	2.64	7	3.08	4	5	227,617	2,155,126
FY91	3	1.09	2	0.72	3	1.09	0	0	276,393	2,431,519
FY92	5	2.26	2	0.91	5	2.26	2	3	220,866	2,652,385
FY93	3	1.38	5	2.30	3	1.38	0	0	217,539	2,869,924
FY94	4	1.90	3	1.43	4	1.90	1	1	210,231	3,080,155
FY95	4	1.94	7	3.39	3	1.45	1	2	206,640	3,286,795
FY96	5	2.49	4	1.99	3	1.49	0	0	200,758	3,487,553
FY97	3	1.56	6	3.12	2	1.04	0	0	192,073	3,679,626
FY98	3	1.59	9	4.78	2	1.06	0	0	188,205	3,867,831
FY99	8	4.23	11	5.82	6	3.17	1	2	189,109	4,056,940
FY00	4	2.23	21	11.71	1	0.56	0	0	179,372	4,236,312
FY01	2	1.09	20	10.89	2	1.09	2	2	183,706	4,420,018
FY02	5	2.57	5	2.57	2	1.03	1	1	194,847	4,614,865
FY03	4	2.07	10	5.16	2	1.03	0	0	193,611	4,808,476
FY04	3	1.58	9	4.75	3	1.58	0	0	189,596	4,998,072
FY05	3	1.77	9	5.32	1	0.59	0	1	169,158	5,167,230
FY06	1	0.59	13	7.70	1	0.59	0	0	168,854	5,336,084
FY07	6	3.76	12	7.52	3	1.88	1	1	159,582	5,495,666
FY08	4	2.78	4	2.78	5	3.47	2	2	143,964	5,639,630
FY09	2	1.39	11	7.65	1	0.70	1	2	143,806	5,783,436
FY10	1	0.80	3	2.41	0	0.00	0	0	124,357	5,907,793
FY11	1	0.99	3	2.97	1	0.99	0	0	100,848	6,008,641
FY12	3	3.14	1	1.05	3	3.14	1	1	95,445	6,104,086
FY13	1	1.26	2	2.53	1	1.26	0	0	79,085	6,183,171
FY14	2	2.18	5	5.46	1	1.09	1	1	91,550	6,274,721
Total	148.00		293.00		124.00		44.00	53.00		6,274,721
	Average Annual Class A Mishaps	Average Class A Rate	Average Annual Class B Mishaps	Average Class B Rate	Average Annual Destroyed	Average Destroyed Rate	Average Pilot Fatal Rate	Average Fatal Rate	Average Annual Hours	

5 YR	1.60	1.63	2.80	2.85	1.20	1.22	0.41	0.41	98,257
10 YR	2.40	1.88	6.30	4.93	1.70	1.33	0.47	0.63	127,665
LIFETIME	3.44	2.36	6.81	4.67	2.88	1.98	0.70	0.84	145,924

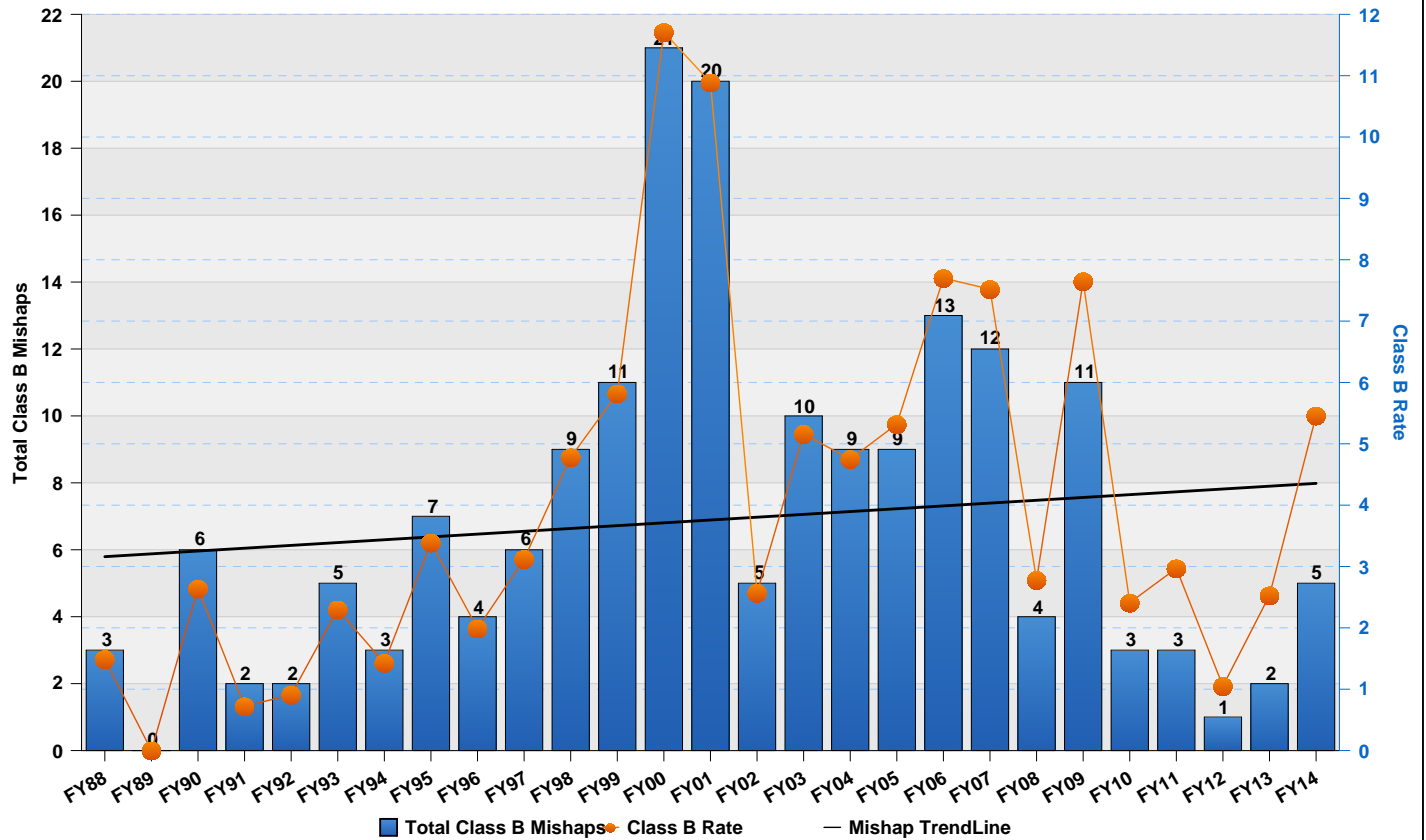
<p>Flight "rates" are number of mishaps per 100,000 flight hours. Only Aviation "Flight" mishaps are reported here. An Aviation "Flight" mishap is any mishap in which there is intent for flight and reportable damage to a DoD aircraft. Explosives and chemical agents or guided missile mishaps that cause damage in excess of \$20,000 to a DoD aircraft with intent for flight are categorized as aircraft flight mishaps to avoid dual reporting. This is the only aviation mishap subcategory that contributes to the flight mishap rate (NOT flight-related or Aviation Ground Ops). Fiscal Years that have zero flying hours have been excluded.</p>	<p>Class A Mishap. A mishap resulting in one or more of the following: 1. Direct mishap cost totaling \$2,000,000 or more (\$1,000,000 for mishaps occurring before FY10). 2. A fatality or permanent total disability. 3. Destruction of a DoD aircraft. NOTE: A destroyed UAV/RPA is not a Class A mishap unless the preceding criteria in "1" or "2" are met. Class B Mishap. A mishap resulting in one or more of the following: 1. Direct mishap cost totaling \$500,000 or more but less than \$2,000,000 (\$200,000 to \$1,000,000 prior to FY10). 2. A permanent partial disability. 3. Inpatient hospitalization of three or more personnel. Does not count or include individuals hospitalized for observation, diagnostic, or administrative purposes that were treated and released.</p>	<p>Destroyed Aircraft: Only aircraft owned, designated or leased as "USAF" are included. Fatalities: Pilot totals only include "USAF" personnel designated as "pilot" by the Safety Investigation Board. "All" fatalities include all aviation-related fatalities regardless of designation (USAF, foreign, civilian, etc) or role (pilot, operator, passenger, etc). Additionally, all aviation-related fatalities count toward fatality rate regardless if they resulted from a "flight" (rate-producing) mishap or not.</p>
--	--	--

UPDATED 08-Jan-15

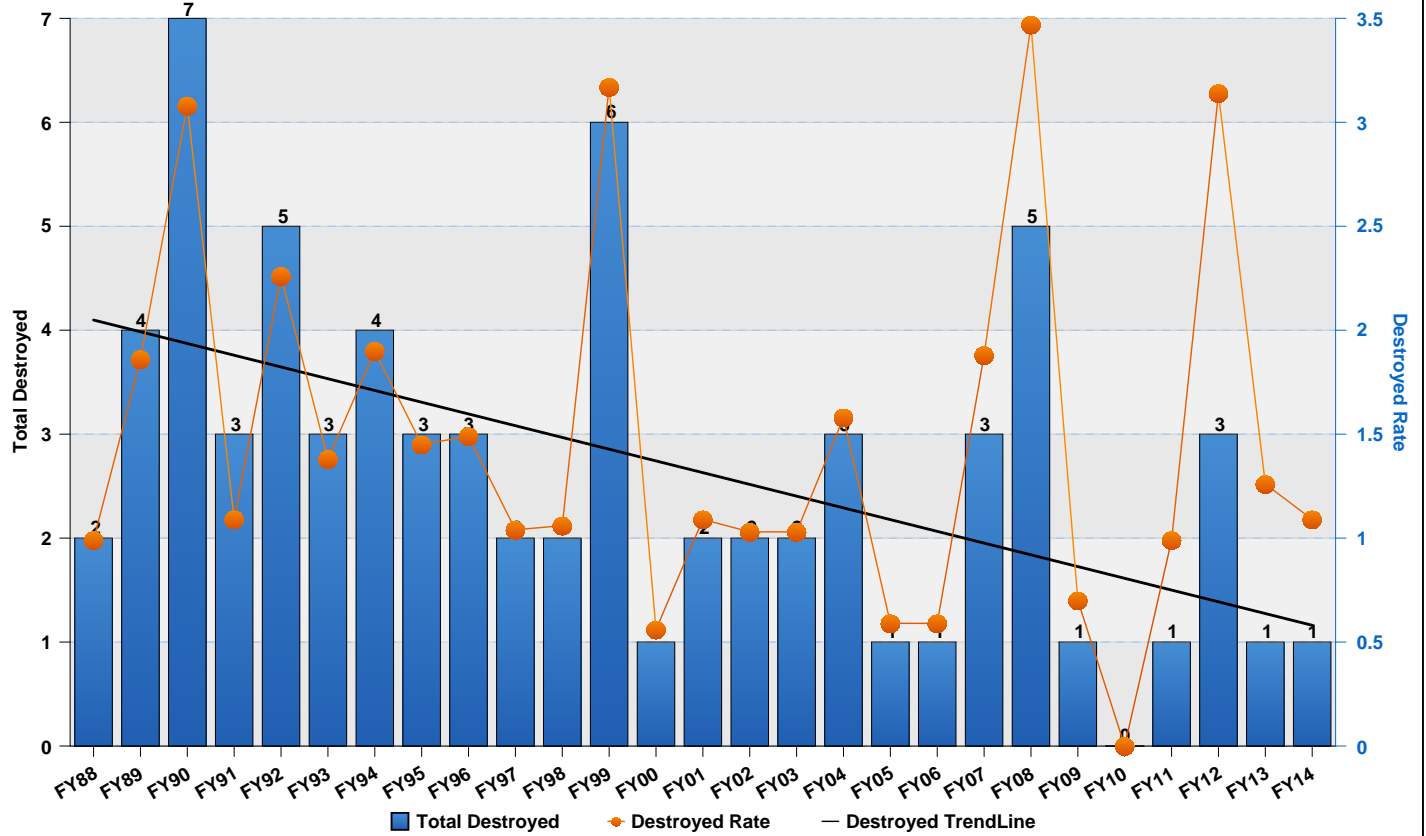
F-15 Class A Mishaps by Fiscal Year



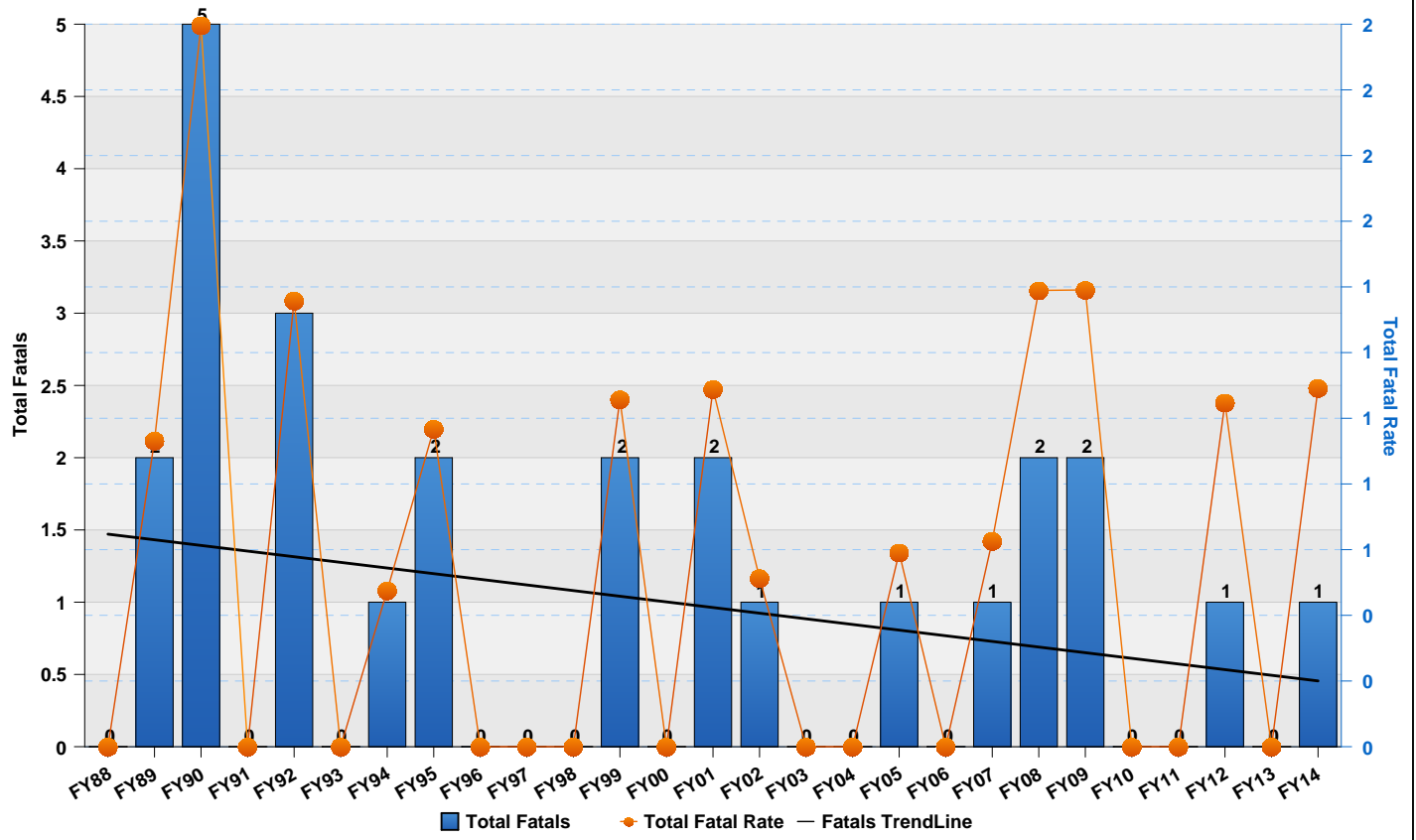
F-15 Class B Mishaps by Fiscal Year



F-15 Destroyed Aircraft by Fiscal Year



F-15 Fatalities (All) by Fiscal Year



APPENDIX E
A-10 SAFETY HISTORY

A-10 FLIGHT MISHAP HISTORY
(All Rates per 100,000 Flying Hours)

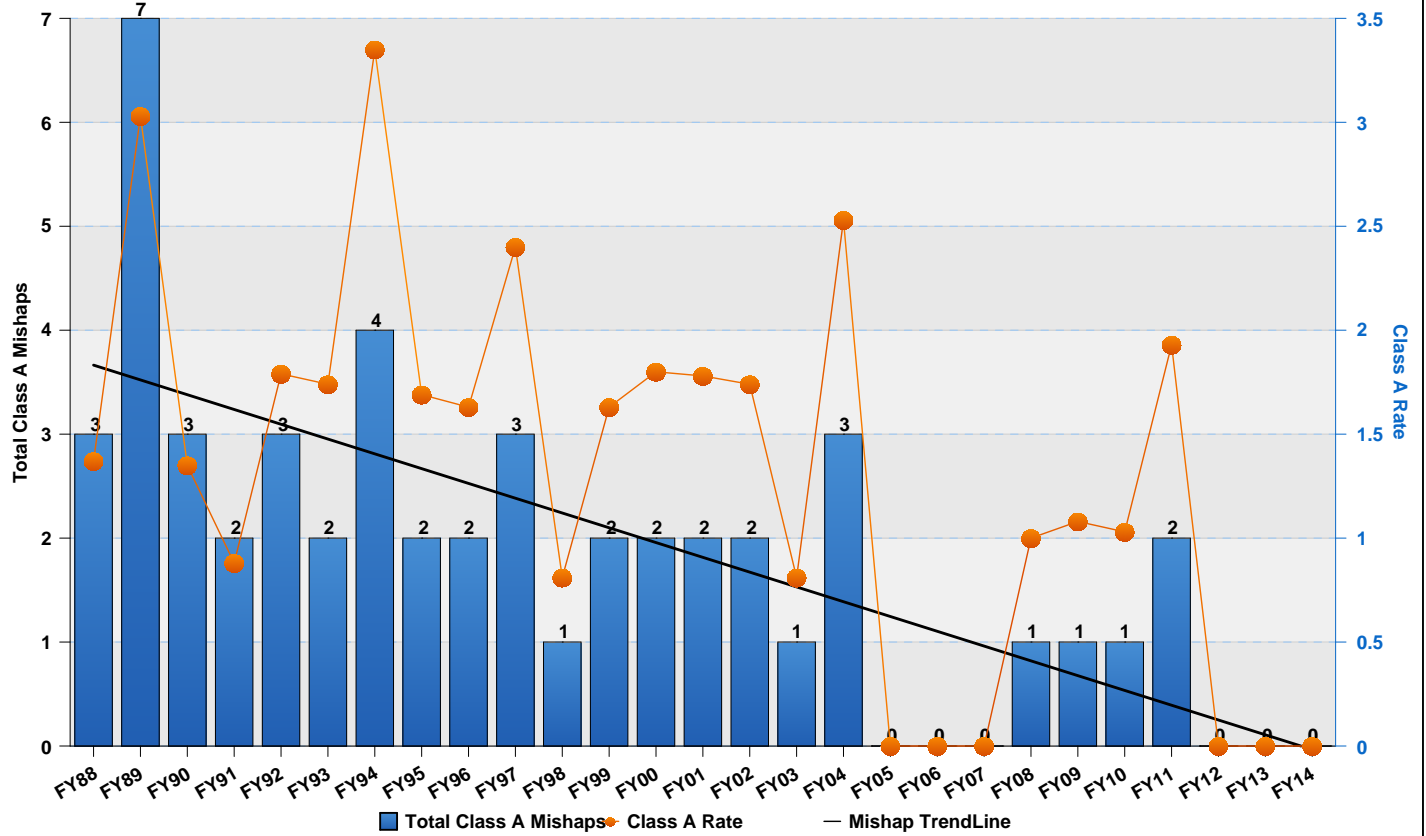
YEAR	CLASS A		CLASS B		DESTROYED		FATAL		HOURS	CUM HRS
	Total Class A Mishaps	Class A Rate	Total Class B Mishaps	Class B Rate	Total Destroyed	Destroyed Rate	PILOT	ALL		
CY72	0	0.00	0	0.00	0	0.00	0	0	32	32
CY73	0	0.00	0	0.00	0	0.00	0	0	124	156
CY74	0	0.00	0	0.00	0	0.00	0	0	403	559
CY75	0	0.00	0	0.00	0	0.00	0	0	936	1,495
CY76	0	0.00	0	0.00	0	0.00	0	0	3,678	5,173
CY77	2	11.96	4	23.92	2	11.96	1	2	16,722	21,895
CY78	7	15.72	16	35.92	5	11.23	2	2	44,538	66,433
CY79	8	9.24	2	2.31	8	9.24	4	4	86,544	152,977
CY80	5	3.84	4	3.07	6	4.61	4	4	130,159	283,136
CY81	5	2.86	9	5.15	5	2.86	4	4	174,924	458,060
CY82	4	1.82	1	0.46	3	1.37	0	0	219,349	677,409
CY83	7	3.10	0	0.00	9	3.98	4	4	226,129	903,538
CY84	6	2.68	1	0.45	5	2.23	3	4	224,058	1,127,596
CY85	4	1.78	2	0.89	4	1.78	2	2	224,133	1,351,729
CY86	3	1.37	2	0.91	4	1.82	1	1	219,334	1,571,063
TY87	5	2.92	1	0.58	5	2.92	5	5	171,089	1,742,152
FY88	3	1.37	2	0.92	3	1.37	1	1	218,289	1,960,441
FY89	7	3.03	0	0.00	7	3.03	3	8	230,655	2,191,096
FY90	3	1.35	0	0.00	3	1.35	3	3	222,399	2,413,495
FY91	2	0.88	0	0.00	3	1.31	2	2	228,273	2,641,768
FY92	3	1.79	0	0.00	3	1.79	1	1	167,648	2,809,416
FY93	2	1.74	0	0.00	2	1.74	1	1	115,059	2,924,475
FY94	4	3.35	0	0.00	5	4.19	1	1	119,330	3,043,805
FY95	2	1.69	1	0.84	2	1.69	1	1	118,600	3,162,405
FY96	2	1.63	0	0.00	2	1.63	1	1	122,952	3,285,357
FY97	3	2.40	1	0.80	3	2.40	2	2	125,095	3,410,452
FY98	1	0.81	0	0.00	1	0.81	0	0	124,119	3,534,571
FY99	2	1.63	3	2.45	1	0.82	0	0	122,629	3,657,200
FY00	2	1.80	13	11.70	1	0.90	1	1	111,111	3,768,311
FY01	2	1.78	4	3.55	2	1.78	0	0	112,662	3,880,973
FY02	2	1.74	8	6.97	3	2.61	2	2	114,791	3,995,764
FY03	1	0.81	5	4.06	2	1.62	1	1	123,181	4,118,945
FY04	3	2.53	6	5.06	2	1.69	1	1	118,642	4,237,587
FY05	0	0.00	5	4.44	0	0.00	0	0	112,710	4,350,297
FY06	0	0.00	6	5.28	0	0.00	0	0	113,550	4,463,847
FY07	0	0.00	7	6.46	0	0.00	0	0	108,329	4,572,176
FY08	1	1.00	17	17.00	0	0.00	0	0	99,990	4,672,166
FY09	1	1.08	22	23.73	0	0.00	0	0	92,717	4,764,883
FY10	1	1.03	5	5.13	1	1.03	0	0	97,444	4,862,327
FY11	2	1.93	15	14.48	2	1.93	0	0	103,611	4,965,938
FY12	0	0.00	3	2.96	0	0.00	0	0	101,310	5,067,248
FY13	0	0.00	3	3.18	0	0.00	0	0	94,353	5,161,601
FY14	0	0.00	6	7.18	0	0.00	0	0	83,523	5,245,124
Total	105.00		174.00		104.00		51.00	58.00		5,245,124
	Average Annual Class A Mishaps	Average Class A Rate	Average Annual Class B Mishaps	Average Class B Rate	Average Annual Destroyed	Average Destroyed Rate	Average Pilot Fatal Rate	Average Fatal Rate	Average Annual Hours	

5 YR	0.60	0.62	6.40	6.66	0.60	0.62	0.00	0.00	96,048
10 YR	0.50	0.50	8.90	8.83	0.30	0.30	0.00	0.00	100,754
LIFETIME	2.44	2.00	4.05	3.32	2.42	1.98	0.97	1.11	121,980

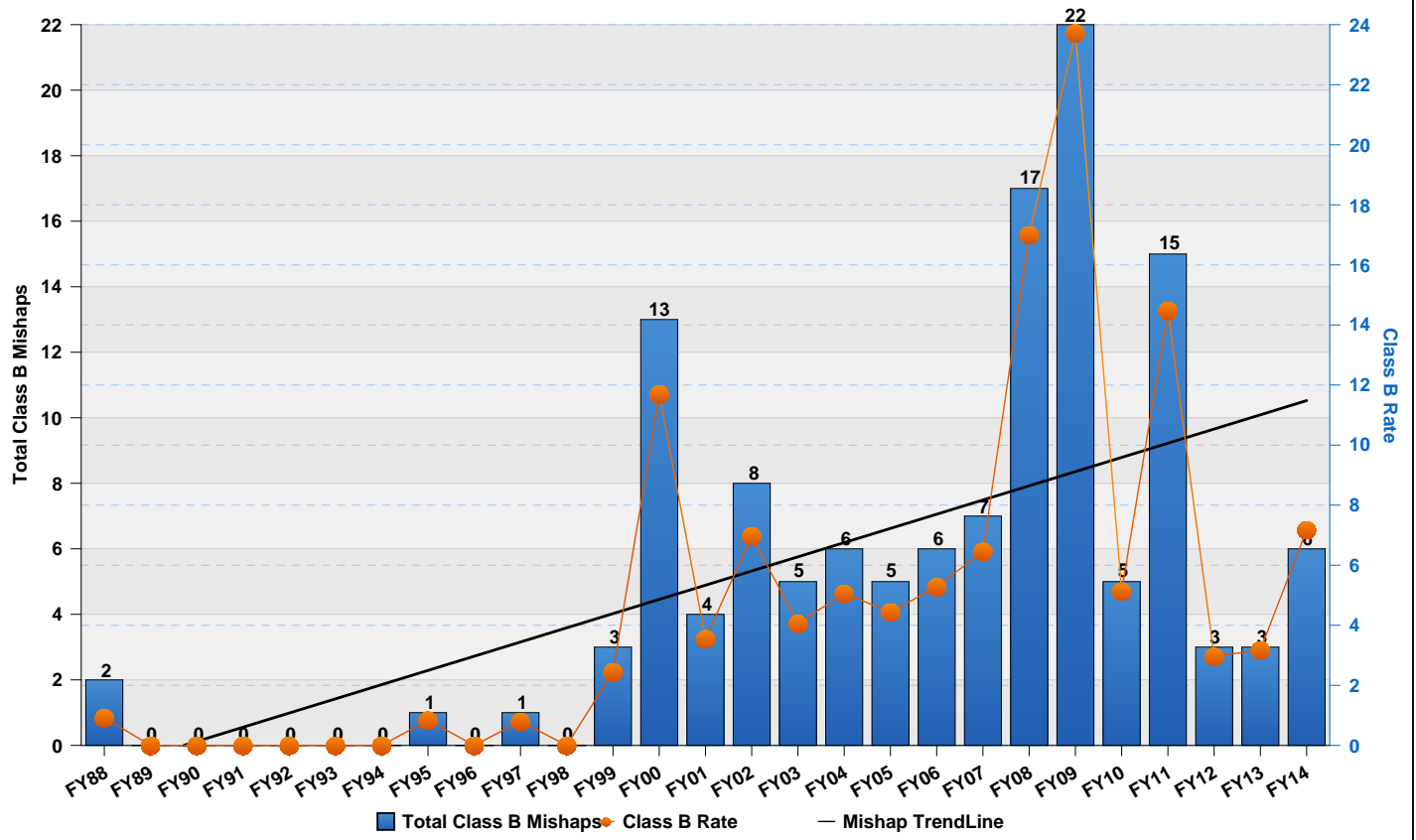
<p>Flight "rates" are number of mishaps per 100,000 flight hours. Only Aviation "Flight" mishaps are reported here. An Aviation "Flight" mishap is any mishap in which there is intent for flight and reportable damage to a DoD aircraft. Explosives and chemical agents or guided missile mishaps that cause damage in excess of \$20,000 to a DoD aircraft with intent for flight are categorized as aircraft flight mishaps to avoid dual reporting. This is the only aviation mishap subcategory that contributes to the flight mishap rate (NOT flight-related or Aviation Ground Ops). Fiscal Years that have zero flying hours have been excluded.</p>	<p>Class A Mishap. A mishap resulting in one or more of the following: 1. Direct mishap cost totaling \$2,000,000 or more (\$1,000,000 for mishaps occurring before FY10). 2. A fatality or permanent total disability. 3. Destruction of a DoD aircraft. NOTE: A destroyed UAV/RPA is not a Class A mishap unless the preceding criteria in "1" or "2" are met. Class B Mishap. A mishap resulting in one or more of the following: 1. Direct mishap cost totaling \$500,000 or more but less than \$2,000,000 (\$200,000 to \$1,000,000 prior to FY10). 2. A permanent partial disability. 3. Inpatient hospitalization of three or more personnel. Does not count or include individuals hospitalized for observation, diagnostic, or administrative purposes that were treated and released.</p>	<p>Destroyed Aircraft: Only aircraft owned, designated or leased as "USAF" are included. Fatalities: Pilot totals only include "USAF" personnel designated as "pilot" by the Safety Investigation Board. "All" fatalities include all aviation-related fatalities regardless of designation (USAF, foreign, civilian, etc) or role (pilot, operator, passenger, etc). Additionally, all aviation-related fatalities count toward fatality rate regardless if they resulted from a "flight" (rate-producing) mishap or not.</p>
--	--	--

UPDATED 08-Jan-15

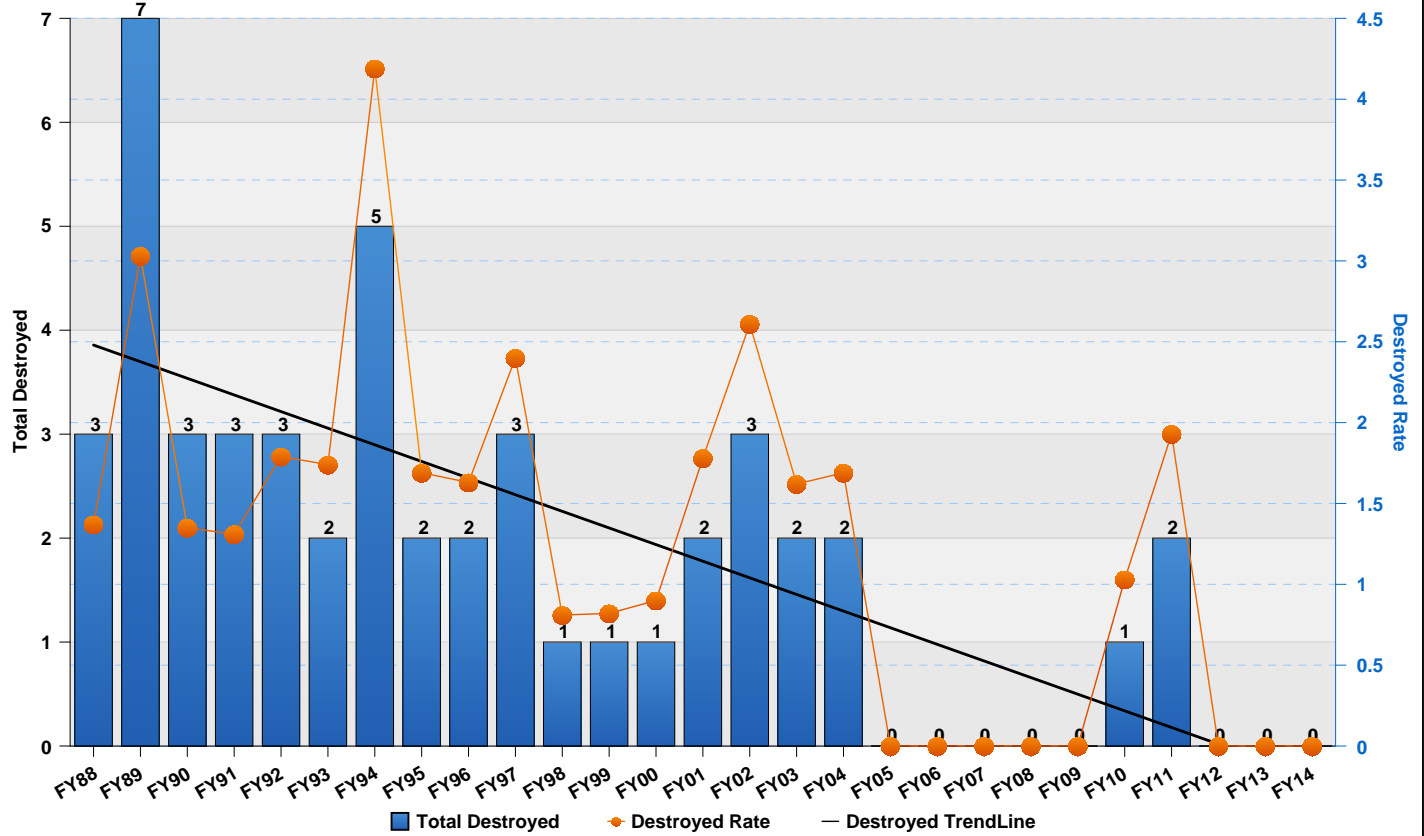
A-10 Class A Mishaps by Fiscal Year



A-10 Class B Mishaps by Fiscal Year



A-10 Destroyed Aircraft by Fiscal Year



A-10 Fatalities (All) by Fiscal Year

