

**EGLIN AIR FORCE BASE
Florida**

**TEST AREA C-62
RANGE ENVIRONMENTAL
ASSESSMENT**

FINAL



MAY 2015

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FINAL FINDING OF NO SIGNIFICANT IMPACT
FOR
TEST AREA C-62 RANGE ENVIRONMENTAL ASSESSMENT,
EGLIN AIR FORCE BASE, FLORIDA
RCS 15-089 Revision 1, 2015

This finding, and the analysis upon which it is based, was prepared pursuant to the President's Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) and its implementing regulations as promulgated at 40 Code of Federal Regulations (CFR) Part 1500 (40 CFR 1500–1508) plus:

- U.S. Air Force *Environmental Impact Analysis Process* as promulgated at 32 CFR Part 989.

The Department of the Air Force has conducted a Range Environmental Assessment (REA) of the potential environmental consequences associated with testing and training activities at Test Area (TA) C-62 on Eglin Air Force Base (AFB), Florida. That 2015 REA is hereby incorporated by reference into this finding.

PURPOSE AND NEED (REA Section 1.4, page 1-10)

The purpose of and need for the Proposed Action is twofold. First, the action would quickly and efficiently process new programs requesting access to TA C-62 during both routine and crisis situations. It is needed to allow military users to provide quick response to priority needs during war or other times of significant military involvement, as well as maintain the current approval process for routine uses. Secondly, the Proposed Action would update the previous NEPA analysis by reevaluating the mission activities and performing a cumulative environmental analysis of all mission activities. The need associated with this second purpose is multifaceted and is described below.

- Additional species have been given federal and state protection status.
- Species that were not previously known to exist at Eglin AFB have been discovered.
- The population of communities along Eglin AFB's borders has increased, making encroachment a concern.
- Air Force regulations have changed.
- Military missions and weapons systems have evolved.

The analysis performed in this report allows for a cumulative look at the impact on TA C-62 receptors from all mission activities. By implementing an authorized level of activity, range management would be streamlined and cumulative environmental impacts would be more fully considered.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action (REA Section 1.3, pages 1-6 to 1-9)

The Proposed Action is for the 96th Test Wing Commander to establish a new authorized level of activity for TA C-62 that is based on an anticipated maximum usage. To establish this maximum threshold baseline, it is necessary to demonstrate that the individual and cumulative effects of this usage level do not have significant environmental impacts. The environmental analysis is accomplished by evaluating the effects of military mission activities and expendables on Eglin AFB's natural, physical, and cultural environment.

Alternative 1 (REA Section 2.1.1, page 2-1)

This alternative is defined as authorizing the level of activity described as the maximum annual expenditure amount between the fiscal year (FY) 2009 and FY 2013 based on the range utilization data. Alternative 1 includes a cumulative evaluation of all current and potential testing and training. Under this alternative, ongoing explosives ordnance disposal (EOD) and maintenance activities within TA C-62 would remain at baseline levels. This alternative would also include range sustainability best management practices (BMPs). BMPs are designed to restore damaged ecosystems; conserve cultural, soil, and wildlife resources; reduce public noise impact potentials; and protect water quality and sensitive habitats associated with TA C-62. The BMPs are presented as practical options for addressing specific concerns related to TA C-62 and are not a mandate of action to be performed. The bulk of expendables are attributable to 25-millimeter and .50-caliber rounds from strafing. This alternative includes the following future activities:

- Approximately 50 strafing runs for the CV-22 using 0.50-caliber ammunition with 100,000 rounds annually.
- F-35 strafing runs using live 25-millimeter ammunition up to 114,977 rounds annually as determined by the annual ordnance requirements for Joint Strike Fighter (F-35) training under the proposed action delineated in the Final Supplemental Environmental Impact Statement for F-35 Beddown at Eglin Air Force Base.
- Construction of a 400- by 400-foot square clay pad along the existing westernmost dirt road/landing zone to be designated as a rotary helicopter landing zone for emergency landings during strafing missions.
- Use of TT-3 (Strafe Pit) Improved Remote Strafe Scoring System (IRSSS) equipment is available for future ground gun testing. The IRSSS would be used to provide a plot layout of bullet to sight comparison.

Alternative 2, Preferred Alternative (REA Section 2.1.2, page 2-4)

Alternative 2, which is the Preferred Alternative, would be the same as Alternative 1 with an additional 100 percent increase in all missions above the baseline with the exception of future F-35 and CV-22 strafing activities, which would remain the same (described in Section 1.3.2) and EOD open detonation operations (defined as 3,000 pounds net explosive weight [NEW] at any given time). As with Alternative 1, the bulk of expendables are attributable to 25-millimeter

and .50-caliber rounds from strafing. Alternative 2 carries forward all future activities, including strafe training. The number of strafe training missions and expendables is the same for Alternative 1 and Alternative 2.

No Action Alternative (REA Section 2.1.3, page 2-3)

The No Action Alternative is defined as the preferred alternative from the 2002 Programmatic Environmental Assessment (PEA) for TA C-62, which included approval of all baseline activities using BMPs and increased testing and training missions by 100 percent. An increase in EOD open burn/open detonation (OB/OD) operations was not approved; these activities were anticipated to stay at the same levels as reported in the 2002 PEA. Most of the expendables under the No Action Alternative are associated with strafing using 20-millimeter target practice rounds.

ENVIRONMENTAL IMPACTS

Analysis was conducted to determine the potential impacts to the human and natural environment resulting from the Proposed Action and Alternatives. No significant impacts to resources have been identified under any of the alternatives (REA Section 2.1, pages 2-1 to 2-7).

Soils (REA Section 3.1.3, pages 3.4 to 3.6) – There would be no significant impacts to soil resources under any of the alternatives. Static testing pads would be cleared of debris as needed, and these actions would reduce the amount of munition and target debris entering the soil matrix. Construction of the clay pad would require preparation of a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion control requirements. Debris clearing activities associated with increased strafing missions, as well as vegetation, target, and road maintenance activities, have the potential to increase soil erosion on the TA. Debris retrieval machinery currently used is similar to golf ball collection equipment and would create only relatively minor surface soil disturbance. Target and vegetation maintenance remove plants that help control erosion. The Management Actions and Best Management Practices identified in Section 5.0 (REA pages 5-1 to 5-3) would be followed to prevent erosion in nonvegetated and other areas.

Water Resources (REA Section 3.2.3, pages 3.9 to 3-11) – No significant impacts to water resources are expected under any of the alternatives. There is potential for contamination of soils from open detonation activities that could result in contaminants leaching into the sand and gravel aquifer and occasionally exceed groundwater cleanup target levels (GCTLs). The levels under Alternative 1 and the No Action Alternative would be below those that would affect aquatic life or adversely affect the water quality at Blount Mill Creek. The potential for impacts would increase under Alternative 2 due to the greater number of munitions. The results of monitoring well data on TA C-62 could affect Eglin's Operating Action Permit; permit changes would depend on the actual monitoring data. Collection of strafing-related debris and TA maintenance activities could indirectly affect surface waters through erosion and sedimentation. However, implementation of the Management Actions and Best Management Practices identified in Section 5.0 (REA pages 5-1 to 5-3) would reduce the potential for such impacts. Construction of the clay pad would require inclusion of a SWPPP and a comprehensive Stormwater, Erosion, and Sedimentation Control Plan into the final design plan. These plans would reduce the potential for

soil erosion and sedimentation of surface waters associated with the pad. There is a possibility of fuel spills at the clay pad during aircraft landings, which could migrate into the sand and gravel aquifer. Spill cleanup procedures would be implemented as required.

Biological Resources (REA Section 3.3.3, pages 3-19 to 3-24) – No significant impacts to biological resources are expected under any of the alternatives. Potential impacts were analyzed according to current activities and future missions. Impact categories for current activities included noise, habitat alteration, direct physical impact, and chemical materials. Noise resulting from detonations could result in effects such as startle reaction, nest abandonment, or hearing damage to wildlife species, including protected species such as the red-cockaded woodpecker (RCW) and various migratory bird species. Most animals would be expected to resume normal activities after a short time, and habituation to the noise could occur over time. RCW foraging habitat and cavity trees are located near the TA. RCW impacts are expected to be episodic and to only affect individual birds. RCWs seem generally resilient to noise on Eglin AFB and the population continues to grow. Overall, significant noise-related impacts to wildlife would not be expected.

The primary issues related to habitat alteration include gopher tortoise burrow collapse, soil erosion and the resulting sedimentation of surface waters, ordnance in surface waters, and wildfire. In order to minimize potential impacts, mission activities would be prohibited within 25 feet of tortoise burrows. The Management Actions and Best Management Practices identified in the Soil and Water Resources sections are expected to decrease the potential for soil erosion. Aquatic habitats could be affected by metals and explosive material by-products deposited during aircraft gunnery and open detonations. The concentration of lead in the soil was estimated to be less than the background concentration of Eglin's soils and U.S. Environmental Protection Agency risk-based criteria. Groundwater monitoring near the open detonation area detected some contaminants above Florida drinking water standards or detection limits, but a correlation between blast events and groundwater contaminants was not available. Explosive by-products likely migrate through groundwater or a seepage slope toward the headwater of Blount Mill Creek. The average concentration of multiple contaminants was found to be less than biological toxicity criteria. Propellants and high explosives could result in wildfires that may damage sensitive habitats such as RCW foraging areas and cavity trees. Eglin AFB would carry out applicable management requirements to decrease the likelihood of wildfires.

There is some possibility of wildlife being struck by ordnance shrapnel or debris, or by vehicles. Species of concern include gopher tortoise, eastern indigo snake, and black bear. The probability of a gopher tortoise, gopher tortoise egg, or other species sharing a tortoise burrow being struck by ordnance or shrapnel was calculated at less than one-half percent for bombs and missiles and about 2 percent for aircraft gunnery. The sparsely vegetated characteristic of the TA decreases the likelihood of wildlife being struck by a vehicle.

Future missions include construction of the clay pad, use of TT-3 for gun testing, and increased strafing missions. Construction of the pad would result in only short-term wildlife harassment. Impacts due to gun testing would be comparable to ongoing activities. Potential impacts resulting from additional strafing would include direct strikes, noise, sedimentation, and habitat effects.

Impacts would likely be similar to those discussed for current activities, and significant impacts to any population would not be expected.

Noise (REA Section 3.4.3, pages 3-25 to 3-28) – Significant noise impacts would not be expected under any of the alternatives. Under Alternative 1, the addition of strafing from CV-22 aircraft would not result in noise levels of 62 decibels (dB) C-weighted day-night average level (CDNL) extending off-range. This level is considered to be annoying to some people but not significant. Noise levels expressed as peak sound pressure (dBP) are used to evaluate impacts due to impulsive noise such as open detonations. The 140 dBP level, considered the level at which permanent human hearing damage can occur, would not extend off the base. The 115 dBP level, considered the level which 15 percent of the population would find annoying, would extend off the base. However, this level does not denote significance. Construction noise associated with the 400- by 400-foot clay pad would be temporary and would not be noticeable off-range. Ground-based bullet testing using acoustic instrumentation would be similar to that from strafing and would not add appreciably to the overall noise environment. Alternative 2 would be characterized by a doubling of the number of open detonations, the same number of CV-22 and F-35 flights, and an increase in the number of static test events. However, the maximum noise from any given open detonation event would remain the same and the overall CDNL would remain at the level associated with Alternative 1. Significant noise impacts would not be expected.

Socioeconomics/Environmental Justice (REA Section 3.5.3, pages 3-31 to 3-32) – There would be no significant impacts anticipated to socioeconomic resources and no disproportionate impacts to environmental justice areas of concern and special risks to children under any of the alternatives. Any additional local labor or supplies used for the construction of the clay pad landing zone would be temporary and negligible. Noise levels above the 62-dB CDNL noise threshold would not extend off-base. Approximately six annual OB/OD events resulting in 115 dBP in off-base areas could affect residents and environmental justice areas of concern. This level would not exceed the significance level but would result in disruption and annoyance to a proportion of the population. Under Alternative 2, the 100 percent increase in mission activities would likely result in an increase in the number of OB/OD events, which would increase the frequency of disruptions and annoyance to people. However, this impact would not be considered significant.

PUBLIC NOTICE

A public notice was published in the *Northwest Florida Daily News* on April 10, 2015, inviting the public to review and comment on the Draft REA and Draft Finding of No Significant Impact. The public comment period closed on May 9, 2015, and no public comments were received. State agency comments were received and have been addressed in Appendix A, *Public Involvement*, of the Final REA.

PERMITS (REA Section 1.6, page 1-9)

- Coastal Zone Management Act (CZMA) Consistency Determination
- Stormwater Pollution Prevention Plan pursuant to the National Pollutant Discharge Elimination System

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and the environmental analysis contained in the attached REA, and as summarized above, I find the proposed decision of the Air Force to implement the Preferred Alternative will not have a significant impact on the human or natural environment; therefore, an environmental impact statement is not required. This analysis fulfills the requirements of the NEPA, the President's CEQ, and 32 CFR Part 989.

A handwritten signature in black ink, appearing to read 'Shawn D. Moore', written over a horizontal line.

SHAWN D. MOORE, Colonel, USAF
Commander, 96th Civil Engineer Group

5 JUNE 2015

Date

TEST AREA C-62 RANGE ENVIRONMENTAL ASSESSMENT

FINAL

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TABLE OF CONTENTS

	<u>Page</u>
LIST OF TABLES.....	III
LIST OF FIGURES	III
ACRONYMS, SYMBOLS, AND ABBREVIATIONS	IV
1.0 PURPOSE AND NEED FOR ACTION.....	1-1
1.1 Introduction	1-1
1.2 Description of the Test Area.....	1-1
1.2.1 Targets	1-4
1.2.2 Instrumentation	1-5
1.2.3 Buildings and Structures.....	1-5
1.3 Proposed Action	1-6
1.3.1 Current Testing and Training Activities	1-7
1.3.2 Future Activities	1-8
1.3.3 Civil Engineering Operations	1-8
1.3.4 Maintenance Activities	1-9
1.4 Purpose and Need for the Action.....	1-10
1.5 Scope of the Environmental Review	1-11
1.5.1 Issues Eliminated From Detailed Analyses	1-11
1.5.1.1 Chemical Materials	1-11
1.5.1.2 Cultural Resources	1-11
1.5.1.3 Land Use.....	1-11
1.5.1.4 Debris/Solid Waste	1-11
1.5.1.5 Air Quality	1-11
1.5.1.6 Safety/Restricted Access.....	1-12
1.5.2 Issues Studied in Detailed Analysis.....	1-12
1.5.2.1 Soils	1-12
1.5.2.2 Water Resources	1-12
1.5.2.3 Biological Resources	1-12
1.5.2.4 Noise	1-12
1.5.2.5 Socioeconomics/Environmental Justice.....	1-13
1.6 Organization of the Document	1-13
2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES	2-1
2.1 Introduction	2-1
2.1.1 Alternative 1: Proposed Action With Implementation of Best Management Practices	2-1
2.1.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge.....	2-4
2.1.3 No Action Alternative	2-4
2.2 Impact Summary	2-5
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES	3-1
3.1 Soils.....	3-1
3.1.1 Definition of the Resource.....	3-1
3.1.1.1 Analysis Methodology	3-1
3.1.1.2 Significance Determination	3-1
3.1.2 Affected Environment	3-3
3.1.3 Environmental Consequences.....	3-4
3.1.3.1 Alternative 1: Proposed Action With Implementation of Best Management Practices	3-4
3.1.3.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge	3-6
3.1.3.3 No Action Alternative.....	3-6
3.2 Water Resources.....	3-6
3.2.1 Definition of the Resource.....	3-6
3.2.1.1 Analysis Methodology	3-7
3.2.1.2 Significance Determination	3-7

3.2.2	Affected Environment	3-7
3.2.2.1	Surface Water Resources	3-7
3.2.2.2	Groundwater Resources	3-7
3.2.3	Environmental Consequences.....	3-9
3.2.3.1	Alternative 1: Proposed Action With Implementation of Best Management Practices	3-9
3.2.3.2	Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge	3-11
3.2.3.3	No Action Alternative.....	3-11
3.3	Biological Resources	3-11
3.3.1	Definition of the Resource.....	3-11
3.3.1.1	Analysis Methodology	3-12
3.3.1.2	Significance Determination	3-12
3.3.2	Affected Environment	3-12
3.3.2.1	Habitats and Vegetation	3-12
3.3.2.2	Wildlife	3-14
3.3.3	Environmental Consequences.....	3-19
3.3.3.1	Alternative 1: Proposed Action With Implementation of Best Management Practices	3-19
3.3.3.2	Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge	3-24
3.3.3.3	No Action Alternative.....	3-24
3.4	Noise.....	3-24
3.4.1	Definition of the Resource.....	3-24
3.4.1.1	Analysis Methodology	3-24
3.4.1.2	Significance Determination	3-25
3.4.2	Affected Environment	3-25
3.4.3	Environmental Consequences.....	3-25
3.4.3.1	Alternative 1: Proposed Action With Implementation of Best Management Practices	3-25
3.4.3.2	Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge	3-28
3.4.3.3	No Action Alternative.....	3-28
3.5	Socioeconomics/Environmental Justice	3-28
3.5.1	Definition of the Resource.....	3-28
3.5.1.1	Analysis Methodology	3-29
3.5.1.2	Significance Determination	3-29
3.5.2	Affected Environment	3-29
3.5.3	Environmental Consequences.....	3-31
3.5.3.1	Alternative 1: Proposed Action With Implementation of Best Management Practices	3-31
3.5.3.2	Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge	3-32
3.5.3.3	No Action Alternative.....	3-32
4.0	CUMULATIVE IMPACTS	4-1
4.1	Past, Present, and Reasonably Foreseeable Actions	4-1
4.1.1.1	Soils	4-1
4.1.1.2	Water Resources	4-1
4.1.1.3	Biological Resources	4-2
4.1.1.4	Noise	4-2
4.1.1.5	Socioeconomics/Environmental Justice.....	4-2
4.2	Irretrievable commitment of Resources.....	4-2
5.0	MANAGEMENT PRACTICES.....	5-1
5.1	Regulations, Plans, and Permits	5-1
5.2	Management Actions.....	5-1
5.2.1.1	From Part II Subpart A, clause 4, of the OB/OD Permit of October 15, 2010.....	5-3
5.2.1.2	From Part II Subpart B, clause 2, of the OB/OD Permit of October 15, 2010.....	5-3
5.2.1.3	BMPs	5-3

6.0 PERSONS/AGENCIES CONTACTED.....	6-1
7.0 LIST OF PREPARERS	7-1
8.0 REFERENCES.....	8-1
APPENDIX A PUBLIC INVOLVEMENT	A-1
APPENDIX B ANNUAL OB/OD EXPENDABLES FOR TEST AREA C-62.....	B-1
APPENDIX C RELEVANT LAWS, REGULATIONS, AND POLICIES	C-1
APPENDIX D FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION	D-1

LIST OF TABLES

Table 1-1. Buildings and Structures	1-6
Table 2-1. Maximum Annual Testing Expendables for TA C-62, FY 2009–FY 2013	2-2
Table 2-2. Maximum Annual Training Expendables for TA C-62, FY 2009–FY 2013.....	2-3
Table 2-3. Maximum Annual Expendables (Quantity) at TA C-62 Under the Alternatives	2-5
Table 2-4. Comparison of Potential Impacts by Resource Area.....	2-5
Table 3-1. Soil Types Present at Test Area C-62.....	3-3
Table 3-2. Analytes Sampled and Groundwater Cleanup Target Levels (GCTLs)	3-9
Table 3-3. Representative Wildlife Species Associated With Habitats on Test Area C-62.....	3-15
Table 3-4. Federally Listed and State-Listed Animal and Plant Species That May Occur on Test Area C-62	3-16
Table 3-5. Minority and Youth Populations in the Region of Influence, 2010.....	3-31
Table 3-6. Low-Income Populations in the Region of Influence, American Community Survey 5-Year Estimate, 2009-2013.....	3-31
Table 5-1. Recommended Test Area C-62 Range Sustainability BMPs.....	5-3

LIST OF FIGURES

Figure 1-1. Eglin AFB Test Ranges.....	1-2
Figure 1-2. Infrastructure Locations on TA C-62	1-3
Figure 1-3. IRSSS Acoustic Scoring Instrumentation at TA C-62	1-5
Figure 1-4. Strafe Area at TA C-62	1-7
Figure 1-5. SDB Testing Area	1-8
Figure 1-6. Ship-to-Shore Connector Test Pad.....	1-8
Figure 1-7. Open Detonation Area at TA C-62	1-9
Figure 3-1. Soil Types Present at Test Area C-62	3-2
Figure 3-2. Downslope OB/OD Erosion Area View West Toward Blount Mill Creek.....	3-4
Figure 3-3. Test Area C-62 Water Resources	3-8
Figure 3-4. Monitoring Well Analysis of RDX for Two Wells at Test Area C-62 (1995-2014).....	3-9
Figure 3-5. Ecological Associations on Test Area C-62.....	3-13
Figure 3-6. Red-Cockaded Woodpecker Occurrence Near Test Area C-62	3-18
Figure 3-7. Noise Contours From 3,000-Pound Detonation (No Winds Scenario)	3-26
Figure 3-8. Existing C-Weighted Noise Environment (Average Measure)	3-27
Figure 3-9. Environmental Justice Areas of Concern Within Noise Contour Thresholds	3-30

ACRONYMS, SYMBOLS, AND ABBREVIATIONS

µg/L	micrograms per liter
96 CEG	96th Civil Engineer Group
96 CES/CED	96th Civil Engineering Squadron/Explosive Ordnance Disposal
96 TW	96th Test Wing
A/S	air-to-surface
AFB	Air Force Base
AFI	Air Force Instruction
BDU	Bomb, dummy unit
BMP	best management practice
BRAC	Base Realignment and Closure
CATEX	categorical exclusion
CDNL	C-weighted day-night average level
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CZMA	Coastal Zone Management Act
dB	decibels
dBp	decibels peak sound pressure
DoD	Department of Defense
DPI	direct physical impact
EBD	Environmental Baseline Document
EIS	Environmental Impact Statement
EO	Executive Order
EOD	explosive ordnance disposal
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FY	fiscal year
GCTL	groundwater cleanup target level
GIS	geographic information system
INRMP	<i>Integrated Natural Resources Management Plan</i>
IRSSS	Improved Remote Strafe Scoring System
JSF	Joint Strike Fighter
JTTOCC	Joint Test and Training Operations Control Center
MBTA	Migratory Bird Treaty Act
mg/kg	milligrams per kilogram
mm	millimeters
NEPA	National Environmental Policy Act
NEW	net explosive weight
NPDES	National Pollutant Discharge Elimination System
OB/OD	open burn/open detonation
PBG	potential breeding group
PEA	Programmatic Environmental Assessment
RCW	red-cockaded woodpecker

REA	Range Environmental Assessment
ROI	region of influence
SDB	small-diameter bomb
SWPPP	Stormwater Pollution Prevention Plan
T&E	threatened and endangered
TA	Test Area
TNT	2,4,6-trinitrotoluene
TT	Test Target
UHF	ultra-high frequency
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UXO	unexploded ordnance

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1.0 PURPOSE AND NEED FOR ACTION

This Range Environmental Assessment (REA) evaluates the environmental impacts from authorizing a new level of mission activity for Test Area (TA) C-62 at Eglin Air Force Base (AFB). This REA has been developed in accordance with the Council on Environmental Quality's (CEQ's) National Environmental Policy Act (NEPA) regulations. It describes and analyzes the potential environmental consequences associated with current and foreseeable changes in activities at TA C-62. The analysis provided herein ensures compliance with U.S. Air Force policy and applicable federal, state, and local environmental laws and regulations.

1.1 INTRODUCTION

The Eglin Military Complex, located in the northwest Florida panhandle, is one of 23 component installations categorized as a Department of Defense (DoD) Major Range Test Facility Base. Eglin AFB is primarily situated among three counties: Santa Rosa County, Okaloosa County, and Walton County. Eglin AFB also includes Cape San Blas, part of a peninsula in Gulf County.

The primary mission of Eglin AFB is to develop and test conventional munitions and sensor tracking systems and is carried out by the 96th Test Wing (96 TW) (Eglin AFB, 2012). It also provides support for individual and joint training of operational units, military schools, and various federal agencies. The Eglin Military Complex currently comprises four components (U.S. Air Force, 2001), not including the cantonment or main base areas:

1. Test areas/sites
2. Interstitial areas (areas beyond and between the test areas)
3. Eglin Gulf Test Range
4. Airspace (over land and water)

Eglin AFB is an Air Force Materiel Command base. The 96th Civil Engineer Group (96 CEG) operates and maintains Eglin's facilities, systems, infrastructure, housing, and environment. TA C-62 makes up a portion of the Eglin Military Complex and supports a variety of test and training missions (Figure 1-1). The continued DoD utilization of the Eglin Military Complex requires flexible and unencumbered access to land ranges and airspace, which support all of Eglin AFB's operations.

1.2 DESCRIPTION OF THE TEST AREA

The location of the Proposed Action is at TA C-62, a 1,290-acre weapon systems testing and training area located in Walton County on the eastern section of Eglin AFB, approximately 20 miles northeast of Eglin Main Base. The primary entry to TA C-62 is from Range Road 210. Paved, clay, and dirt roads make for easy access to the various targets located around the range (see Figure 1-2).

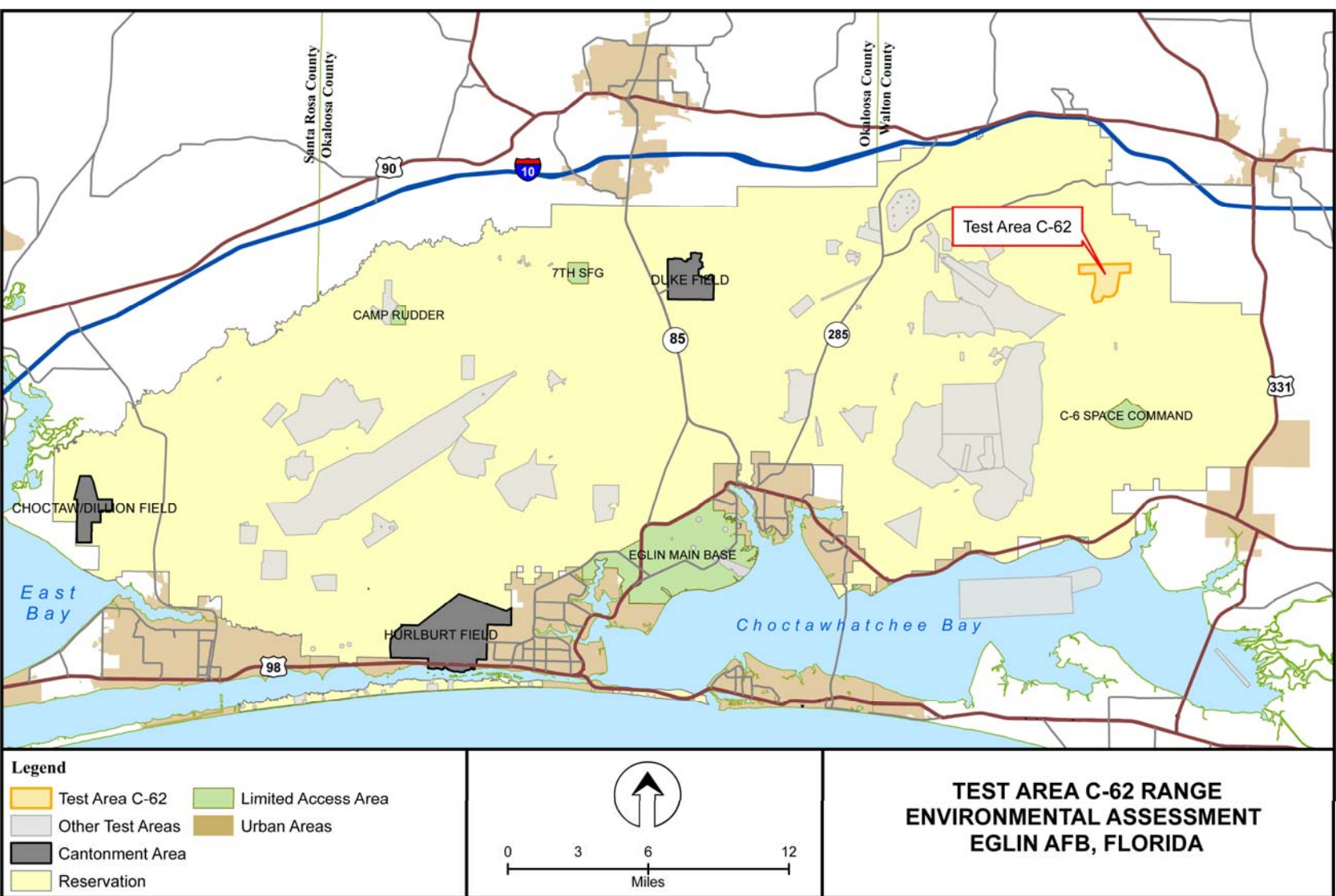


Figure 1-1. Eglin AFB Test Ranges

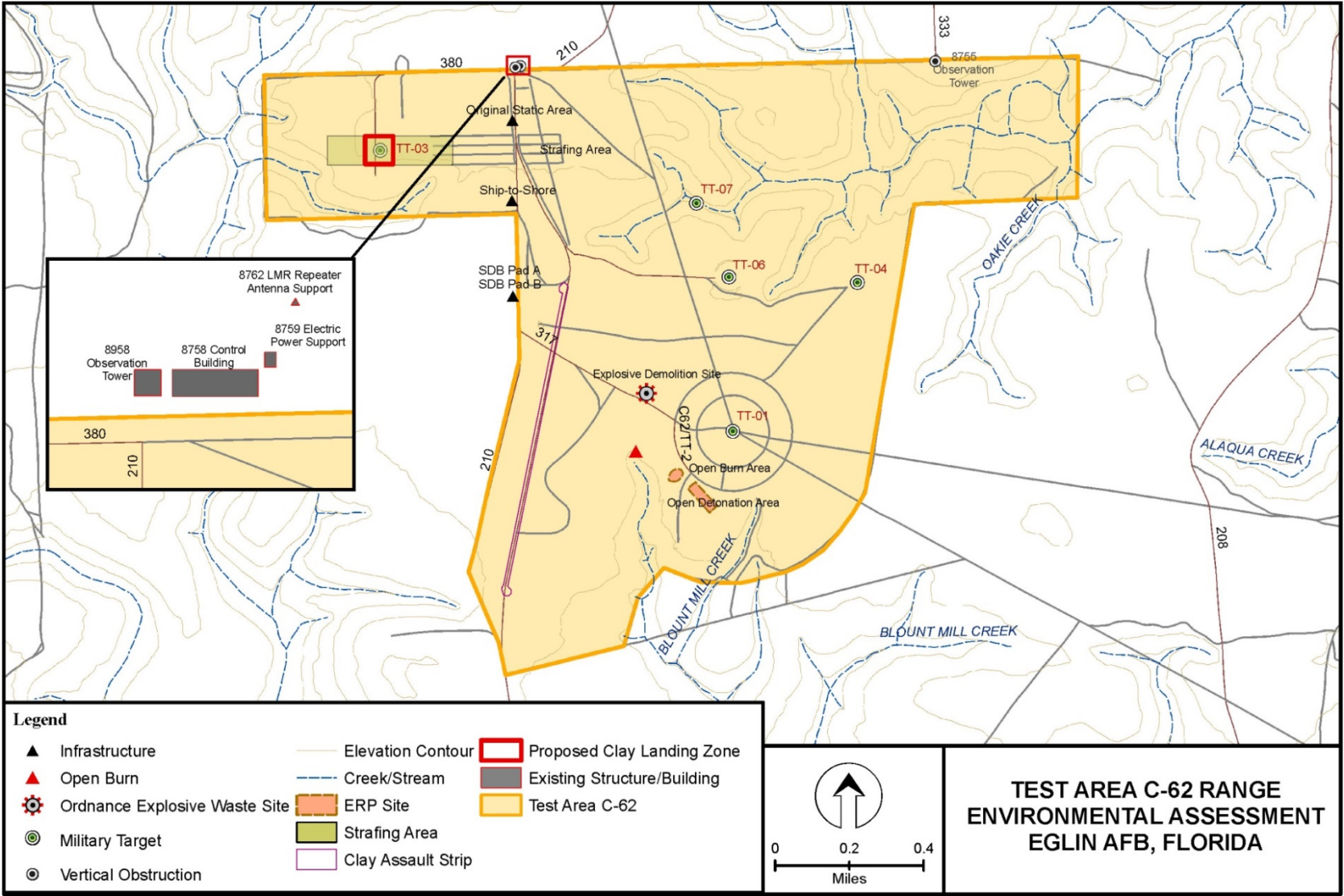


Figure 1-2. Infrastructure Locations on TA C-62

A stabilized clay landing strip is located on the test area adjacent to its northwestern edge. This landing strip, approximately 5,000 by 70 feet and formerly used for assault landings, cargo extraction, touch-and-go activities, and takeoffs, is now inactive. Generally, the cleared area is a 6,000-foot equilateral triangle with the target center in a 2,000-foot radius circle at one corner of the triangle. An additional area has been cleared for strafing in the northwest corner of the range.

1.2.1 Targets

Six numbered target areas are currently used for mission activities on TA C-62. Mission activities utilize one additional target on TA C-62, referred to as the “billboard,” which is located northeast of Test Target (TT)-1, between TT-1 and TT-4. The billboard is a wooden frame structure with cloth stretched over it, and it is used for airborne laser testing. The 96 TW Range Operations Group is responsible for maintaining targets.

TT-1 is a scorable main bombing target consisting of a decommissioned tank surrounded by four concentric circles with radii of 75, 150, 500, and 800 feet. The inert bomb delivery unit (BDU) 33D/B is the ordnance most commonly expended at TT-1. Four pairs of radar reflectors and timer reference points are positioned in the cardinal directions at various distances from the target center. There are three flight lines (approximately 15 feet wide) that pilots use for target approach. The flight lines are disked to maintain visual recognition of bare soil against vegetative cover. The target area is also disked to provide visual recognition from the air. Disking is conducted after unexploded ordnance (UXO) technicians remove munitions residue and the 96th Civil Engineering Squadron/Explosive Ordnance Disposal (96 CES/CED) declares the area clear (U.S. Air Force, 2005).

TT-3 is a low-angle strafing target used for high-performance aircraft gunnery training. The target consists of four 20-foot F-4 drogue chute panels suspended between telephone poles. Expendables primarily include 20- and 30-millimeter ammunition. During a mission event, an aircraft typically fires between 200 and 300 rounds of 20- or 30-millimeter training projectile ammunition at a rate of 30 to 50 rounds per strafing run (U.S. Air Force, 2005).

TT-4 is a scorable target consisting of a single truck located in a 225-foot radius circle near the east edge of the test area.

TT-5 is an unscorable tactical target consisting of four target vehicles that are moved to cleared and camouflaged areas as mission activities require. This target is used for the release of 2.75-inch white phosphorus rockets, which are restricted to TT-5. TT-5 is also used for the release of cluster bomb unit 97s. Target TT-5 is not used if winds exceed 15 knots, due to the potential for starting wildfires.

TT-6 is a scorable circular target with a wooden pylon target in the center surrounded by two circles with radii of 75 and 150 feet. The target may be used as a no-show target for radar nuclear deliveries using the TT-1 radar reflectors. In some directions, ground scoring is limited to 500 feet. To provide visual recognition from the air, the target area is disked following UXO clearance (U.S. Air Force, 2005).

TT-7 consists of three vehicle mock-ups constructed of tin that are located on the north slope of Oakie Creek. Hurlburt's Air/Ground Operations School tracking team has used TT-7 to train personnel in target acquisition.

1.2.2 Instrumentation

There are two permanent 45-foot steel scoring towers with M-2 spotting scopes on the range. The Improved Remote Strafe Scoring System (IRSSS) automatically provides real-time readout of strafe scores using acoustic instrumentation (Figure 1-3); however, scoring can be done manually if required. A portable high-altitude release plane is used on this test area when required. Four radar reflectors are located around TT-1.



Figure 1-3. IRSSS Acoustic Scoring Instrumentation at TA C-62

Meteorological equipment on TA C-62 includes a Cardion surface wind measuring set (with readouts in the main control tower and the range control building), a pibal-theodolite wind sounding system, and surface temperature and humidity measuring equipment. The 96 TW is primarily responsible for maintaining instrumentation.

1.2.3 Buildings and Structures

TA C-62 includes two primary support buildings, three towers, and multiple structures. The support building (building 8758) is no longer staffed full-time and is used as needed to support mission requirements. The control tower (building 8958) is located immediately to the west of the support building and has a power supply. In 2004 Eglin AFB removed the concrete block storage house (building 8757), previously located at the southern edge of the test area along Range Road 210; however, the foundation can still be seen at the site. Adjacent to the storage house foundation is the footprint of a cine-theodolite (building 8750) and the control tower (U.S. Air Force, 2005). Table 1-1 lists the buildings and structures on TA C-62, and Figure 1-2 shows the location of targets and structures on TA C-62.

No underground utilities exist on the test area; however, concrete markers and boxes along Range Road 210 indicate that some utilities are either currently or formerly underground (U.S. Air Force, 2005). The responsibility of building and structure maintenance is shared by the 96 CEG and 96th Range Group.

Table 1-1. Buildings and Structures

Buildings
Support building (building 8758)
Auxiliary generator building (building 8759)
Structures
Control tower (building 8958)
East spotting tower (building 9755)
Microwave tower 151 feet above ground level
Weather instrumentation equipment
Old theodolite pad
UHF antenna pole
Aircraft shelter
Helicopter landing site
Storage tank
Foundation of concrete block house (building 8757)
Footprint of cine-theodolite (building 8750)
Pibal-theodolite stand

Source: U.S. Air Force, 2005

UHF = ultra-high frequency

1.3 PROPOSED ACTION

The Proposed Action is for the 96 TW Commander to establish a new authorized level of activity for TA C-62 that is based on an anticipated maximum usage. To establish this maximum threshold baseline, it is necessary to demonstrate that the individual and cumulative effects of this usage level do not have significant environmental impacts. The environmental analysis is accomplished by evaluating the effects of military mission activities and expendables on Eglin AFB's natural, physical, and cultural environment.

The military mission has been broadly identified as the *effector* of environmental impacts, and Eglin AFB's environment has been identified as the *receptor*. Evaluation and quantification of this effector/receptor relationship is the scientific basis for the environmental analysis detailed in this report.

The activity level under the Proposed Action considers current and future testing and training missions, continued 96 CES/CED activities, and ongoing maintenance activities at TA C-62. *Test missions* are those designed to test, verify, validate, demonstrate, or prove that the new or improved hardware, system, software, or tactic will work safely and accomplish the desired effect. *Training missions* teach, maintain, or increase the operator's proficiency to perform mission operations. Testing and training missions are further categorized into air-to-surface (A/S) operations, and ground operations. These two operational categories, as well as 96 CES/CED operations, and maintenance activities at TA C-62 are described in more detail below.

1.3.1 Current Testing and Training Activities

1.3.1.1.1 Air-to-Surface (A/S) Operations

A/S test missions may involve testing a new weapon, new fuze, upgraded guidance or sensor system, or a weapon's penetration capability. In most cases, the warheads are removed (i.e., the weapons are inert) and replaced with a telemetry package that sends data back to the control facility for analysis. These types of missions involve releasing or firing the bomb or missile from an aircraft and having the weapon impact somewhere on the test area. High-performance aircraft gunnery testing and training, such as strafing, is also included in A/S operations. Routine strafing at TA C-62 has been conducted on TT-1 and TT-3 using 7.62-, 20-, and 30-millimeter ammunition by F-15, F-16, A10 and CV-22 aircraft (see Figure 1-3 and Figure 1-4) (Smith, 2014).

A/S training missions may involve the release or launch of munitions over land. These weapons are scored on the ground or by the aircrew. Training altitudes may range from a few hundred feet to over 20,000 feet, and speeds may range from 200 knots to near supersonic.



Figure 1-4. Strafe Area at TA C-62

1.3.1.1.2 Ground Operations

TA C-62 is a “lesser” test area only used for ground tests when the major test areas are not available. Traditional ground test activities like arena testing and hazard classification tests such as bullet impact and slow cook-off testing are seldom performed on TA C-62. However, TA C-62 has historically supported these types of tests and can still do so. Ground operations also include general static testing of small-diameter bombs (SDBs). During static testing, the SDB is suspended above a target and initiated. Targets could include communication facilities, lightly armored ground combat systems and vehicles. There are four static test pads for ground operations, including SDB test pad for bare charges only and low weight munitions; SDB “Pad A” SDB “Pad B,” both used for fragment and nonfragment munitions; and ship-to-shore connector test pad for nonfragment munitions only (see Figure 1-5 and Figure 1-6) (Smith, 2014). Test pad areas are cleared as needed in preparation for a test.

The Hurlburt Special Operations Schools and Small Arms Range Complex has operated on TA C-62. Past activities included classroom training or training with weapons that require a large area (e.g., Light Antitank Weapon System rocket firing).



Figure 1-5. SDB Testing Area



Figure 1-6. Ship-to-Shore Connector Test Pad

1.3.2 Future Activities

The Air Force has identified several new missions to be analyzed as part of the Proposed Action:

- Approximately 50 strafing runs for the CV 22 using 0.50-caliber ammunition with 100,000 rounds annually
- F-35 strafing runs using live 25-millimeter ammunition up to 114,977 rounds annually as determined by the annual ordnance requirements for Joint Strike Fighter (JSF) training under the proposed action delineated in the Final Supplemental Environmental Impact Statement for F-35 Beddown at Eglin Air Force Base (U.S. Air Force, 2014a)
- Construction of a 400- by 400-foot square clay pad along the existing westernmost dirt road/landing zone to be designated as a rotary helicopter landing zone for emergency landings during strafing missions
- Use of TT-3 (Strafe Pit) IRSSS equipment is available for future ground gun testing. The IRSSS would be used to provide a plot layout of bullet to sight comparison.

1.3.3 Civil Engineering Operations

In addition to the other activities, TA C-62 is also used to dispose of munitions items left over from testing and training missions. Disposal activities are accomplished by the 96 CES/CED under an open burn/open detonation (OB/OD) permit issued for TAs C-62 and C-52N. There are two types of methods employed to dispose of these munitions items, explosive ordnance disposal (EOD) detonation and open burn. EOD detonation occurs on the surface of the ground on the southern portion of the test area (see Figure 1-7). Open burn occurs in kettles that are placed inside the thermal processing chamber of the Transportable Burn Kettle Processor. The baseline net explosive weight (NEW) limit for OB/OD is 3,000 pounds at any one time, and multiple disposals up to this weight can be performed in a given day if necessary. Seasonal limits are observed, which can reduce the amount of NEW disposed to less than 3,000 pounds (Krumlinde, 2014).

Cleanup and disposal of test area expendables include surface and near-surface weapons ordnance cleanup and test area maintenance. Ordnance expended on TA C-62 is inert or has a spotting charge that detonates on impact. Inert and spotting charge ordnance is either burnt or blown before being salvaged. Inert bombs, such as the BDU-33, are normally burned or subjected to a small demolition charge to detonate unexploded spotting charges and render them safe for disposal or recycling (U.S. Air Force, 2005). OB/OD for fiscal year (FY) 2009–2013 captured in the range utilization data are provided in Appendix B.



Figure 1-7. Open Detonation Area at TA C-62

1.3.4 Maintenance Activities

Ongoing TA C-62 military mission maintenance activities also incorporated into the Proposed Action include the following:

Vegetation maintenance. The vegetation of TA –62 is bushhogged and roller drum chopped every other year to suppress the density and growth of native vegetation, particularly woody species. If uncontrolled, plants would grow to heights and densities that could interfere with the operation of ground-based instrumentation, obstruct observer-scoring activities, and impede munitions debris recovery.

- **Target maintenance.** Vegetation suppression and earthmoving practices are employed to maintain the function and configuration of TA C-62 scorable targets TT-1, TT-3, TT-4, and TT-6. With the exception of aircraft gunnery strafing target TT-3, the target surfaces are periodically disturbed with heavy equipment. The contrast created between the disturbed target areas and surrounding vegetation ground cover assists in pilot recognition of the target and inert bomb impact scoring during training missions. TT-1, TT-4, and TT-6 are generally maintained in a slight bowl configuration to minimize runoff. Another purpose of the denuded surface (complete absence of vegetation) of TT-3 is to facilitate the mechanical recovery of inert 20- and 30-millimeter ammunition. The configuration of TT-3 follows natural drainage contours with an outflow to Burntout Creek to the south.
- **Road maintenance.** The test area is interlaced with active as well as abandoned roads. All TA C-62 roads are unpaved. Maintenance activities include grading, resurfacing, filling holes, and repairing washouts (U.S. Air Force, 2009). Generally, the roads are categorized as sand-surfaced tertiary or other roads. The portion of Range Road 380 that crosses Oakie Creek was decommissioned in 2011 when culverts were removed. Erosion control was completed in 2013.

1.4 PURPOSE AND NEED FOR THE ACTION

The purpose of and need for the Proposed Action is twofold. First, the action would quickly and efficiently process new programs requesting access to TA C-62 during both routine and crisis situations. It is needed to allow military users to provide quick response to priority needs during war or other times of significant military involvement, as well as maintain the current approval process for routine uses. Secondly, the Proposed Action would update the previous NEPA analysis by reevaluating the mission activities and performing a cumulative environmental analysis of all mission activities. The need associated with this second purpose is multifaceted and is described below.

Eglin AFB previously performed an environmental analysis on mission activities at TA C-62, as detailed in the *Test Area C-62 Final Programmatic Environmental Assessment* (PEA) (U.S. Air Force, 2002). Some of Eglin AFB's mission activities have changed since the original environmental analysis, and new environmental analysis needs to be performed. Currently, when approval for a new mission is requested, it may be categorically excluded from additional environmental analysis if it is similar in action to a mission that has been previously assessed and the assessment resulted in a finding of no significant environmental impact. The Air Force implements the environmental analysis process through Air Force Instruction (AFI) 32-7061, The Environmental Impact Analysis Process, as promulgated at 32 Code of Federal Regulations (CFR) Part 989. The categorical exclusion (CATEX) designation is in accordance with 32 CFR 989.13.

Furthermore, since the original assessment for some of these ongoing mission activities, as well as some mission activities used for CATEX purposes, changes have occurred at Eglin AFB that could affect environmental analysis. These changes, outlined below, create a need to reevaluate the NEPA analysis for individual and cumulative impacts.

- Additional species have been given federal and state protection status.
- Species that were not previously known to exist at Eglin AFB have been discovered.
- The population of communities along Eglin AFB's borders has increased, making encroachment a concern.
- Air Force regulations have changed.
- Military missions and weapons systems have evolved.

The analysis performed in this report allows for a cumulative look at the impact on TA C-62 receptors from all mission activities. By implementing an authorized level of activity, range management would be streamlined and cumulative environmental impacts would be more fully considered.

1.5 SCOPE OF THE ENVIRONMENTAL REVIEW

1.5.1 Issues Eliminated From Detailed Analyses

Several resource areas would not be impacted under the Proposed Action or alternatives and, therefore, these resource areas were not carried forward for further analysis. The resources and the reasons for their dismissal from detailed analyses are discussed below.

1.5.1.1 Chemical Materials

Chemical materials encompass liquid, solid, or gaseous substances released into the environment as a result of mission activities. These include compounds that can produce a chemical change or toxicological effect to an environmental receptor. The chemical materials that can accumulate in the environment through repeated use represent the highest potential for environmental impact. For TA C-62, this includes the aluminum from chaff fibers, phosphorus from flares, and lead from munitions. Additionally, a small amount of magnesium-thorium was expended onto TA C-62 but was never recovered. Chemical materials are not analyzed as a separate resource area but are discussed in the soil and water resource sections as applicable.

1.5.1.2 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies analyze the impacts of federally directed or funded undertakings on historic properties. All areas on TA C-62 considered as high probability for prehistoric resources and historic homesteads have been surveyed in an effort to identify cultural resources. There are no structures, cemeteries, or archaeological sites considered eligible for the National Register of Historic Places located within TA C-62. Thus, no further analysis of cultural resources is warranted.

1.5.1.3 Land Use

TA C-62 is solely utilized for military training and testing activities. No change to current land use is expected and, therefore, no further analysis is warranted.

1.5.1.4 Debris/Solid Waste

Debris includes the physical materials deposited on the surface of terrestrial or aquatic environments during mission activities; examples debris deposited onto TA C-62 include shrapnel, spent brass cartridges, and extant inert bombs. However, there are no major debris issues for TA C-62, because the debris is periodically removed from the test area in accordance with Eglin AFB standard operating procedures. Under current practice, munitions debris is recovered and/or removed from the ranges for the purpose of storage, reclamation, treatment, and disposal as solid waste. These practices are necessary to comply with AFI 13-212, which requires the range to be cleared of munitions debris on a regular basis.

1.5.1.5 Air Quality

Open burn and open detonation activities release emissions. OB/OD actions are permitted by the Florida Department of Environmental Protection (FDEP), which has determined that air

monitoring is not necessary based on first-year sampling results (FDEP, 2010). Potential air quality impacts have been previously analyzed and found not to be significant. Therefore this issue was not carried forward for detailed analysis.

1.5.1.6 Safety/Restricted Access

TA C-62 is closed to all forms of public access, as well as the immediate surrounding area. Therefore, there are no restricted access issues with regard to the public utilization of recreational areas that surround TA-62. The Air Force manages safety concerns through the observance of policies and procedures designed to minimize incidents during testing, training, and range maintenance.

1.5.2 Issues Studied in Detailed Analysis

Preliminary analysis based on the scope of the Proposed Action and alternatives identified the following potential environmental issues warranting detailed analysis.

1.5.2.1 Soils

Soils within TA C-62 have the potential to be impacted from test and training activities. Analysis addressed the potential for erosion from testing and training activities as well as for munitions residue to decrease soil quality by introducing new or additional organic and/or inorganic compounds into the soil matrix.

1.5.2.2 Water Resources

The Proposed Action has the potential to impact water resources within and around the TA C-62 region of influence (ROI). Water resource analysis addressed the potential for impacts to surface waters, wetlands, floodplains, and groundwater from sedimentation due to vegetation, target, and road maintenance and/or contamination from testing and training activities and associated expendables.

1.5.2.3 Biological Resources

Biological resources may be affected by the Proposed Action. Issues to be examined include potential impacts on wildlife and sensitive species and habitats from direct physical impact, habitat alteration, and noise. Analysis focused on identifying sensitive species and habitats within the TA C-62 ROI, analyzing the potential for impacts, and establishing management actions for the avoidance and/or minimization of identified potential impacts.

1.5.2.4 Noise

Noise is defined as the unwanted sound produced by mission activity and its associated expendables. Noise may directly inconvenience and/or stress humans and some wildlife species and may cause hearing loss or damage. Analyses of potential noise impacts include discussions of two noise components: the physical overpressure and the acoustic sound. Noise is produced by explosives used on TA C-62.

1.5.2.5 Socioeconomics/Environmental Justice

Potential socioeconomic impacts include those that would expose low-income and minority populations to disproportionate negative impacts or pose special risks to children (under 18 years old) due to noise, pollutant transport, and other conditions in the TA C-62 ROI. The socioeconomic receptors include nearby communities and property that are impacted by the noise from Eglin AFB ordnance. Analysis focuses on the exposure of these communities to anticipated environmental effects and identifying whether potential concern areas were disproportionate to other communities in the region.

1.6 ORGANIZATION OF THE DOCUMENT

This REA is organized into eight chapters. Chapter 1.0 identifies the purpose and need for the Proposed Action. Chapter 2.0 details the Proposed Action and alternatives. Chapter 3.0 describes the environment that the Proposed Action or alternatives could potentially affect and presents an analysis of potential environmental consequences. Chapter 4.0 provides an analysis of potential cumulative impacts. Chapter 5.0 discusses management practices to be implemented under the Proposed Action. Chapter 6.0 lists any persons and/or agencies contacted during the REA process. Chapter 7.0 lists the preparers of this document, and Chapter 8.0 lists publications cited.

In addition, Appendix A includes supplemental information on public involvement. Appendix B provides a detailed list of annual OB/OD expendables at TA C-62.

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2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This section details the alternatives evaluated for potential environmental impacts in this REA for TA C-62. The proposed alternatives are:

- Alternative 1: Proposed Action With Implementation of Best Management Practices
- Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge
- No Action Alternative

The alternatives considered for analysis were determined as a result of pre-Environmental Impact Analysis Process discussions on how foreseeable future activities will expand Eglin AFB's testing and training requirements in the upcoming years. No alternatives were eliminated from detailed analysis. A brief description of each alternative, including the alternative-specific expendables, is provided in the following subsections.

2.1.1 Alternative 1: Proposed Action With Implementation of Best Management Practices

This alternative is defined as authorizing the level of activity described as the maximum annual expenditure amount between the FY 2009 and FY 2013 based on the range utilization data. Alternative 1 includes a cumulative evaluation of all current and potential testing and training (see Table 2-1 and Table 2-2). Under this alternative, ongoing EOD and maintenance activities within TA C-62 would remain at baseline levels. This alternative would also include range sustainability best management practices (BMPs). BMPs are designed to restore damaged ecosystems; conserve cultural, soil, and wildlife resources; reduce public noise impact potentials; and protect water quality and sensitive habitats associated with TA C-62. The BMPs are presented as practical options for addressing specific concerns related to TA C-62 and are not a mandate of action to be performed. The bulk of expendables are attributable to 25-millimeter and .50-caliber rounds from strafing. This alternative includes the following future activities:

- Approximately 50 strafing runs for the CV 22 using 0.50-caliber ammunition with 100,000 rounds annually
- F-35 strafing runs using live 25-millimeter ammunition up to 114,977 rounds annually as determined by the annual ordnance requirements for JSF training under the proposed action delineated in the *Final Supplemental Environmental Impact Statement for F-35 Beddown at Eglin Air Force Base* (U.S. Air Force, 2014a)
- Construction of a 400- by 400-foot square clay pad along the existing westernmost dirt road/landing zone to be designated as a rotary helicopter landing zone for emergency landings during strafing missions
- Use of TT-3 (Strafe Pit) IRSSS equipment is available for future ground gun testing. The IRSSS would be used to provide a plot layout of bullet to sight comparison.

Table 2-1. Maximum Annual Testing Expendables for TA C-62, FY 2009–FY 2013

Expendable Category	Munition Type	NEW	Alternative 1 ^a	Alternative 2	No Action Alternative ^b
CURRENT TESTING					
Bomb (live)	CBU-107 SMART BOMB	-	-	-	20
	SDB II ATK WARHEAD	25.64	2	4	-
	SDB INC II, LAP ASSEMBLY	23.5	12	24	-
	SDB INC II, WARHEAD (LIVE)	27	9	18	-
	SDB INC II, LAP ASSEMBLY - 303	23	3	6	-
	SDB LIVE WARHEAD	37	2	4	-
Bomb (inert)	BDU-50D/B	0	24	48	-
	BMB GP MK82-0, 1 INRT W/O LUG	0	1	2	-
	BMB PRAC 25 LB, BDU-33D/B	0	71	142	-
	BOMB, PRACTICE BDU-56/B	0	2	4	-
	BOMB, PRACTICE, BDU-50 A/B	0	70	140	-
	BOMB, PRACTICE	0	64	128	-
	FIN ASSEMBLY BOMB BSU-33 C/B	0	24	48	-
	FIN ASSEMBLY, BOMB	0	59	118	-
	FIN ASSEMBLY, BOMB MXU-650C/B	0	4	8	-
	FIN ASSY MK84 W/O LUGS	0	4	8	-
	NOSE PLUG BOMB 750 LB M117	0	83	166	-
	RETARDER RIN, BSU-49/B F/MK82	0	6	12	-
Systems	FLAME THROWER	-	-	-	10
	FOG AND FOAM	-	-	-	6
	L8A3 GRENADES	-	-	-	4
	MBS SMOKE POTS	-	-	-	4
	THERMITE GRENADES	-	-	-	24
Fuze (inert)	SAFETY AND ARM DEV AIM-120	0	2	4	-
Fuze (live)	SDB REMOTE DEMO UNIT FUZE	0.3920	10	20	-
Guns (live)	CARTRIDGE, 20 MM	0.0754	2,954	5,908	-
	CARTRIDGE, 20 MM	0.0788	962	1,924	-
	CARTRIDGE, 30 MM	0.3310	1,253	2,506	-
	CARTRIDGE, 30 MM	0.3419	730	1,460	-
	PBXN-9 PELLET 50MM DIA 30 MM HI	0.2270	7	14	-
	40 MM HE	-	-	-	64
Missile (live)	AIM-9-9 W/MBS	0.5512	2	4	-
	AIM-9M-1 AUR	7.9000	1	2	-
	GUIDED MISSILE, AGM-114C W/LAN	34.400	3	6	-
Other (inert)	MAU-209C/B, PAVEWAY II, GCU	0	4	8	-
	SWIVEL & LINK SINGLE MAU-166/A	0	4	8	-
	WARHEAD, GUIDED MISSILE	0	5	10	-
Other (live)	BOOSTER MK 80 MOD 0 2003AS500	0.2700	5	10	-
	0.5 LBS HE C-4	-	-	-	68
	CAP, BLASTING	0.0027	11	22	-
	CARTRIDGE, SIGNAL, PR	0.0067	71	142	-
	CHG DEMO M112 COMP 4 1.25 LBS	1.25	166	332	-
	COMP B BARE CHR, 9.5 IN SPHERE	27.5	9	18	-
	COMP-A5 BOOSTERS .25 X .25 IN	0.0010	9	18	-
	CORD ASSEMBLY, DETONATING	0.0070	19	38	-
	CTG SIGAL MK4 MOD 3	0.0602	29	58	-
	DETONATOR, RP-83 EBW	0.0024	32	64	-
	GUIDANCE SECTION, GU	0.0002	1	2	-

Table 2-1. Maximum Annual Testing Expendables for TA C-62, FY 2009–FY 2013, Cont'd

Expendable Category	Munition Type	NEW	Alternative 1 ^a	Alternative 2	No Action Alternative ^b
	KMU-572 C/B JDAM SAASM/AJ	0.0002	1	2	-
	MAU-169 L/B, PAVEWAY II, GCU	0.0001	4	8	-
	PBXN-9 PELLETS P/N N00682223-1	0.5500	6	12	-
	M18 SMOKE GRENADES	-	-	-	544
	RP-87, DETONATOR	0.0001	9	18	-
	CARTRIDGE, 7.62 MILL	0.0067	12,358	24,716	-
	CARTRIDGE, CALIBER .50	0.0358	38	76	-
Grand total			19,145	38,290	744

FY = fiscal year; NEW = net explosive weight; TA = Test Area

a. Alternative 1 is based on data from the Range Utilization Report (U.S. Air Force 2014b).

b. The No Action Alternative is based on the preferred alternative in the 2002 Test Area C-62 Final Programmatic Environmental Assessment (U.S. Air Force, 2002).

Table 2-2. Maximum Annual Training Expendables for TA C-62, FY 2009–FY 2013

Expendable Category	Mission Expenditure	NEW	Alternative 1 ^a	Alternative 2	No Action Alternative ^b
CURRENT TRAINING					
Bomb (inert)	BMB GP MK82-0, 1 INRT W/O LUG	0	2	4	-
	BMB PRAC 25 LB, BDU-33D/B	0	255	510	3,284
	BOMB, PRACTICE BDU-56/B	0	8	16	-
	BOMB, PRACTICE, BDU-50 A/B	0	6	12	674
	BOMB, PRACTICE	0	28	56	-
	FIN ASSEMBLY, BOMB	0	14	28	-
	FIN ASSEMBLY, BOMB MXU-650C/B	0	6	12	-
	FIN ASSY MK84 W/O LUGS	0	8	16	-
	NOSE PLUG BOMB 750 LB M117	0	22	44	-
	RETARDER RIN, BSU-49/B F/MK82	0	8	16	-
	GBU-10	-	-	-	38
	MK-20	-	-	-	2
	MK-82 LD	-	-	-	12
	MK-84 LD	-	-	-	68
	BLU-109	-	-	-	4
Fuze (live)	FMU-152A/B FUZE SYSTEM	0.3640	2	4	-
	FUZE, BLASTING, TIME	0.0027	72	144	-
	IGNITER TIME BLAST FUZE M60	0.0001	9	18	-
Grenade (live)	GRENADE, HAND INCENDIARY AN M14	1.7	16	32	-
	GRENADE, HAND SMOKE RED M18	0.7200	4	8	-
Guns (inert)	CTG 30MM TP PGU-15 A/B	0	127	254	-
Guns (live)	CARTRIDGE, 20 MM	0.0754 ^c	311	622	-
	CARTRIDGE, 20 MM	0.0857 ^c	390	780	-
	CARTRIDGE, 30 MM	0.3310 ^c	657	1,314	-
	20MM (TP)	0.08	-	-	27,462
Other (live)	CAP, BLASTING, NON ELEC, M7	0.0027	24	48	-
	CARTRIDGE, SIGNAL, PR	0.0067	255	510	-
	CHARGE, DEMOLITION	0.5000	8	16	-

Table 2-2. Maximum Annual Training Expendables for TA C-62, FY 2009- FY 2013, Cont'd

Expendable Category	Mission Expenditure	NEW	Alternative 1 ^a	Alternative 2	No Action Alternative ^b
	CHG DEMO M112 COMP 4 1.25 LBS	1.25	31	62	-
	CHG DEMO SHPD M3A2 40 LB COMP B	30	1	2	-
	COMPUTER, MISSILE-BO	0.0002	6	12	-
	CORD ASSEMBLY, DETONATING	0.0070	538	1,076	-
	CTG SIGAL MK4 MOD 3	0.0602	59	118	-
	CUTTER, HIGH EXPLOSIVE	1.1	2	4	-
	DSU-33D/B PROX SENSOR	0.0002	2	4	-
	GUIDANCE SET	0.0002	2	4	-
	PROPELLANT POWDER	1	1	2	-
	35 MM M190	-	-	-	4,004
	66 MM LAWS	-	-	-	10
Subtotal (existing total only)			2,874	5,748	35,558
FUTURE TRAINING					
Guns (live)	25MM (TP)	0.12c	114,977	114,977	-
	CARTRIDGE, CALIBER .50	0.0358c	100,000	100,000	-
Subtotal (existing future training)			214,977	214,977	-
Grand total (existing plus future)			217,851	220,725	35,558

FY = fiscal year; NEW = net explosive weight; TA = Test Area

a. Alternative 1 is based on data from the Range Utilization Report (U.S. Air Force 2014b).

b. The No Action Alternative is based on the preferred alternative in the 2002 Test Area C-62 Final Programmatic Environmental Assessment (U.S. Air Force, 2002)

c. Propellant weights. These items do not contain explosive material.

2.1.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge

Alternative 2 would be the same as Alternative 1 with an additional 100 percent increase in all missions above the baseline with the exception of future F-35 and CV-22 strafing activities, which would remain the same (described in Section 1.3.2) and EOD open detonation operations (defined as 3,000 pounds NEW at any given time). The expenditures associated with Alternative 2 are presented in Table 2-1 and Table 2-2). As with Alternative 1, the bulk of expendables are attributable to 25-millimeter and .50-caliber rounds from strafing. Alternative 2 carries forward all future activities, including strafe training. The number of strafe training missions and expendables is the same for Alternative 1 and Alternative 2. An increase is not warranted at this time.

2.1.3 No Action Alternative

The No Action Alternative is defined as the preferred alternative from the 2002 PEA for TA C-62 (U.S. Air Force, 2002), which included approval of all baseline activities using BMPs and increased testing and training missions by 100 percent (see Table 2-1 and Table 2-2). An increase in EOD OB/OD operations was not approved; these activities were anticipated to stay at the same levels as reported in the 2002 PEA (U.S. Air Force, 2002). Most of the expendables under the No Action Alternative are associated with strafing using 20-millimeter target practice rounds.

Table 2-3 lists the total maximum annual expendables at TA C-62 under the different alternatives.

**Table 2-3. Maximum Annual Expendables (Quantity) at TA C-62
Under the Alternatives**

Category	Alternative 1	Alternative 2	No Action Alternative
Current			
Testing	19,145	38,290	744
Training	2,874	5,748	35,558
Total current	22,019	44,668	36,302
Future			
Training	214,977	214,977	-
Grand total	236,996	259,645	36,302

Sources: U.S. Air Force 2002, 2014b

TA = Test Area

2.2 IMPACT SUMMARY

Table 2-4 compares the potential environmental impacts for each alternative by resource area.

Table 2-4. Comparison of Potential Impacts by Resource Area

Resource Area	Alternative 1	Alternative 2	No Action Alternative
Soils	No adverse impact to soil resources is anticipated under Alternative 1. The current management actions (listed in Section 5.0, Management Practices) are sufficient to prevent soil loss and erosion from the ongoing and Proposed Actions at TA C-62.	Under Alternative 2, impacts and required management actions would be anticipated to be similar to those identified under Alternative 1.	No adverse impacts to soil resources would occur under the No Action Alternative.
Water Resources	Under Alternative 1, there would be potential for contamination of soils from open detonation activities that could leach into the sand and gravel aquifer and occasionally exceed GCTLs in monitoring well at TA C-62; however, these levels are below those that would affect aquatic life or adversely affect the water quality at Blount Mill Creek.	Under Alternative 2, there is a potential for an increase in the frequency of GCTL exceedances of one or more contaminants and an increase in the total number of items detonated and their respective NEWs, which would correspond to an increase in explosive residues in the soil and water. Adverse impacts to surface water resources are not anticipated, since erosion control measures are in place.	The No Action Alternative would have comparatively less impact on water resources than either Alternative 1 or 2.

Table 2-4. Comparison of Potential Impacts by Resource Area, Cont'd

Resource Area	Alternative 1	Alternative 2	No Action Alternative
Biological Resources	Potential categories of biological resource impacts include noise, habitat alteration, direct physical impact, and chemical materials. Under this alternative, the probability of striking an individual animal during strafing is considered extremely low. Similarly, the potential for vehicle strikes is considered low. Noise would be produced more frequently on the test area as a result of additional strafing missions and could result in harassment or injury to wildlife species, including protected species. The potential for habitat effects would increase, including the possibility of soil erosion into streams/wetlands, deposition of ordnance in surface waters, and wildfire due to ordnance use. Management actions would be required as part of the action. Significant impacts to any population would not be expected under current or future missions proposed under Alternative 1.	Under this alternative, impacts to biological resources would be the similar to those impacts described under Alternative 1.	The No Action Alternative represents the preferred alternative of the 2002 PEA. Analyses in the 2002 PEA concluded that there would be no significant impacts to biological resources under this alternative.
Noise	Noise impacts would not be significant. The addition of strafing from CV-22 would not result in noise levels of 62 dB CDNL extending off-range. This level is considered to be annoying to some people but not significant. Construction noise associated with the 400- by 400-foot clay pad would be temporary and would not be noticeable off-range. Ground-based bullet testing using acoustic instrumentation would be similar to that from strafing, minus the aircraft noise, and would not add appreciably to the overall noise environment.	Significant noise impacts are not anticipated under Alternative 2. Noise would be characterized by a doubling of the number of open detonations, the same number of CV-22 and F-35 flights, and an increase in the number of static test events.	Under the No Action Alternative, open detonation NEW limits would be set at 1,000 lbs compared with a currently permitted amount of 3,000 lbs per detonation. While there would be less noise impacts under the No Action Alternative, it does not provide a suitable mission alternative for conducting approved disposal via open detonation.

Table 2-4. Comparison of Potential Impacts by Resource Area, Cont'd

Resource Area	Alternative 1	Alternative 2	No Action Alternative
Socioeconomics and Environmental Justice	There would be no significant impacts anticipated to socioeconomic resources and no disproportionate impacts to environmental justice areas of concern and special risks to children under this alternative from testing and training activities. Any additional local labor or supplies used for the construction of the clay pad landing zone would be temporary and negligible. Noise levels above the 62-dB CDNL noise threshold would not extend off-base. Approximately six annual OB/OD events resulting in 115 dBP in off-base areas could affect residents and environmental justice areas of concern. This level would not exceed the 130-dBP significance level but would result in a proportion of the population to consider the noise disruptive and annoying.	Under Alternative 2, the potential impacts to socioeconomic resources and environmental justice areas of concern would be similar to those as described under Alternative 1. However, the 100 percent increase in mission activities would likely result in an increase in the number of OB/OD events, which would increase the frequency of disruptions and annoyance to people.	Noise levels above the 62 dB CDNL noise threshold would not extend off-base and, therefore, no significant disproportionate adverse impacts to minority and low-income populations or special risks to children are anticipated under the No Action Alternative. Although CDNL is below threshold noise levels off-base, the noise of individual explosions may be considered disruptive and annoying to nearby residents.

CDNL = C-weighted day-night average sound level

dB = decibels

dBP = decibels peak sound pressure

GCTL = groundwater cleanup target level

lbs = pounds

NEW = net explosive weight

OB/OD = open burn/open detonation

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 SOILS

3.1.1 Definition of the Resource

The term “soils” refers to unconsolidated materials formed from the underlying bedrock or other parent material. Depending on their properties and the topography in which they occur, soils have varying susceptibility to erosion. Soil disturbance associated with ground disturbance may potentially result in erosion and the transport of eroded soils into nearby drainages.

Portions of the affected environment that have been built up are characterized by impervious surfaces (i.e., areas that water cannot seep into, such as paved areas). During rainfall events, water moves across impervious surfaces into stormwater drains and retention basins and is ultimately transported into local water bodies. Sediments affect water clarity, decrease oxygen levels in water, and transport pollutants. As erosion occurs, adverse impacts to on-site and off-site environments increase. Areas most prone to erosion are typically identified based on slope, soil type, and vegetative cover.

3.1.1.1 Analysis Methodology

The potential for soil erosion and the nature of the proposed actions in relation to soil characteristics are considered when evaluating impacts to soils. Soils in the various activity areas at TA C-62 are evaluated to identify soil types, define soil properties, and describe potential risk for soil erosion (see Figure 3-1). Soil types and properties are critical when determining the level of soil erosion that can occur. Properties of soils at Eglin AFB are defined in terms of permeability, erodibility, composition, and the topography (slope) at proposed project locations. Soil drainage, texture, and strength combine to determine erosion and, thus, determine the suitability of the ground to support military activities. Table 3-1 shows the types and characteristics of the soil present at TA C-62. The potential for impacts to soils from the Proposed Action and alternatives can be minimized with proper clearance techniques with approved erosion control measures.

3.1.1.2 Significance Determination

Impacts to soils are considered significant if the action proposed leads to a degradation of the soils themselves or cause adverse impacts to the surrounding environment due to unchecked erosion. The proposed activities are evaluated against current soil conditions, baseline activities and management actions currently in place that address soil resources.

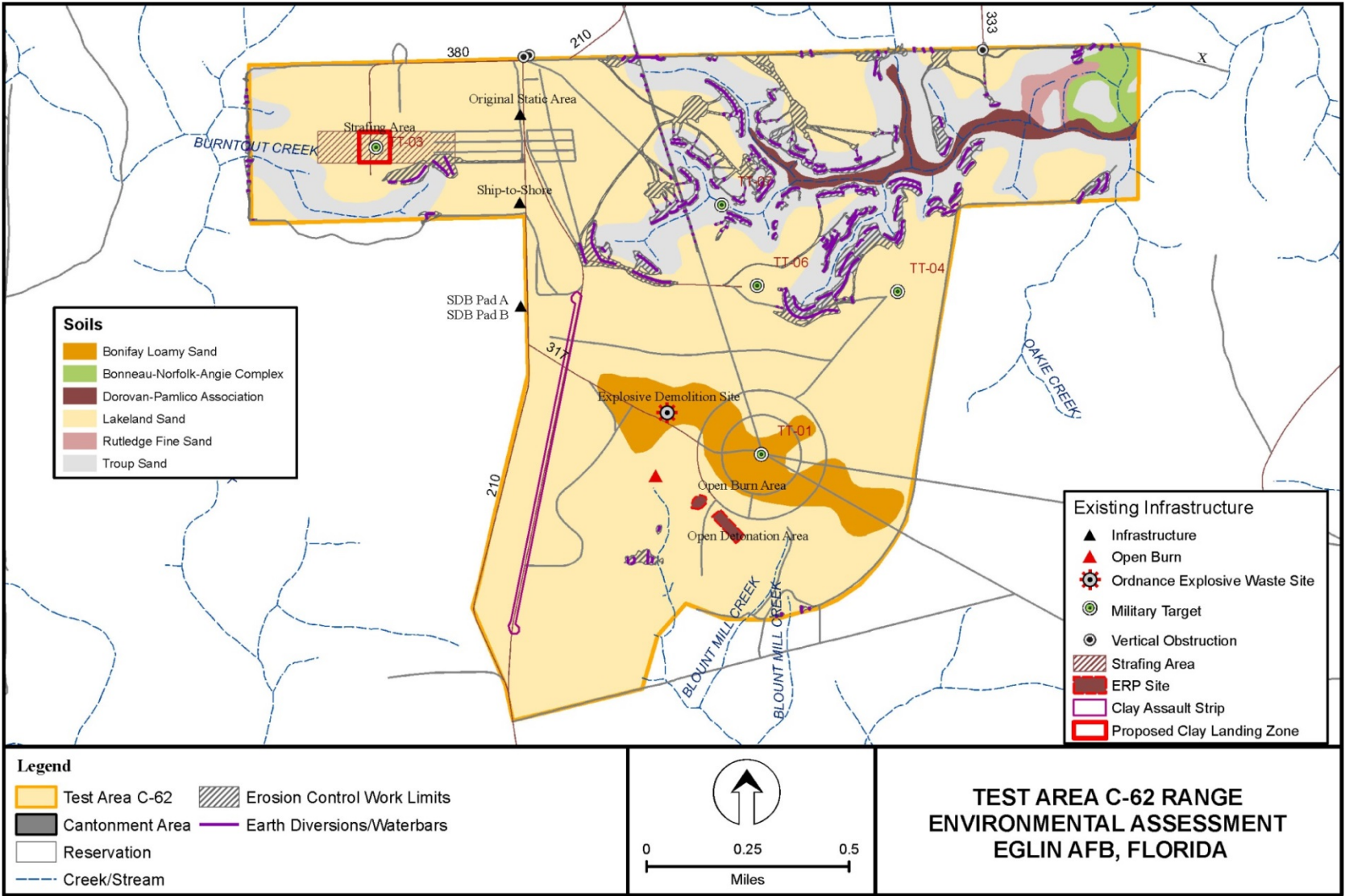


Figure 3-1. Soil Types Present at Test Area C-62

3.1.2 Affected Environment

The primary soil type within C-62 is Lakeland sand, 0 to 5 percent slopes (Table 3-1 and Figure 3-1) (Overing and Watts, 1989). This soil type composes 844.41 acres (68.24 percent) of the total surface area of TA C-62. Lakeland sand is a very deep, excessively drained, rapidly permeable soil formed in sandy marine, fluvial, and/or eolian sediments, and generally level. Lakeland sand soil series have a moderate susceptibility to erosion. This is due to the high sand content. However, in areas where the soils are mucky, it is less likely to erode due to a heavy concentration of organic matter and clay. Variation of sediment size in conjunction with the addition of clay and organic matter helps create soil stability. A small percentage of Lakeland sand within TA C-62 (34.98 acres or 2.83 percent of the total surface area of TA C-62) is a higher slope, 5 to 12 percent slopes, that is more susceptible to erosion (Overing and Watts, 1989).

Table 3-1. Soil Types Present at Test Area C-62

Soil Name	Soil Type	Drainage/Flooding	Acres
Lakeland sand, 0-5% slopes	Sand	Excessively drained	844.41
Troup sand, 8-12% slopes	Sand	Somewhat excessively drained	148.83
Troup sand, 12-25% slopes	Sand	Somewhat excessively drained	87.62
Bonifay loamy sand, 0-5% slopes	Loamy sand	Well drained	67.39
Lakeland sand, 5-12% slopes	Sand	Excessively drained	34.98
Dorovan-Pamlico association, 0-1% slopes	Muck	Very poorly drained, frequent flooding	24.77
Bonneau-Norfolk-Angie complex, 5-12% slopes	Loamy Sand	Well/Somewhat excessively drained	13.67
Rutledge fine sand, 0-2% slopes	Sand	Very poorly, frequent flooding	8.33
Troup sand, 0-5% slopes	Sand	Somewhat excessively drained	7.46

The second most common soil type at TA C-62 is Troup sand, 8 to 12 percent slopes, which underlays 148.83 acres (12 percent) of the total surface area of TA C-62. Troup sand consists of deep, somewhat excessively drained, moderately permeable soils with thick, sandy surface and subsurface layers and loamy subsoils that formed in unconsolidated sandy and loamy marine sediments.

Other soils types (in descending order of surface area coverage) include Bonifay loamy sands, 0 to 5 percent slopes; Dorovan-Pamlico association, 0 to 1 percent slopes; Bonneau-Norfolk-Angie complex soils, 5 to 10 percent slopes; and Rutledge fine sands, 0 to 2 percent slopes. Rutledge sand and Bonneau-Norfolk-Angie complex soils occur primarily at the northeastern tip of TA C-62.

The potential issues of concern for soils are erosion and chemical materials. Chemical materials would include munitions and pyrotechnic combustion by-products, residual fuel leaks or spills, and untreated bilge release. The 2002 TA C-62 PEA did not identify any potential impacts to soils from chemical materials based on a 100 percent increase in expendables. The 2007 TA C-62 Environmental Baseline Document (EBD) suggested that the increased OB/OD activities that may impact soils warrant new analysis to determine the potential impacts (U.S. Air Force, 2007). Since most of the concern for hazardous materials in soils is the potential for water to transport chemicals to groundwater and surface water, this is primarily discussed in Section 3.2, Water Resources.

The 2002 TA C-62 PEA and the 2007 TA-C-62 EBD both discuss the potential for impacts to erosion of exposed soils on TA C-62. However, as the 2007 EBD noted, explosive munitions can create erosion in high slope areas devoid of vegetation with the primary area of concern being the old EOD OB/OD area located to the southwest of the current OB/OD area (Figure 3-2), which is near a seepage slope associated with Blount Mill Creek. The 2007 document presents the past issues with erosion into Blount Mill Creek. Excessive UXO hazards in the area currently make implementing all erosion control measures impossible. In the past, maintenance practices caused severe erosion of the headwater stream slope of Burntout Creek and, in the process, altered wetland habitats in the surrounding area. BMPs recommended in the 2002 TA C-62 PEA have since been implemented for all areas of concern except for the old OB/OD area adjacent to Blount Mill Creek. These actions include the addition of erosion control measures implemented over 60 acres, including terraces and other built up vegetated earthen features designed to disperse concentrated water flow or divert water from directly flowing into nearby creeks (Figure 3-2).



Figure 3-2. Downslope OB/OD Erosion Area View West Toward Blount Mill Creek

3.1.3 Environmental Consequences

3.1.3.1 Alternative 1: Proposed Action With Implementation of Best Management Practices

Adverse impacts to physical resources are not anticipated from implementation of additional strafing training at TA C-62. Part of the Proposed Action is for CV-22 and F-35 airframes to use TA C-62 to complete strafing training. The CV-22 will be using 0.50-caliber ammunition with 100,000 rounds expended annually. The F-35 will use live 25-millimeter ammunition up to 114,977 rounds annually. The *Environmental Impact Statement for F-35 Beddown at Eglin Air Force Base* determined that impacts to soil resources on TA C-62 from strafing would be sedimentation due to erosion and leaching of metals into water systems from the corrosion of ammunition debris (U.S. Air Force, 2008). Erosion may also potentially result from the maintenance of the target area, which must be kept free of vegetation. Aircraft gunnery training target (TT-3) maintenance practices have caused severe erosion already of the headwater stream slope of Burntout Creek and altered surrounding wetlands. Over its years of use, the target

surface has been kept free of vegetation to allow for pilot target approach recognition and recovery of projectile debris.

The increase in strafing training on TA C-62 would likely increase debris retrieval frequencies but the equipment used creates a relatively minor surface soil disturbance. Current debris retrieval procedures utilizing machinery similar to golf ball collection equipment used on driving ranges (U.S. Air Force, 2008). This process serves to remove metals that could otherwise corrode and leach into soil and water.

No adverse impact to soil resources is anticipated from static pad testing. Typically these tests involve a SDB or other munition suspended above a target then expended to test damage results on different targets. The primary risk to soil resources would be munition and target fragments in the soil matrix. The static testing pads are cleared of debris as needed to conduct new tests.

No adverse impacts to soil resources are anticipated from the construction of a 400- by 400-foot square clay pad along the existing westernmost dirt road to be designated as a tilt-rotor landing zone. Construction of this pad will require National Pollutant Discharge Elimination System (NPDES) permitting and erosion control requirements (see Section 3.2, Water Resources for additional details). Implementation of a Stormwater Pollution Prevention Plan (SWPPP) and permit requirements would necessarily minimize the potential for incremental impacts associated with soil erosion.

Inert bomb drops on TA C-62 and use of the TT-3 Strafe Pit would not adversely impact soil resources. These inert bombs are periodically burned or subjected to a small demolition charge to detonate unexploded spotting charges and render them safe for disposal or recycling (U.S. Air Force, 2005). The OB/OD activity such as this that takes place on TA C-62 has the potential to introduce a range of chemicals into the soil that could then be transported to underground aquifers. This potential for chemical release related impacts in this scenario is detailed in Section 3.2, Water Resources.

No adverse impacts to soil resources are anticipated due to maintenance activities. As pointed out in both the 2007 TA C-62 EBD and 2002 TA C-62 PEA, ongoing TA C-62 military mission maintenance activities such as vegetation maintenance, target maintenance, and road maintenance have the potential to increase the likelihood of erosion. Target and vegetation maintenance, in particular, remove plants that aid in erosion control. Existing management practices (see Section 5.0, Management Practices) would be followed to prevent erosion in nonvegetated areas.

The 2002 TA C-62 PEA considered the physical and chemical impacts of projectiles and munitions on soils and the potential for these expenditures to lead to soil erosion and chemical contamination. It also examined items such as the corrosion potential for UXOs in the soils.

Per the 2007 TA C-62 EBD, activity on C-62 either remained constant or increased from the levels analyzed in the 2002 TA C-62 PEA with no new locations affected. EOD OB/OD activities specifically exceeded the approved quantities analyzed in the 2002 TA C-62 PEA in all years except FY 1998, FY 2001, and FY 2002. The 2007 EBD recommended an update to

the 2002 TA C-62 PEA to evaluate impacts of chemical materials to soils and water resources on and near TA C-62 from increased EOD OB/OD operations.

Based on these two documents and the 2010 TA C-62 OB/OD permit, there is an array of management practices currently in place to prevent erosion of sediments into nearby waterways. The current management actions (listed in Section 5.0, Management Practices) are sufficient to prevent soil loss and erosion from the ongoing and Proposed Action at TA C-62. Previously, one of the primary areas of concern was the aircraft gunnery training target (TT-3), due to maintenance practices that caused severe erosion of the headwater stream slope of Burntout Creek and in the process had altered wetland habitats in the surrounding area. Erosion control measures enacted subsequent to the concerns noted in the 2002 TA C-62 PEA have reduced erosion issues, and the site is now stable with adequate measures in place (Pizzolato, 2014).

3.1.3.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge

Given that the current risk to soils at TA C-62 is primarily from erosion potentially caused by ground clearance, vegetation maintenance, and construction of the 400- by 400-foot square clay pad, no adverse impacts would be expected to soils under this alternative. Under Alternative 2, impacts and required management actions would be anticipated to be similar to those identified under Alternative 1. The greatest potential source of soil erosion would be the old OB/OD area to the southwest of the active OB/OD area. This location is a currently vegetated and is the potential source for erosion into Blount Mill Creek. It is recommended that UXO and debris be removed thereby allowing implementation of erosion control measures. Increased munitions debris requiring removal and hazardous materials potentially infiltrating soils would occur and is detailed in Section 3.2, Water Resources.

3.1.3.3 No Action Alternative

No adverse impacts to soil resources would occur under the No Action Alternative. Munition expenditures would be significantly lower than under either Alternative 1 or Alternative 2. None of the proposed future actions would occur, and normal maintenance activities on the range would continue. Impacts to soil resources and required management actions would be the same as discussed in Alternative 1.

3.2 WATER RESOURCES

3.2.1 Definition of the Resource

TA C-62 water resources include wetlands, floodplains, surface waters, and groundwater. Pertinent regulations include the Clean Water Act and Coastal Zone Management Act (CZMA), summaries of which are provided in Appendix C. Per the CZMA and Florida Coastal Zone Management Plan, a CZMA determination is required for this action, as all of the state of Florida is considered to be within the coastal zone. TA C-62 mission activities do not occur in wetlands or floodplains; potential impacts to these resources have been previously addressed and are not further analyzed in this document. Additional information on wetlands and floodplains at TA C-62 is provided in the 2007 TA C-62 EBD and 2002 TA C-62 PEA, and that information is incorporated by reference into this REA.

3.2.1.1 Analysis Methodology

Analysis methods considered the potential for erosion and contamination from TA C-62 missions to affect groundwater and surface waters on TA C-62. Monitoring well data from TA C-62 were reviewed and compared with state cleanup target levels for groundwater.

3.2.1.2 Significance Determination

Impacts to ground and surface waters would be considered significant if the scale of the impacts is greater than a localized effect, is not manageable, and would result in human health impacts.

3.2.2 Affected Environment

3.2.2.1 Surface Water Resources

Surface water streams found within TA C-62 include Oakie Creek, Blount Mill Creek, and Burntout Creek, all of which are in the Choctawhatchee Bay Basin and flow south into Choctawhatchee Bay (U.S. Air Force, 2002). Blount Mill Creek is closest to the OB/OD area (Figure 3-3).

3.2.2.2 Groundwater Resources

Groundwater resources consist of two aquifers, the sand and gravel aquifer and the Floridan aquifer. Eglin AFB rarely uses the shallower sand and gravel aquifer and instead draws most of its water from the Floridan aquifer, which extends beneath most of Florida. Given its proximity to the surface, the sand and gravel aquifer is susceptible to contaminants percolating downward from the land surface through the sandy soil. Once in the sand and gravel aquifer, contaminants may move laterally and enter surface waters. The Floridan aquifer is not anticipated to be affected by TA C-62 activities, as it is separated from the sand and gravel aquifer by a clay layer that restricts the downward migration of pollutants. Additional information on TA C-62 groundwater resources is provided in the 2007 TA C-62 EBD and the 2002 TA C-62 PEA. The information in these two documents is incorporated by reference into this REA.

As part of their FDEP Operating Action Permit for OB/OD activities at TA C-62, Eglin AFB conducts annual monitoring in May from several well locations near the OB/OD sites (Figure 3-4). Table 3-2 lists analytes sampled from groundwater collected from the monitoring wells, and the groundwater cleanup target levels (GCTLs). Turbidity, specific conductance, and pH are also monitored. This permit is issued by the FDEP under the Resource Conservation and Recovery Act [42 United States Code 6901, et seq.], the Hazardous and Solid Waste Amendments of 1984, and under Florida Statute and Florida Administrative Code provisions.

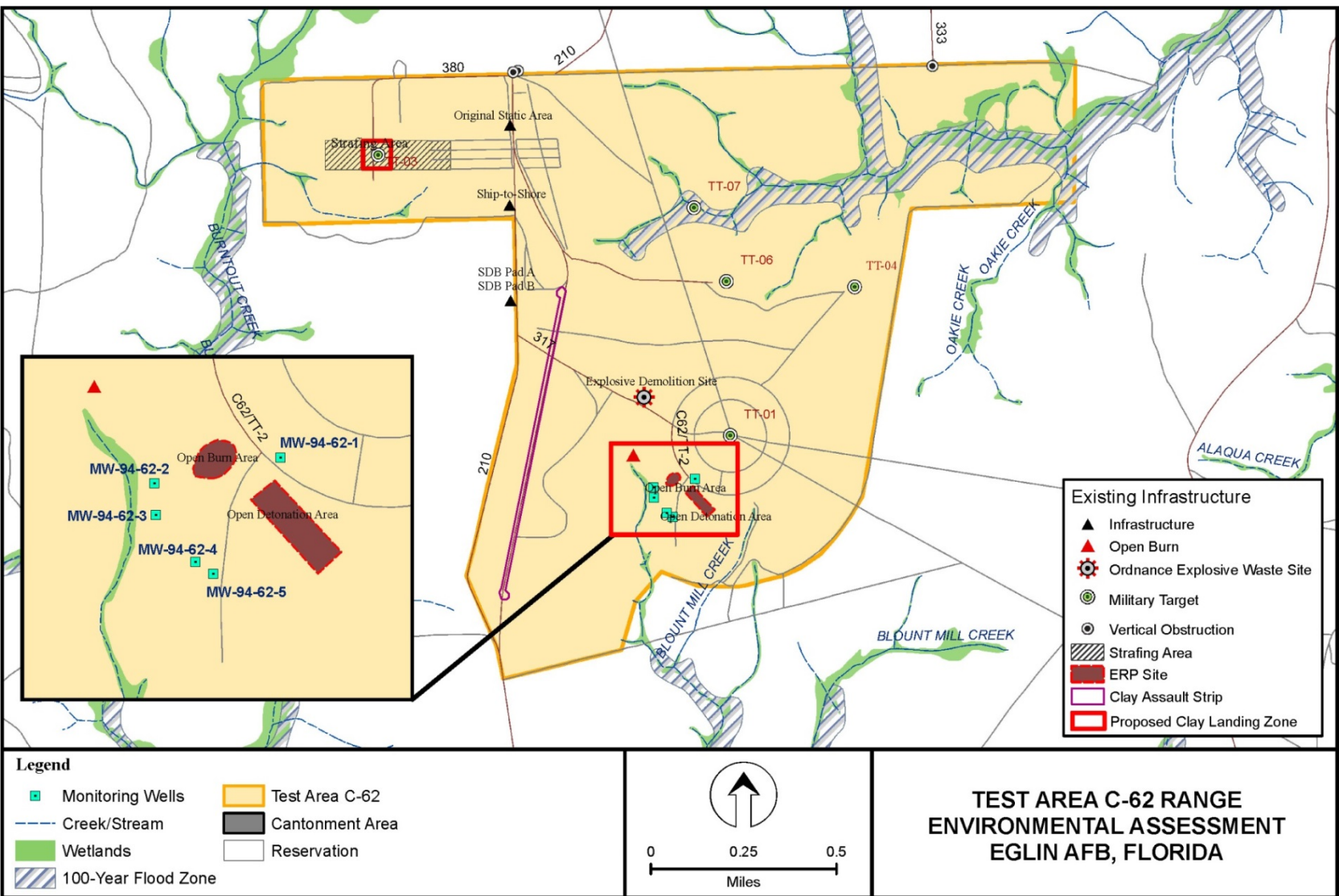


Figure 3-3. Test Area C-62 Water Resources

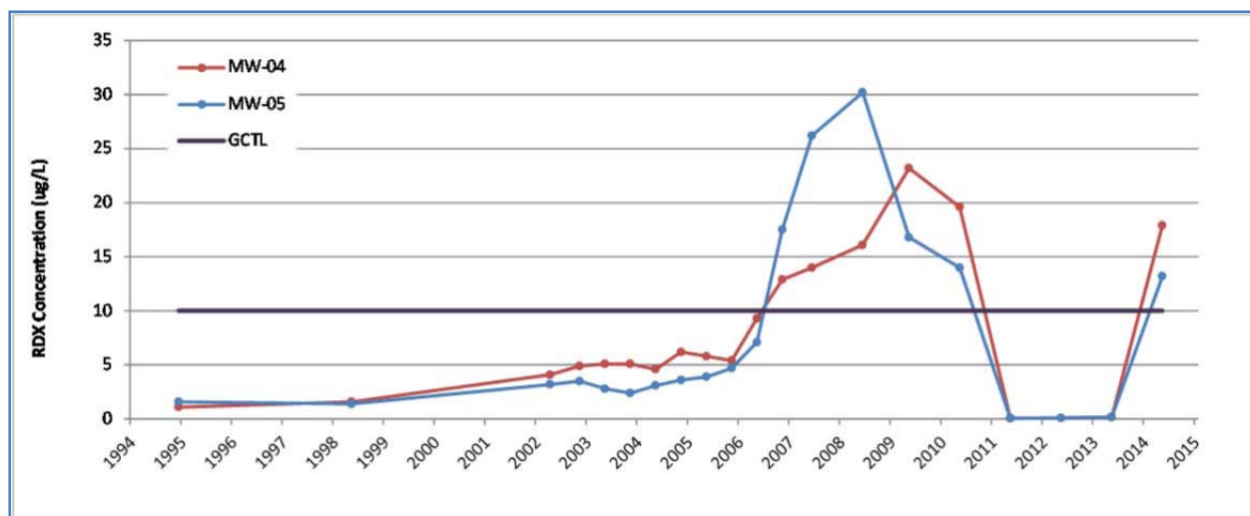
Table 3-2. Analytes Sampled and Groundwater Cleanup Target Levels (GCTLs)

Analyte	GCTL (µg/L)	Analyte	GCTL (µg/L)
2-amino-4,6-dinitrotoluene	4.0	Nitrite	1,000
4-amino-2,6-dinitrotoluene	4.0	2-nitrotoluene	70
Benzene	1	3-nitrotoluene	140
1,3-dinitrobenzene	0.7	4-nitrotoluene	70
2,4-dinitrotoluene	0.6	RDX	10
2,6-dinitrotoluene	0.2	Toluene	40
Ethylbenzene	30	1,3,5-trinitrobenzene	210
HMX	350	2,4,6-trinitrobenzene	10
Nitrate	10,000	Xylenes	20

Source: FDEP, 2010

µg/L = micrograms per liter

Monitoring results from two wells, MW-04 and MW-05, which are closest to the open detonation area (Figure 3-4), sometimes yield detectable traces of RDX and HMX, two explosive analytes. Levels decrease with distance away from the open detonation area and wells closest to Blount Mill Creek have not exceeded RDX GCTLs (U.S. Air Force, 2014c). As shown in Figure 3-4, RDX levels have intermittently exceeded GCTLs since sampling began in 1995. Other analytes such as HMX and nitrite have been detected but below GCTLs.



Source: U.S. Air Force, 2014d

Figure 3-4. Monitoring Well Analysis of RDX for Two Wells at Test Area C-62 (1995-2014)

3.2.3 Environmental Consequences

3.2.3.1 Alternative 1: Proposed Action With Implementation of Best Management Practices

Open detonation activities, and to a lesser extent static testing, have the potential to produce explosive by-products that could contaminate soil and leach into the sand and gravel aquifer. Data confirm that RDX residues from open detonations can migrate downward into the sand and gravel aquifer and occasionally exceed GCTLs in monitoring wells at TA C-62. It is important to note that the exceedances are below levels that would affect aquatic life and that water quality

at Blount Mill Creek is not likely to be adversely affected. Photolysis, or the breakdown of a component by sunlight, occurs rapidly with RDX. The Agency for Toxic Substances and Disease Registry states, “Photolysis of an aqueous solution of RDX in natural sunlight is fairly rapid with an experimental half-life of 9–13 hours. Consequently, RDX is not expected to persist for a long period of time in clear, sunlit surface waters” (Agency for Toxic Substances and Disease Registry, 2012).

Strafing activities and the construction of a clay pad would not directly or indirectly affect surface or groundwater, but there are runoff and erosion issues associated with these actions. Use of TT-3 (Strafe Pit) IRSSS equipment for ground-based bullet testing would not affect water resources. However, the maintenance of the strafing target, which is to keep the area free of vegetation to facilitate munition recovery, has created a barren area susceptible to erosion. Previously eroded soil traveled to a tributary of Burntout Creek (U.S. Air Force, 2005). Today there are no issues with stormwater runoff, as erosion control measures have stabilized the site (U.S. Air Force, 2014c).

The construction of a 400- by 400-foot square clay pad would directly impact surface soil but, given the flat terrain, runoff is not expected to pose serious concerns to surface waters. As the area of the clay pad measures approximately 3.68 acres, the Air Force would be required to obtain coverage under the Generic Permit for Stormwater Discharge from Large and Small Construction Activities, for areas where 1 or more acres of land are disturbed (Florida Administrative Code, Rule 62-621). Additionally, the Air Force would comply with the stormwater requirements of Chapter 62-330, Florida Administrative Code. Compliance with the permits is intended to improve or maintain water quality by minimizing pollutants in stormwater runoff that is discharged into the drainage system. The permit guidelines include issuance of a notice of intent, development and implementation of a site-specific SWPPP that includes erosion and sediment control measures, and implementation and maintenance of BMPs to minimize off-site erosion and sediment yield during and after construction. The Air Force would incorporate a comprehensive Stormwater, Erosion, and Sedimentation Control Plan and an SWPPP into the final design plan. These permit-related BMPs would be considered nondiscretionary mitigations. Specific BMPs/mitigations would be alternative dependent and would be developed during the permit process; as a result, it is unknown at this time what specific requirements would be implemented. However, typical BMPs/mitigations associated with the SWPPP include annual monitoring and assessment of potential stormwater pollution sources, well-maintained silt fences, detention basins, daily site inspections, and other mitigations that may be used to limit or eliminate soil movement, stabilize runoff, and control sedimentation. Following construction, disturbed areas not covered with impervious surfaces (i.e., concrete) would be reestablished with appropriate vegetation or other ground cover and managed to minimize erosion.

As the clay pad is for emergency landings, there is the possibility of fuel spills associated with its use. Spills could infiltrate downward through the clay pad and into the sand and gravel aquifer. Spill cleanup procedures would be observed as required to minimize the potential for contamination.

Erosion BMPs recommended in the 2002 TA C-62 PEA have since been implemented and found to effectively prevent eroded soils from entering streams on TA C-62. These actions include the addition of erosion control measures implemented over 60 acres, including terraces and other

built up vegetated earthen features designed to disperse concentrated water flow or divert water from directly flowing into nearby creeks. The earthen features create a vegetated buffer of at least 100 feet from streams.

3.2.3.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge

A 100 percent mission surge in open detonation activities would likely result in a greater frequency of GCTL exceedances of one or more contaminants. This may have some repercussions on Eglin's Operating Action Permit; however, permit changes would depend on actual monitoring data. Currently, the FDEP Operating Action Permit allows multiple detonations of 3,000 pounds NEW or less, as long as detonations are staggered in time by at least 10 minutes. Under Alternative 1, there would be an average of six 3,000-pound detonations per year over the baseline period, based on an average of the total number of items detonated and their respective NEWs. Under Alternative 2, 12 such detonations would occur, and it is reasonable to assume a corresponding increase in explosives residues in soil and water.

The increase in strafing activities would require more time to retrieve spent rounds. Maintenance activities would not necessarily increase, as the strafing target area is already completely barren. Erosion control measures protecting Burntout Creek are effective, and adverse impacts to surface water resources are not anticipated.

3.2.3.3 No Action Alternative

The No Action Alternative was analyzed in the 2002 PEA, which is incorporated here by reference. Activity levels for OB/OD operations were lower than those proposed for Alternative 1 or Alternative 2. Figure 3-4 dates back to 1995 and shows that RDX detected in monitoring wells was lower during the No Action Alternative (baseline) time period. Overall, there was less mission activity. Thus, the No Action Alternative would have comparatively less impact on water resources than either Alternative 1 or 2.

3.3 BIOLOGICAL RESOURCES

3.3.1 Definition of the Resource

Biological resources refer to plant and animal species that occur on and near TA C-62, along with the habitats in which they reside. The region of influence for some biological resources extends beyond the TA boundary. Biological resources include sensitive habitats and species. Sensitive habitats are areas or habitat types that are of particular importance or rarity or that have been designated for special protection. Sensitive species are defined as those species protected and/or listed under Endangered Species Act of 1973 (ESA), the Migratory Bird Treaty Act (MBTA), or by the state of Florida.

3.3.1.1 Analysis Methodology

Analysis of biological resources considered potential impacts to habitats, vegetation communities, and wildlife, including sensitive species. The plant and animal resources potentially affected are identified based on habitat type and on previous documented occurrence. The analyses included an assessment of potential impacts resulting from current and future testing and training activities, civil engineering operations, and maintenance activities.

3.3.1.2 Significance Determination

Projected conditions were compared with baseline conditions, and a determination was made as to whether impacts would be adverse. Direct and indirect impacts are included in the analyses. An adverse impact would degrade habitat quality or diminish species health. A significant adverse impact would be one that is likely to jeopardize the continued existence of a species or to result in an overall decrease in population diversity, abundance, or fitness.

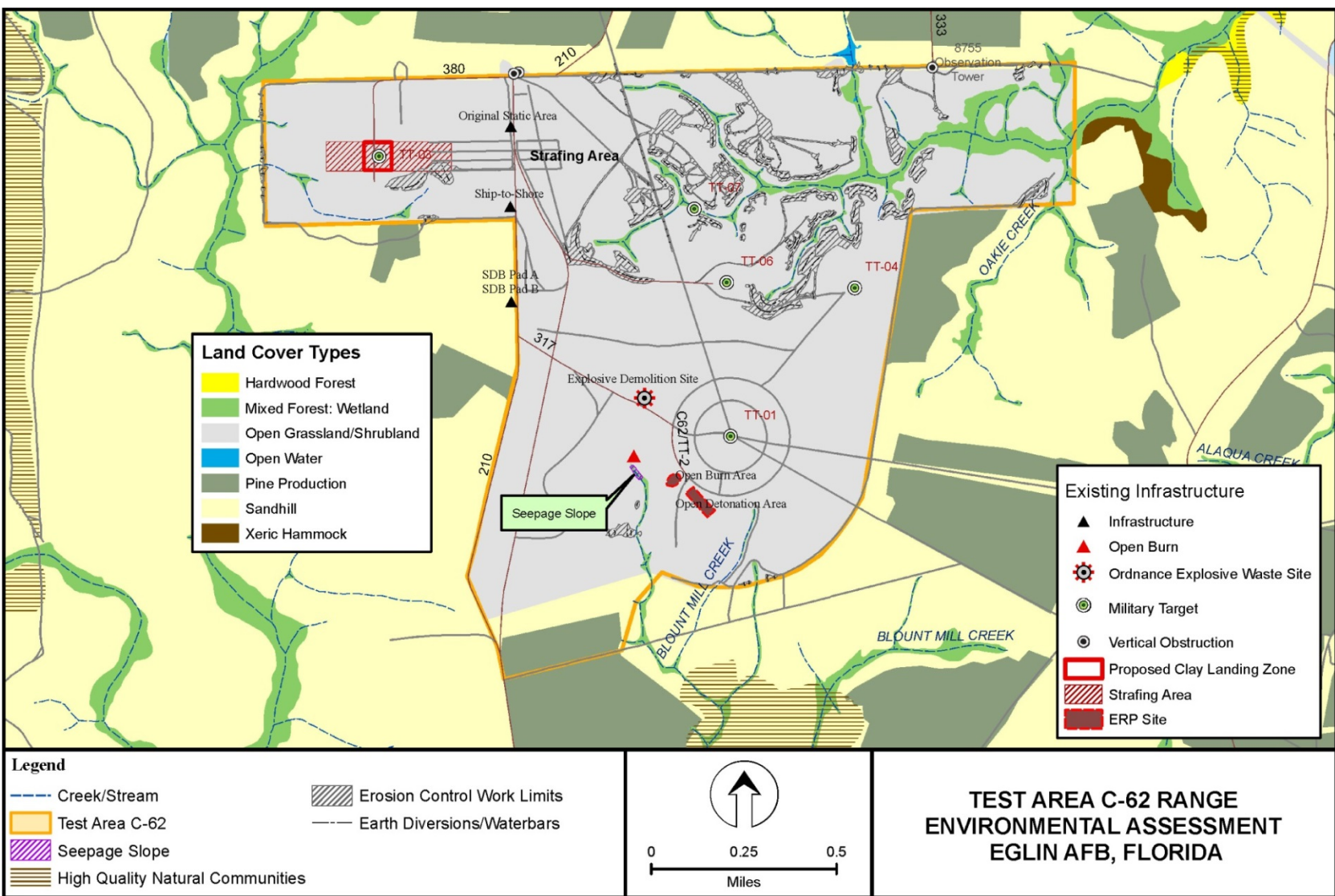
3.3.2 Affected Environment

3.3.2.1 Habitats and Vegetation

3.3.2.1.1 Ecological Associations

Habitats on and near TA C-62 may be classified according to ecological association type, the definition of which is based on the flora, fauna, and geophysical characteristics. Ecological associations are general descriptions designed to provide an overall understanding of the character of the resources in an area. Two ecological associations, including open grassland/shrubland and sandhills, are found on TA C-62, as described in Eglin AFB's *Integrated Natural Resources Management Plan* (U.S. Air Force, 2013).

The great majority of the land area on TA C-62 is classified as open grassland/shrubland (Figure 3-5). This association occurs on many of Eglin's test areas within disturbed portions of other habitat types such as sandhills. Characteristic vegetation includes various grasses and shrubs such as switchgrass (*Panicum virgatum*), broomsedge (*Andropogon virginicus*), big bluestem (*Andropogon gerardii* var. *gerardii*), little bluestem (*Schizachyrium scoparium*), yaupon (*Ilex vomitoria*), holly (*Ilex opaca*), gallberry (*Ilex glabra*), sparkleberry (*Vaccinium arboreum*), and saw palmetto (*Serenoa punicea*), among others (U.S. Air Force, 2002). Representative hardwood trees include persimmon (*Diospyros virginiana*), live oak (*Quercus virginiana*), turkey oak (*Quercus laevis*), sand post oak (*Quercus margaretta*), and bluejack oak (*Quercus incana*). However, vegetation height (including that of woody trees) is controlled by periodic bushhogging and roller drum chopping throughout the test area. Most target areas are periodically disturbed with earth-moving machinery, so that little vegetation is present.



The sandhills ecological association occurs in a small area of the southern portion of TA C-62. This association is characterized by an open, savanna-like structure with a moderate to tall canopy of longleaf (*Pinus palustris*) and sand pine (*P. clausa*), a sparse midstory of oaks and other hardwoods, and a diverse groundcover of mainly grasses, forbs, and shrubs such as saw palmetto. The structure and composition is maintained by frequent fires, which control hardwood, sand pine, and titi encroachment. Variation within the sandhills is characterized according to the relative dominance of grass species (wiregrass versus bluestem). Slopes generally vary from moderately steep along streams to relatively flat, and moisture conditions range from xeric (dry) to mesic (moist).

3.3.2.1.2 Sensitive Habitats

Sensitive habitats associated with TA C-62 include wetlands and high-quality natural community areas located about one-fourth mile south of and one-half mile west of the TA (Figure 3-5). High-quality areas are identified based on the uniqueness of the community, ecological condition, species diversity, and presence of rare species. Wetlands on the TA include baygall, seepage slope, and creek bed habitats associated with Oakie, Burnout, and Blount Mill Creeks. Baygall wetlands, which occur within the narrow floodplains of Oakie Creek and headwaters of Burnout and Blount Mill Creeks, are characterized by a dense overstory of evergreen shrubs and an herbaceous understory and are maintained by groundwater seepage and rainfall runoff (U.S. Air Force, 2002). A seepage slope is associated with the western headwater stream slope segment of Blount Mill Creek. Although geographic information system (GIS) data were not available for this feature, the approximate boundary is shown in Figure 3-5. A seepage slope is a gently sloping, open, grass/sedge dominated community kept continuously moist by groundwater seepage. Seepage slopes are among the most rare and diverse habitats on Eglin AFB. Rare plants such as the sweet (or red flowering) pitcher plant (*Sarracenia rubra*) and spoon-leaved (or water) sundew (*Drosera intermedia*) have been found in the area.

3.3.2.2 Wildlife

A rich diversity of game and nongame wildlife is found on Eglin AFB due to the variety of habitats that occur. The various ecological associations provide habitat for birds, reptiles, amphibians, fish, and mammals. Table 3-3 lists wildlife species typically associated with the upland habitat types found on TA C-62, based on information provided in previous Air Force documents (U.S. Air Force, 2007; U.S. Air Force, 2002). The lists are representative of species that could occur but are not considered comprehensive.

3.3.2.2.1 Sensitive Wildlife Species

Sensitive species include those species that are 1) listed as endangered, threatened, or as candidate species under the ESA; 2) listed as endangered, threatened, or as species of special concern by the state of Florida; or 3) protected under the MBTA. The MBTA provides for the conservation of migratory birds, which are defined as any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. Unless permitted, the MBTA prohibits the taking of migratory birds. The U.S. Fish and Wildlife Service (USFWS) published a rule authorizing incidental take of migratory birds during military readiness activities in 2007. If such activities may result in a significant adverse effect on a population of a migratory bird species, the action proponent must confer with the USFWS to develop mitigation

measures. A “significant adverse effect” is defined as an effect that could diminish the capacity of a population of migratory bird species to sustain itself at a biologically viable level. A population is “biologically viable” when its ability to maintain its genetic diversity, to reproduce, and to function effectively in its native ecosystem is not significantly harmed.

Table 3-3. Representative Wildlife Species Associated With Habitats on Test Area C-62

Common Name	Scientific Name
Open Grassland/Shrubland	
Pocket gopher	<i>Geomys pinetis</i>
Cotton mouse	<i>Peromyscus gossypinus</i>
Oldfield mouse	<i>Peromyscus polionotus</i>
Feral hog	<i>Sus scrofa</i>
Eastern cottontail rabbit	<i>Sylvilagus floridanus</i>
Screech owl	<i>Megascops asio</i>
Great horned owl	<i>Bubo virginianus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Eastern diamondback rattlesnake	<i>Crotalus adamanteus</i>
Southern black racer snake	<i>Coluber constrictor priapus</i>
Eastern box turtle	<i>Terrapene carolina</i>
Slender glass lizard	<i>Ophisaurus attenuates</i>
Sandhills	
Fox squirrel	<i>Sciurus niger</i>
Gray squirrel	<i>Sciurus carolinensis</i>
Nine-banded armadillo	<i>Dasypus novemcinctus</i>
Feral hog	<i>Sus scrofa</i>
White-tailed deer	<i>Odocoileus virginianus</i>
Raccoon	<i>Procyon lotor</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
Bobcat	<i>Lynx rufus</i>
Florida black bear	<i>Ursus americanus floridanus</i>
Screech owl	<i>Megascops asio</i>
Great horned owl	<i>Bubo virginianus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Wild turkey	<i>Meleagris gallopavo</i>
Wood duck	<i>Aix sponsa</i>
Bobwhite quail	<i>Colinus virginianus</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Gray rat snake	<i>Pantherophis spiloides</i>
Coral snake	<i>Micrurus fulvius</i>
Eastern fence lizard	<i>Sceloporus undulatus</i>
Eastern box turtle	<i>Terrapene carolina</i>
Barking treefrog	<i>Hyla gratiosa</i>
Central newt	<i>Notophthalmus viridescens</i>

In 1991, the Air Force signed a Memorandum of Agreement to participate in the USFWS Federal Neotropical Migratory Bird Conservation Program, which promotes and protects neotropical birds and their habitats. Many neotropical migrant birds use high quality sandhills habitat on the installation. Typical species include ruby-throated hummingbird (*Archilochus colubris*), summer tanager (*Piranga rubra*), and common yellowthroat (*Geothlypis trichas*), among others.

Riparian areas and bottomland hardwood swamps may be the most important habitats for neotropical migrants (U.S. Air Force, 2002).

Under the federal ESA, an endangered species is defined as any species in danger of extinction throughout all or a significant portion of its range, while a threatened species is defined as any species likely to become an endangered species in the foreseeable future. Candidate species are those species for which sufficient information is available to propose them as endangered or threatened under the ESA, but for which development of a proposed regulation is precluded by other, higher-priority listing activities. The state definitions of “endangered” and “threatened” are essentially the same as the federal definition. A species of special concern is defined as a population that warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation that, in the foreseeable future, may result in its becoming a threatened species. Table 3-4 provides federally listed and state-listed species that are known or that may occur on TA C-62. Species are described below.

Table 3-4. Federally Listed and State-Listed Animal and Plant Species That May Occur on Test Area C-62

Common Name	Scientific Name	Federal Status	State Status
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	E
Southeastern American kestrel	<i>Falco sparverius paulus</i>	None	T
Eastern indigo snake	<i>Drymarchon couperi</i>	T	T
Gopher tortoise	<i>Gopherus polyphemus</i>	C	T
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	None	SSC
Sweet (or red flowering) pitcher plant	<i>Sarracenia rubra</i>	None	T
Spoon-leaved (or water) sundew	<i>Drosera intermedia</i>	None	T
Hairy (or pineland) wild indigo	<i>Baptisia calycosa</i> var. <i>villosa</i>	None	T

C = candidate

E = endangered

SSC = species of special concern

T = threatened

Red-Cockaded Woodpecker

The red-cockaded woodpecker (RCW) excavates cavities in live longleaf pine trees. Due to the preservation of continuous longleaf pine forests on Eglin AFB, the Eglin Range has one of the largest remaining populations of RCWs in the country. The USFWS identified Eglin AFB as 1 of 13 primary core populations for the RCW (USFWS, 2013). In 2009, the RCW population on Eglin AFB reached the designated recovery goal of 350 potential breeding groups (PBGs), and reconsultation with USFWS was completed for future management of the species. In addition to the goal of 350 PBGs, Eglin Natural Resources personnel have developed a long-term goal of 450 PBGs in order to allow for more mission flexibility. The current RCW population size on Eglin AFB is 459 active clusters and 416 PBGs.

The Eglin RCW population is divided into an eastern subpopulation, which is composed of all clusters east of Highway 85, and a western subpopulation, which is composed of all clusters west of Highway 85. The two populations are demographically separate, and each subpopulation is in a different state of health. The western subpopulation is large and increasing (342 PBGs

in 2013); the eastern subpopulation is smaller (90 PBGs in 2013) but is stable and is apparently starting to increase.

RCW cavity trees do not occur within the TA C-62 boundary (Figure 3-6). However, cavity trees (active and inactive) and foraging areas occur near the TA to the south and east. High-quality RCW forage habitat consists of open pine stands with an average tree diameter at breast height of 10 inches and larger. While 100 acres of mature pine is sufficient for some groups, birds commonly forage over several hundred acres where habitat conditions are not ideal. Eglin Natural Resources Office has determined that RCW groups on the base utilize large areas for foraging habitat; thus, Eglin generally manages for 300 acres per cluster.

Southeastern American Kestrel

The southeastern American kestrel occurs in the sandhills and open grassland/shrubland ecological associations of Eglin AFB. The kestrel is a small raptor that preys upon small rodents, reptiles, and insects that are common in open grasslands. Kestrels mostly inhabit open forests and clearing edges with snags.

Eastern Indigo Snake

The eastern indigo snake is the largest nonvenomous snake in North America. The primary reason for its listing is population decline resulting from habitat loss and fragmentation. Movement along travel corridors between seasonal habitats exposes the snake to danger from increased contact with humans. Indigo snakes frequently utilize gopher tortoise burrows or the burrows of others species for overwintering. The snake frequents flatwoods, hammocks, stream bottoms, riparian thickets, and high ground with well-drained, sandy soils. The indigo snake could occur anywhere on the Eglin Range because it uses such a wide variety of habitats, although the species is considered uncommon and no sightings have been documented specifically on TA C-62. It is difficult to determine a precise population number or even an estimate of the number of indigo snakes due to the secretive nature of the species.

Gopher Tortoise

The gopher tortoise is currently a candidate species under the ESA. A 2011 Federal Register notice documented the 12-month finding on a petition to list the gopher tortoise as threatened in the eastern portion of its range (east of the Mobile and Tombigbee Rivers in Alabama). In December 2008, all DoD entities, as well as state agencies and other nongovernmental organizations, signed a Candidate Conservation Agreement with the USFWS that defines what each agency will voluntarily do to conserve the gopher tortoise and its habitat.

The gopher tortoise is found primarily within the sandhills and open grassland/shrubland ecological associations on the Eglin Range, where it excavates a tunnel-like burrow for shelter from climatic extremes and refuge from predators. The primary features of good tortoise habitat are well-drained sandy soils, open canopy with adequate sunlight, and abundant food plants (forbs and grasses). Prescribed fire is often employed to maintain these conditions. Nesting occurs during May and June, and hatching occurs from August through September.

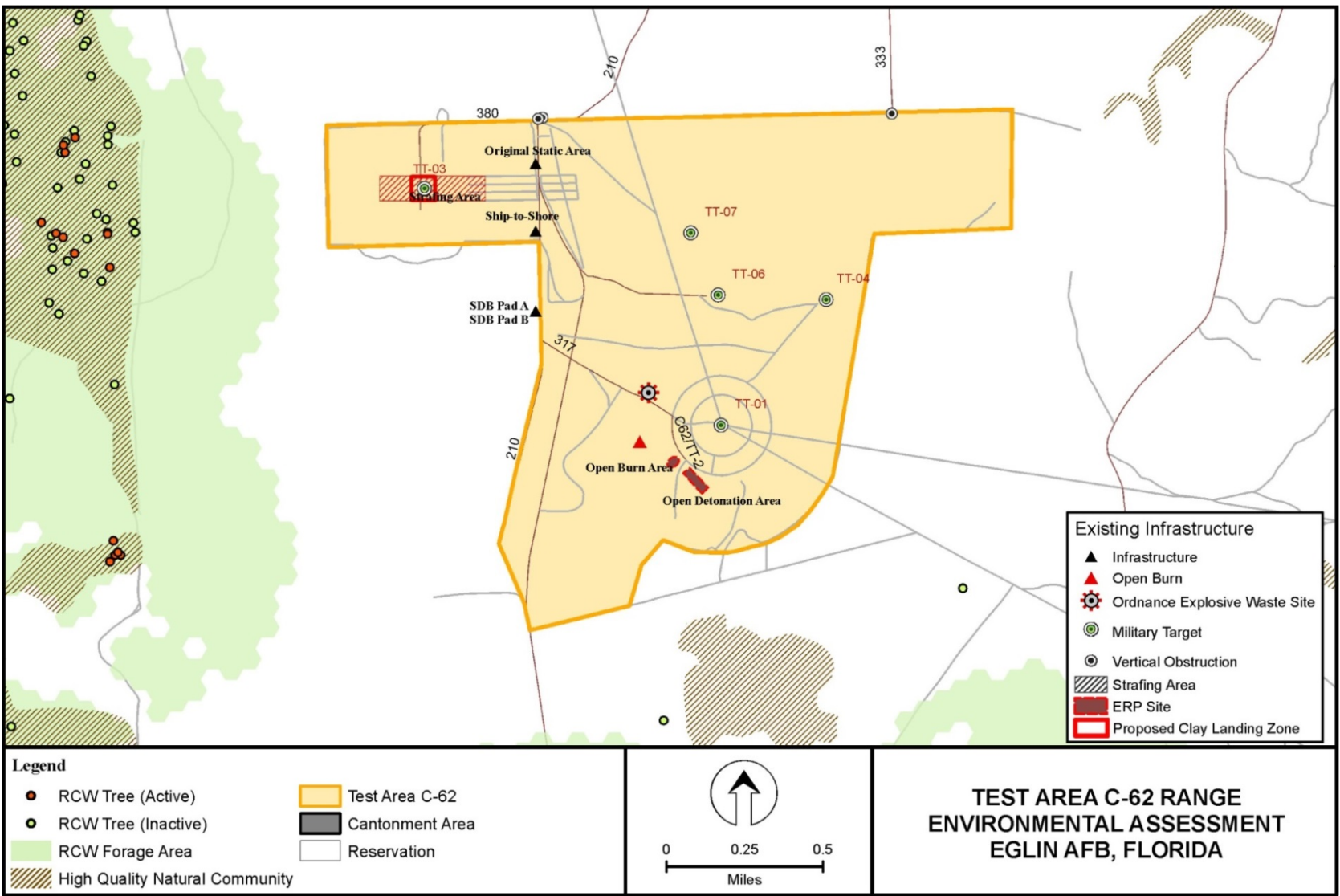


Figure 3-6. Red-Cockaded Woodpecker Occurrence Near Test Area C-62

Gopher tortoise burrows serve as important habitat for many other species, including the federally listed eastern indigo snake. Gopher tortoise burrows have been documented previously on TA C-62, although the distribution is dynamic and specific burrow locations likely change over time. Site-specific surveys would be conducted by Eglin Natural Resources Office for any activities that result in new ground disturbance (target area clearing, etc.). If tortoise burrows are found to conflict with mission activities and cannot be avoided by 25 feet, the tortoise(s) would be relocated.

Florida Pine Snake

The Florida pine snake is a large (as long as 8.3 feet), white, tan, and black serpent. The snake is typically found in sandy soil areas of the sandhills association, occurring primarily in longleaf pine/turkey oak forests. The snake also inhabits dry areas, characteristic of the open grassland areas, where it digs into the loosely packed sand. They have been observed in rodent and gopher tortoise burrows. Male and female snake home ranges have been reported to vary from 3 to 68 acres. The snakes primarily feed on small mammals, birds and their eggs, lizards, other snakes and their eggs, and insects. Nests are excavated in exposed, nonvegetated soft-packed soil with little or no organic matter to a depth of 9 to 12 inches.

3.3.2.2 Sensitive Plant Species

Sensitive plant species found on or around TA C-62 include the sweet (or red flowering) pitcher plant (*Sarracenia rubra*), spoon-leaved (or water) sundew (*Drosera intermedia*), and hairy (or pineland) wild indigo. The sweet pitcher plant is an herb with hollow tube-like leaves and stands 1 to 2 feet tall. It is found in spring-fed streams, wet prairies, and bogs. The spoon-leavened sundew is a small herb with ascending basal leaves and tiny, pinkish-white flowers set along a stalk. It is often found standing in water in low areas, including ditches, in the baygall, wet prairie, and wet flatwoods. The hairy wild indigo is an herbaceous pea plant that can be found in the sandhills and sand pine associations with an open canopy and sandy soils.

3.3.3 Environmental Consequences

3.3.3.1 Alternative 1: Proposed Action With Implementation of Best Management Practices

Alternative 1 represents the maximum level of expenditures associated with current testing and training activities. Although the specific types of expendables used during current activities are somewhat different than those analyzed in the 2002 PEA, the overall quantity and potential for impacts to biological resources are comparable (see Table 2-3). With the exception of EOD operations, which are discussed later in this subsection, potential impacts to habitats, vegetation, and wildlife species resulting from Alternative 1 would be similar to those presented in the 2002 PEA and are summarized below.

3.3.3.1.1 Current Activities

Potential biological resource impact categories include noise, habitat alteration, direct physical impact, and chemical materials. *Noise* is considered unwanted sound that may stress wildlife species or that may cause hearing loss or damage. Noise would be produced primarily during

activities that involve detonation of live ordnance, such as live bomb expenditures, aircraft gunnery, and EOD operations. Reptiles, including sensitive species such as the gopher tortoise, eastern indigo snake, and Florida pine snake, generally do not exhibit a pronounced acoustic startle response and overall are not considered susceptible to significant noise impacts. Gopher tortoise burrows may provide some level of noise protection when tortoises or other commensal species are in the burrows.

Birds exposed to noise may exhibit a startle response such as flushing or may exhibit longer-term effects such as nest abandonment or hearing damage. Protected species such as the RCW, southeastern American kestrel, and various migratory bird species could be exposed to such effects. Birds exhibiting a startle response would be expected to resume normal activities after a short time. Avian species have been documented to habituate to noise over time, although the degree and time required for habituation varies among species. Overall, noise-related impacts to birds are not expected to be significant. Potential noise impacts to mammals would be similar, and habituation would be anticipated to some degree. Noise overpressures great enough to cause disruption of plant cells would not be expected.

RCW foraging habitat is located approximately a mile to the south of the EOD open detonation area and about one-half mile to the west of the strafing area. Active and inactive trees are located about half a mile further to the south and west of these areas. Trees and rolling terrain are located between the TA and some foraging areas. Although these features could dampen the received noise, some disturbance due to noise is possible. The potential to disturb RCW nesting, foraging, roosting, and other activities by mission-related noise was analyzed in a Programmatic Biological Opinion issued to Eglin in 2013 (USFWS, 2013). In general, it is expected that impacts from testing and training missions will be episodic and will affect individual birds. Many RCWs on Eglin AFB are routinely exposed to noise associated with military testing and training, and numerous healthy clusters occur in close proximity to test areas that receive frequent bombing and aircraft traffic. Therefore, it appears that RCWs on Eglin are fairly resilient to noise impacts as long as suitable habitat is present. Overall, the population continues to grow even as military testing, training, and other military continue to occur. In areas of ongoing military activities such as those described for Alternative 1, Eglin staff or contractors must monitor the PBGs according to the T&E (Threatened and Endangered) Component Plan of Eglin's *Integrated Natural Resources Management Plan* (INRMP). It is not expected that noise under Alternative 1 would significantly impact RCWs.

Habitat alteration refers to physical damage, stress, or disruptions such as soil erosion, sedimentation of aquatic habitats, changes in topography, wildfires, and physical stress, injury, or mortality to the biological components of habitats. The primary issues related to habitat alteration would be the potential for gopher tortoise burrow collapse, soil erosion and possible associated effects to surface water, ordnance being deposited in surface waters, and wildfire. Soil erosion is discussed in Section 3.1.3. Bomb use, gunnery, ground operations, and EOD operations could result in the partial or complete collapse of gopher tortoise burrows. Gopher tortoises are generally able to dig out after collapse of burrow entrances in sandy soils. Therefore, entombment is considered unlikely, although the effects on commensal burrow inhabitants are unknown. In order to minimize the potential for impacts, all mission activities would be prohibited within 25 feet of gopher tortoise burrows.

Expenditure of propellants and/or high explosives may result in wildfire, particularly during dry periods. Fire is beneficial to species such as the gopher tortoise and to habitats such as wetlands, although wildfires can damage sensitive habitats if they burn too hot, smolder, or require fire suppression activities. Wildfires started on TA C-62 have the potential to spread to nearby RCW foraging areas and to affect nearby cavity trees. Potential impacts from such a scenario include destruction of foraging habitat and cavity trees and injury or mortality to individual RCWs. In order to decrease the potential for impacts, the terms and conditions specified in the USFWS' Biological Opinion would be carried out, including the following:

- Range users must check the fire rating danger daily and follow Eglin's Wildfire Specific Action Guide Restrictions for pyrotechnics use by class day.
- Range users must immediately notify the Joint Test and Training Operations Control Center (JTTOCC) and Eglin Fire Dispatch of any wildfire observed.

In addition, there is a relatively sparse fuel load on much of TA C-62. Munitions use restrictions and the low fuel load would reduce the potential for wildfires and any associated negative effects. Overall, with implementation of the actions listed above, there would be no significant impacts to the habitats on and near the test area under Alternative 1.

Direct physical impact (DPI) is the physical harm that can occur to an organism as a result of mission activities. Examples include aircraft collisions with birds, crushing an organism by vehicle or foot traffic, and ordnance shrapnel or debris striking an organism. DPI could result from A/S bomb delivery, aircraft gunnery, and missile ground training. EOD open detonation operations were excluded from DPI analysis in the 2002 PEA due to the low probability of species being impacted at the site. It was determined that the probability of a gopher tortoise, tortoise egg, or commensal species being struck by ordnance or shrapnel would be negligible. Specifically, the chance of a direct strike was estimated at about 0.1 to 0.5 percent due to various bombs, 2.2 percent due to aircraft gunnery training, and 0.3 percent due to missile training.

Wildlife could be struck by vehicles associated with various missions, maintenance activities, and range cleanup. Species of concern with the potential to be struck include gopher tortoise, eastern indigo snake, and black bear. Although the sparsely vegetated characteristic of the test area decreases the likelihood that such species would be present and traversing a road, the possibility for injury or mortality exists. If a gopher tortoise, indigo snake, or black bear is sighted, personnel should allow the animal to move away from the area undisturbed, and contact Eglin Natural Resources.

Chemical materials include liquid, solid, or gaseous substances that are released to the environment as a result of mission activities (primarily munition detonations) and that can produce a chemical change or toxicological effect to an environmental receptor. Examples include air emissions, fuel and pesticides, and solid materials such as metals from ordnance and ammunition. The 2002 PEA discussed potential impacts to sensitive species and habitats resulting from chemical materials and debris (UXO). The primary concerns were determined to be metals and explosive material by-products associated with aircraft gunnery training and EOD open detonations. These materials have the potential to affect biological resources through deposition in the air, soil, or water.

EOD mission events consisting of 1,000 pounds of explosive material were evaluated as a conservative scenario. It was concluded that peak concentrations of nitrogen dioxide and lead emissions could temporarily exceed U.S. Environmental Protection Agency (USEPA) air quality standards but that these materials would be quickly diluted and dispersed by atmospheric circulation. The concentration of lead in the soil resulting from five 1,000-pound explosive weight packages was estimated to be 0.2 milligrams per kilogram (mg/kg), which was substantially less than the 39.64-mg/kg background concentration for Eglin's surface soils and the 400-mg/kg USEPA risk-based criteria.

Analyses also concluded that surface waters (western headwater segment of Blount Mill Creek and seepage slope bog wetlands) were likely being exposed to explosive residues, primarily through erosion from the EOD area. Groundwater monitoring near the EOD site detected 2,4-dinitrotoluene at concentrations exceeding Florida drinking water standards, and nitroglycerin and 4-amino-2,6-dinitrotoluene at concentrations greater than detection limits. The location of impacted waters suggested other sources of contamination, such as historical UXO, may exist. However, it was determined that a quantifiable correlation between open blast events and groundwater concentration of these substances was not available.

Water contamination was identified in the 2002 PEA as the primary concern for biological resources. It was concluded that explosive by-products likely migrate through groundwater toward the western headwater segment of Blount Mill Creek. Contaminants may also reach the creek through the seepage slope bog. The average groundwater concentrations of RDX, HMX, and nitroglycerin at several groundwater monitoring wells was determined to be much less than biological toxicity criteria derived from literature searches (approximately one one-hundredth to one one-thousandth of various toxicity criteria). However, the 2002 PEA discussed the potential increase in toxicity of some contaminants such as 2,4,6-trinitrotoluene (TNT) when the metabolites are exposed to sunlight (phototoxicity). Such a scenario could occur when, for example, groundwater moves into the exposed surface waters of wetlands or streams. No wetland or stream water sampling data were available, and the potential for phototoxicity could not be quantified. In summary, although possible soil and water quality impacts were discussed, it was concluded that implementation of BMPs would mitigate much of the impact. These practices include stream slope restoration, EOD debris recovery, soil disturbance management, phytoremediation groundwater stabilization/treatment, open detonation net explosive weight limit, wetland management, and integrated vegetation management system. The BMPs were considered optional and no specific practices were considered to be mandated.

3.3.3.1.2 Current EOD Operations

EOD mission events consisting of a maximum of 1,000 pounds of explosive material per event were evaluated in the 2002 PEA. However, a maximum of 3,000 pounds of explosive material is considered to be the baseline under current conditions (FY 2009 to FY 2013). Potential impacts due to noise, habitat alteration, and DPI would be similar under Alternative 1 to the analyses provided in the 2002 document. The primary difference would be in the quantity of chemical materials released into the soil, surface waters, and groundwater. Lead was the only material analyzed quantitatively in the 2002 PEA. The concentration of lead resulting from five 1,000-pound explosive weight packages was estimated to be 0.2 mg/kg, compared to 39.64 mg/kg background concentration for Eglin's surface soils and the 400-mg/kg USEPA

risk-based criteria. Although the specific munitions that would be used under Alternative 1 differ from those analyzed in the 2002 PEA, it is considered a reasonable estimate that the type of explosive materials and the quantity of explosive weight would be similar overall (see Table 2-3). Alternative 1 would represent three times the amount of explosive weight per event compared to the quantity evaluated in the 2002 PEA. Therefore, although there could be factors that affect a simple one-to-one ratio calculation, it may be estimated that Alternative 1 would result in a lead concentration of about 0.6 mg/kg in the soil. This concentration would still be substantially below the estimated biological toxicity levels presented in the 2002 PEA.

3.3.3.1.3 Future Missions

Future missions include strafing by F-35 and CV-22 aircraft, helicopter landing zone construction, and use of TT-3 for ground gun testing. Construction of the landing zone could result in short-term disturbance or harassment to wildlife, but would not cause long-term, population-level effects to any species. The area used for the landing zone would not represent quality wildlife habitat. Therefore, there would be no significant impacts to biological resources due to landing zone construction. Similarly, impacts resulting from the use of TT-3 for gun testing would be comparable to impacts associated with ongoing activities, and would not be significant. If construction of the landing zone, or any other activity, results in land clearing, a gopher tortoise survey would be required within 30 days of clearing.

Potential impacts associated with additional strafing missions are considered in more detail because of the estimated increase of 214,977 rounds that would be expended annually. Strafing has the potential to cause direct physical impacts, noise impacts, and habitat impacts to sensitive habitats and species. In principle, additional strafing could result in sedimentation of surface waters due to erosion (because of the requirement to clear target areas of vegetation) and the possible leaching of metals into water systems from the corrosion of ammunition. However, target areas are kept clear under existing conditions, and the additional missions would not affect this practice. Ammunition debris is periodically cleared from the target areas, which reduces the potential for metals to enter soil and water systems. Additional strafing could increase the potential for wildfires. However, as discussed under current activities, munitions use restrictions and the relatively low fuel load on the TA would reduce the potential for wildfires and associated negative effects.

It is possible that individuals of some wildlife species, including protected species such as gopher tortoise, could be in the target areas during strafing missions and could be physically struck. In addition, as identified in the Eglin AFB Base Realignment and Closure (BRAC) Environmental Impact Statement (EIS), RCW foraging habitat is within the strafing aircraft safety zone (no cavity trees are within the safety zone) (U.S. Air Force, 2008). However, as discussed under current activities, the probability of striking an individual animal during strafing is considered extremely low. Noise would be produced more frequently on the TA as a result of additional strafing missions and could result in harassment or injury to wildlife species, including protected species. However, as discussed under current activities, significant impacts to any population would not be expected.

3.3.3.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge

Under Alternative 2, EOD operations and future strafing activities would remain the same as described for Alternative 1, and thus impacts to biological resources would be the same. The quantity of munitions expended for all other missions would be doubled. However, the total maximum number of annual expendables would increase by only about 23 percent compared to the quantity analyzed in the 2002 PEA (Table 2-3). Sensitive species such as the RCW would have greater potential for noise-related disturbance. No substantial differences in potential effects due to noise, habitat alteration, DPI, or chemical materials would be anticipated. Requirements for RCW protection and conservation, as specified in the USFWS Biological Opinion, would be implemented. There would be no significant impacts to biological resources under Alternative 2.

3.3.3.3 No Action Alternative

The No Action Alternative represents the preferred alternative of the 2002 PEA. The activities analyzed in the PEA included air-to-surface bomb testing and training, aircraft gunnery, missile and rocket ground training, EOD disposal, and vegetation/target/road maintenance. Analyses in the 2002 PEA concluded that there would be no significant impacts to biological resources resulting from implementation of the preferred alternative, and that information is incorporated by reference into this REA. A summary of the findings is provided in the applicable sections of Alternative 1.

3.4 NOISE

3.4.1 Definition of the Resource

Both continuous and impulsive noises are produced at TA C-62. Examples of continuous noise sources include aircraft noise, vehicle noise, and occasionally construction, which for the Proposed Action would include the construction of the clay pad. Impulse noise is produced from detonations and strafing, which consists of multiple small impulse noise events occurring within a short time frame. Impulse noise events are generally expressed in unweighted decibels (decibels peak sound pressure [dBP]) or weighted to more heavily consider specific noise aspects. With dBP, sound energy contained in all frequencies is considered equally. The most common weighting used to measure impulsive noise is the C-weighted measure, which places more emphasis on low-frequency noise to capture the effects of vibration. Noise of events over time may be expressed as a C-weighted day-night average level, or CDNL. The CDNL noise threshold used in this analysis is 62 decibels (dB), a measure used to identify noncompatible land uses. The unweighted, or dBP, levels used in this analysis are 140 dBP, a measure of the onset of permanent hearing damage in humans not wearing ear protection, and 115 dBP, a level of noise that 15 percent of the population would find annoying.

3.4.1.1 Analysis Methodology

The largest maximum detonation on TA C-62 is 3,000 pounds, which is the limit for a single open detonation event. Open detonations are conducted quarterly, and there was an average of six open detonation events yearly during the baseline period. Multiple detonations can be conducted daily if the detonations are spaced 10 minutes apart. Noise contours from a

3,000-pound detonation were produced using the Noise Assessment and Prediction System model and overlaid upon the open detonation location (Smith et al., 1992). Figure 3-7 depicts the 115-dBP and 140-dBP noise contours for a single 3,000-pound detonation under a calm weather scenario. Strong winds and temperature inversions can propagate noise much further. For this reason, weather is monitored before detonation events.

3.4.1.2 Significance Determination

From a human health standpoint, noise impacts would be significant if a member of the public was exposed to 140 dBP. Mission personnel observe safety precautions and wear hearing protection to prevent exposure to unhealthy levels of noise. The 115-dBP annoyance level does not denote significance but is used in socioeconomic analysis when determining disproportionate impacts to minorities or low-income persons. Socioeconomic impacts are discussed in Section 3.4.3.2. Exceedance of the 62 dB CDNL measure in off-base areas would denote potential incompatible land uses, but a more detailed analysis of individual areas affected would be warranted before declaring a significant impact.

3.4.2 Affected Environment

Figure 3-8 depicts average C-weighted noise for Eglin AFB, incorporating new activity from the JSF ordnance and strafing training. Noise as shown for TA C-62 is primarily attributable to JSF strafing activities, static testing, and open detonations. Figure 3-8 shows that average day-night level C-weighted noise levels exceeding 62 dB CDNL do not extend to off-base areas, but are contained within the boundaries of the Eglin Reservation.

3.4.3 Environmental Consequences

3.4.3.1 Alternative 1: Proposed Action With Implementation of Best Management Practices

Noise would not be significant. The addition of strafing from CV-22 would not result in 62 dB CDNL extending off-range. Static tests involve much lower NEWs than open detonations and are, therefore, less likely to result in noise complaints and not likely to produce noise that exceeds CDNL levels. Any increase in this activity would not result in noticeable impacts off-range. Open detonations result in 115 dBP leaving the range. This level is considered to be annoying to some people but not significant. Noise complaints have not been attributed to TA C-62 open detonations. Detonations are planned in consideration of weather and total explosive amounts adjusted downward as necessary, thus avoiding conditions that would propagate noise off-range.

Construction noise associated with the 400- by 400-foot square clay pad would be temporary and would not be noticeable off-range. The noise would be associated with typical construction equipment such as bulldozers, dump trucks, and generators.

Ground-based bullet testing using acoustic instrumentation would be similar to that from strafing, minus the aircraft noise, and would not add appreciably to the overall noise environment.

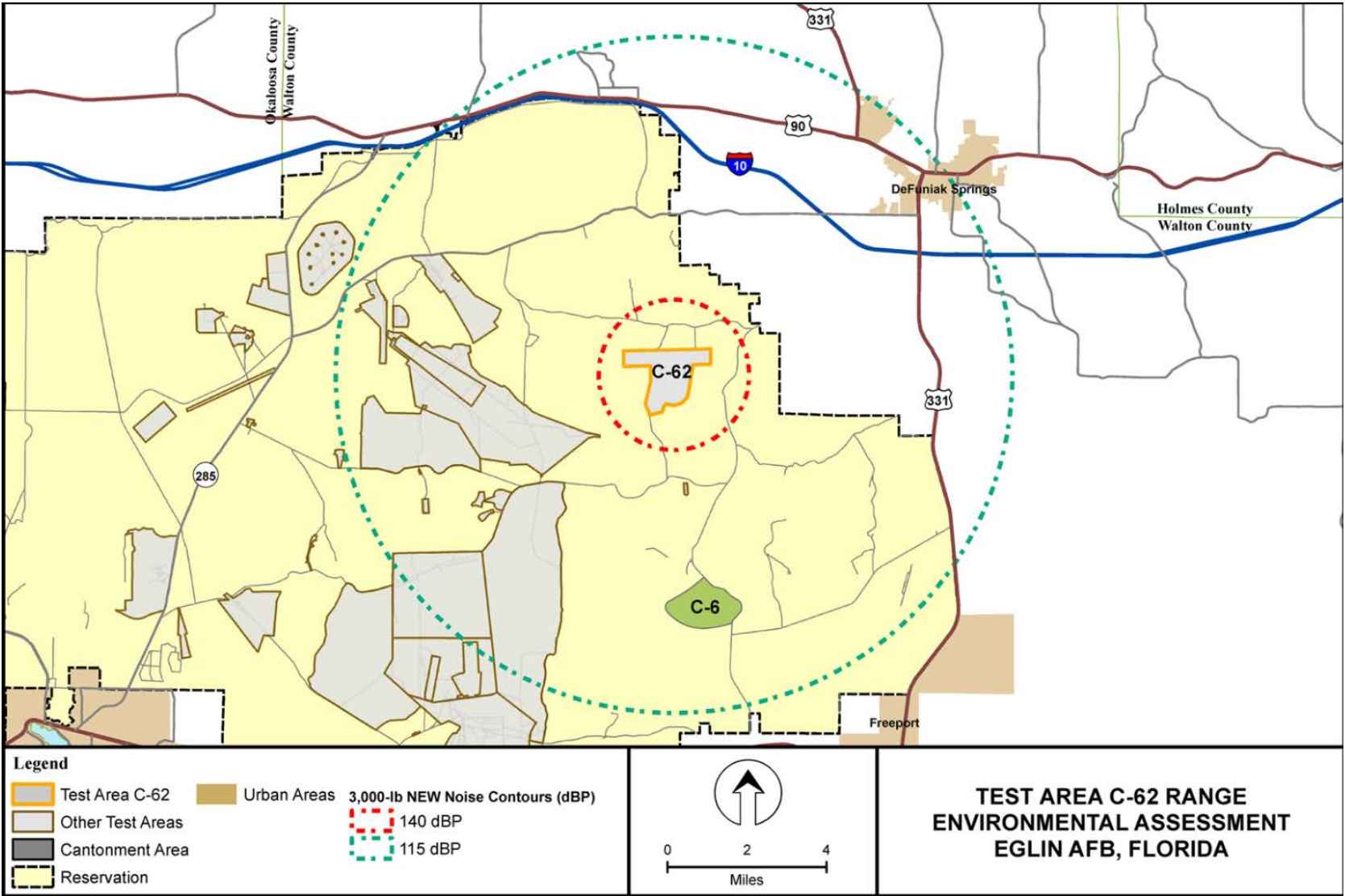


Figure 3-7. Noise Contours From 3,000-Pound Detonation (No Winds Scenario)

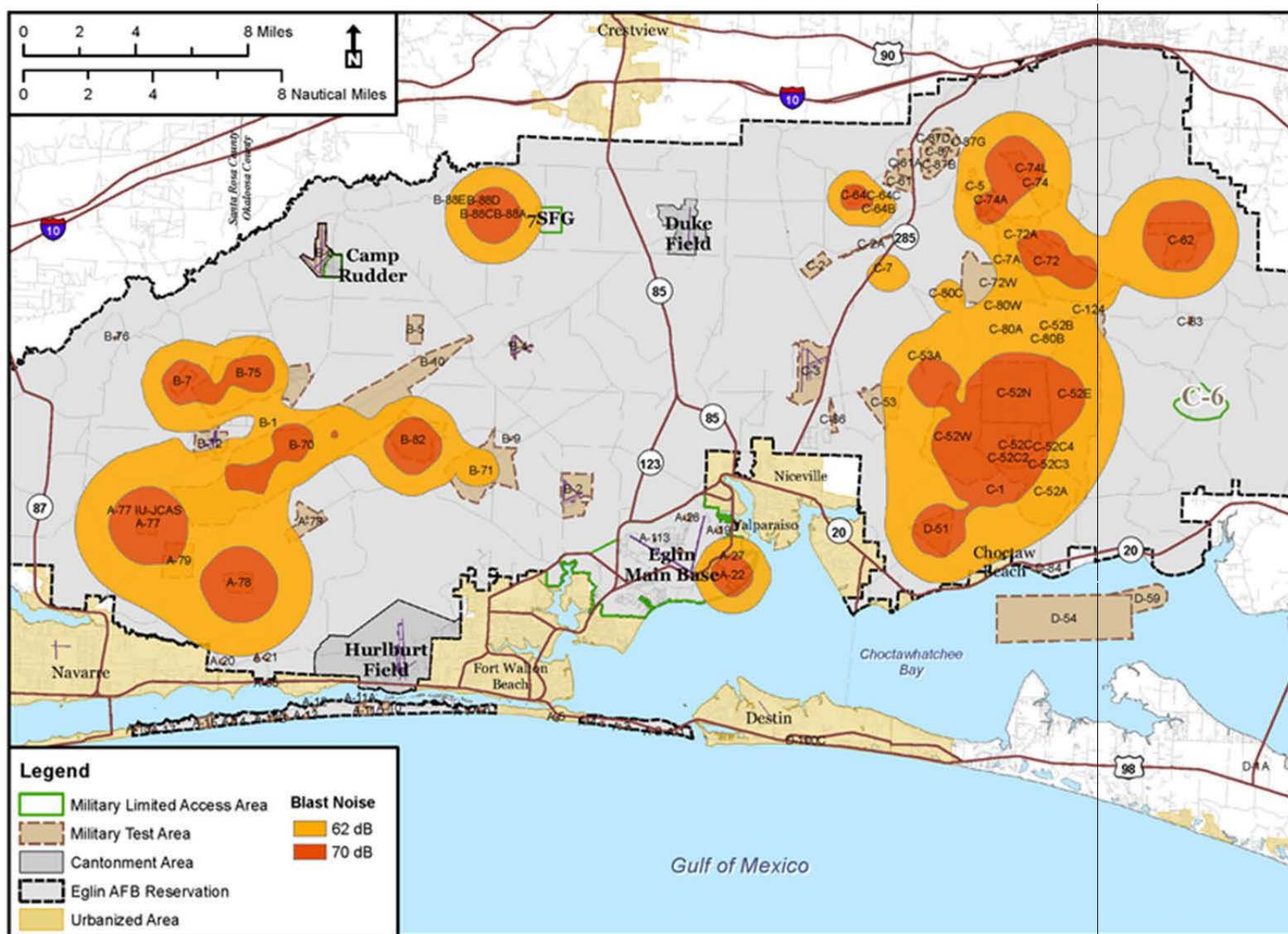


Figure 3-8. Existing C-Weighted Noise Environment (Average Measure)

3.4.3.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge

Alternative 2 noise would be characterized by a doubling of the number of open detonations and an increase in the number of static test events. The annual number of strafing runs and total number of rounds used for strafing would be the same as that described for Alternative 1. The maximum noise from any one open detonation event would be the same as that for Alternative 1, as shown in Figure 3-7, and the overall CDNL would remain at the levels shown in Figure 3-8. As open detonations are conducted with consideration of noise-propagating conditions and NEWs adjusted as necessary, this increase in number of open detonation events would not likely be significant. CV-22 and F-35 flights associated with strafing operations would be the same as those for Alternative 1. Significant noise impacts are not anticipated under Alternative 2.

3.4.3.3 No Action Alternative

Under the No Action Alternative, which is the same level of activity from the 2002 Test Area C-62 PEA preferred alternative (U.S. Air Force, 2002), noise would be diminished. With regard to open detonation activities, this alternative is not valid as it establishes a lower level of allowable NEW than the current FDEP Operating Action permit. Under the No Action Alternative, open detonation NEW limits are set at 1,000 pounds compared with a currently permitted amount of 3,000 pounds per detonation. While there would be less noise impacts under the No Action Alternative, it does not provide a suitable mission alternative for conducting approved disposal via open detonation.

3.5 SOCIOECONOMICS/ENVIRONMENTAL JUSTICE

3.5.1 Definition of the Resource

Socioeconomics refers to features or characteristics of the social and economic environment and typically includes a discussion on population, employment, earnings, housing, and public services. However, there are no personnel changes or industry changes associated with the Proposed Action and alternatives that would impact employment, earning, housing, and public services and, therefore, these issues are not discussed further. The main concern for socioeconomic resources is the possible impacts to off-base populations and environmental justice areas of concern or special risks to children due to noise created from activities at TA C-62. TA C-62 is located in the upper northeast portion of the Eglin Reservation in Walton County. The closest city to the test area is DeFuniak Springs, located approximately 9 miles from TA C-62. Therefore, the ROI for the socioeconomic analysis is Walton County with emphasis on DeFuniak Springs.

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, is designed to ensure that disproportionately high and adverse human health or environmental effects are identified and addressed, as appropriate. Additionally, potential health and safety impacts that could disproportionately affect children are considered under the guidelines established by EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

For the purpose of this analysis, the 2010 Census was used to report data on the total population, age, race, and ethnicity. Minority populations are defined as those individuals who classify

themselves as other than “white alone, not Hispanic or Latino.” Children are defined as persons age 17 and younger, as enumerated by the 2010 Census. The American Community Survey, 5-year estimate data for the period 2009 to 2013, was used to report poverty status and identify low-income populations. Low-income populations include persons living below the poverty threshold as reported in the 2009–2013 American Community Survey (2013). The percentage of low-income persons is calculated as a percentage of all persons for whom the Census Bureau determines poverty status, which is generally a slightly lower number than the total population as it excludes institutionalized persons, persons in military group quarters and in college dormitories, and unrelated individuals under 15 years old.

3.5.1.1 Analysis Methodology

Analysis of environmental justice focuses on potentially unavoidable significant adverse impacts to specific population groups that include minority, low-income, or children under the age of 18. If no potentially significant impacts are identified, an evaluation of environmental justice is not triggered. Where potentially significant impacts are identified in the REA, the percentages of low-income persons, minority persons, and children under 18 are calculated for the population of the affected area of concern, defined as the area within the noise contours (see Figure 3-9). These percentages are compared with those of the region of comparison, Walton County, to determine if the affected population is disproportionately composed of low-income persons, minority persons, and children under 18 (i.e., higher than the region of comparison). If the proportion of minority, youth, and low-income populations in the affected area exceed the proportion of minority, youth, and low-income populations in the region of comparison, then further analysis is required. Using GIS, the area within the determined noise thresholds is calculated at the census block and tract level.

3.5.1.2 Significance Determination

The access of the public to TA C-62 during mission activities is restricted regardless of socioeconomic status (for safety and security reasons), which limits adverse mission impact potentials to individuals or communities of concern. In addition, any proposed construction would occur within the base boundaries, and the only action with the potential to cause adverse impacts to off-base populations is related to the noise levels generated by training or testing activities. The U.S. Army is the DoD service with the lead role in setting munitions noise policy and has established land use recommendations based on munitions noise levels near training ranges. Army Regulation 200-1 discourages noise-sensitive land uses, such as residential, where large-arms noise levels exceed 62 dB CDNL. It strongly discourages such land uses where large arms noise exceeds 70 dB CDNL. Therefore, the environmental justice analysis focuses on off-base residents potentially affected by noise levels greater than 62 dB CDNL. As defined in Section 3.4, Noise, noise levels at 115 dBP would not be considered significant but would result in approximately 15 percent of the population being annoyed. Noise impacts would also be considered significant if peak explosive noise levels would exceed 130 dBP at residences.

3.5.2 Affected Environment

In 2013, the population of Walton County was estimated at 59,807. This represents an increase of approximately 8.7 percent since 2010 in which the population was estimated at 55,043 (U.S. Census Bureau, 2014). The closest city to TA C-62 is DeFuniak Springs. The city is also the county seat of Walton County. In 2013, DeFuniak Springs had an estimated

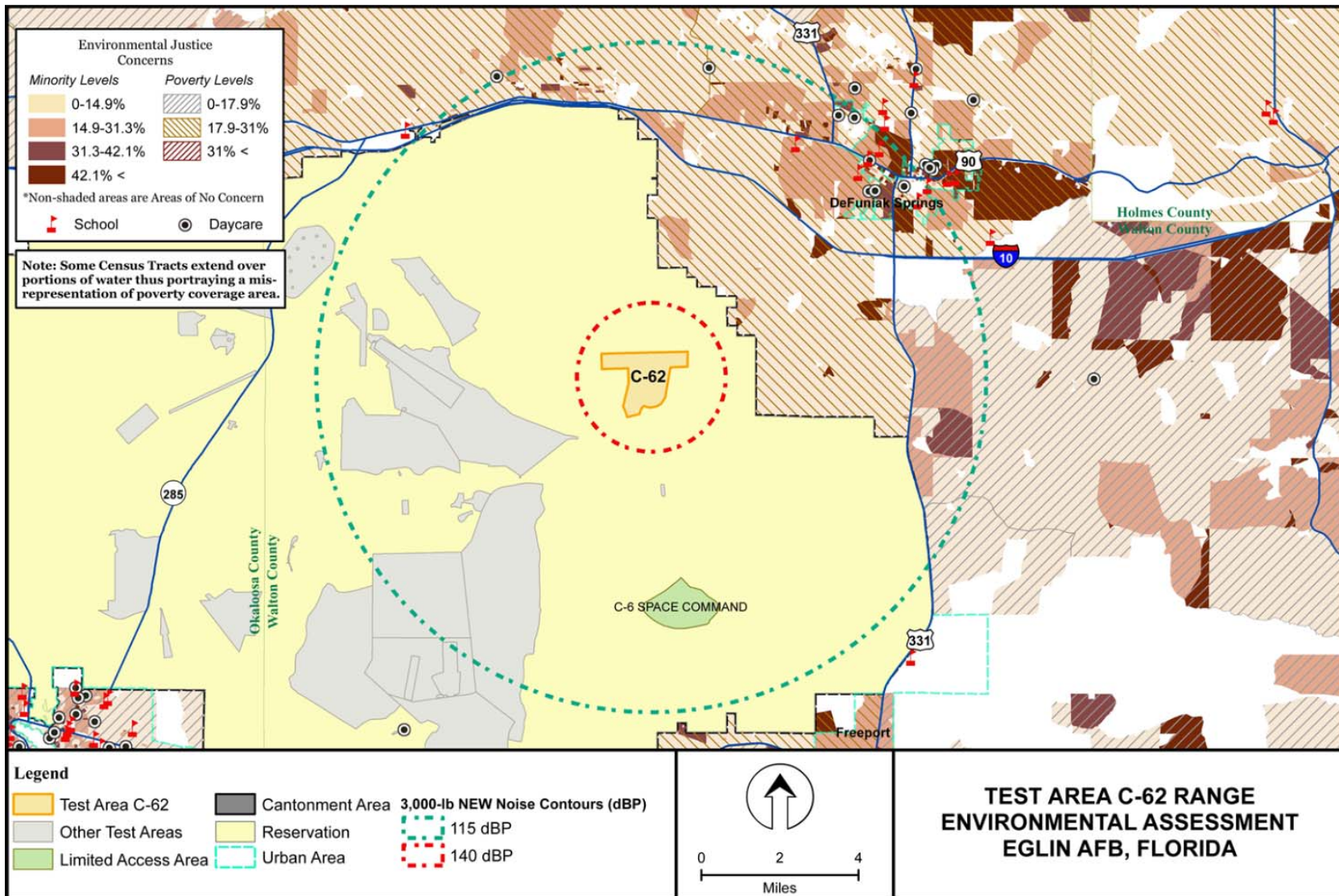


Figure 3-9. Environmental Justice Areas of Concern Within Noise Contour Thresholds

population of 5,584, representing an increase of 8.2 percent since the 2010 Census reported population of 5,177 (U.S. Census Bureau, 2014). In 2010, the persons per square mile in DeFuniak Springs was 376.7 persons, compared with 53.0 persons per square mile in Walton County (U.S. Census Bureau, 2014).

Under the existing missions at TA C-62, noise generated off-base is associated with OB/OD operations. Figure 3-9. shows minority, low-income populations, and noise-sensitive areas (i.e., schools and child care centers) located off-base that are exposed to noise levels of 115 dBP. Table 3-5 and Table 3-6 provide the total population and percentages of minority, low-income, and youth residents of the affected area that reside under the noise contours compared with the city of DeFuniak Springs and Walton County. The proportion of minority and youth populations in DeFuniak Springs and the affected population under the noise contours is higher than Walton County (see Table 3-5). The proportion of low-income populations as determined by the American Community Survey five-year estimate in the affected area had a higher proportion of the population classified as low income than the city of DeFuniak Springs and Walton County (see Table 3-6).

Table 3-5. Minority and Youth Populations in the Region of Influence, 2010

Location	Total Population	Minority		Youth	
		Number	Percent	Number	Percent
Affected area	8,621	1,532	17.8%	2,123	24.6%
DeFuniak Springs	5,177	1,622	31.3%	1,247	24.1%
Walton County	55,043	8,201	14.9%	11,339	20.6%

Source: U.S. Census Bureau, 2010

Table 3-6. Low-Income Populations in the Region of Influence, American Community Survey 5-Year Estimate, 2009-2013

Location	Total Population	Low Income	
		Number	Percent
Affected area	8,621	2,700	31.3%
DeFuniak Springs	5,114	1,251	24.5%
Walton County	54,418	9,716	17.9%

Source: American Community Survey, 2013

On average, between 2009 and 2013, approximately six detonations occurred annually that created noise levels in this range. In addition, on average between 2009 and 2012, approximately two noise complaints were reported from residents in DeFuniak Springs (Cole, 2012). As of 2014, two noise complaints originating from DeFuniak Springs have been reported; one in February and one in March (Cole, 2014). However, none of the noise complaints originating from DeFuniak Springs over the years have been confirmed as resulting from military actions performed at TA C-62.

3.5.3 Environmental Consequences

3.5.3.1 Alternative 1: Proposed Action With Implementation of Best Management Practices

There would be no significant impacts anticipated to socioeconomic resources and no disproportionate impacts to environmental justice areas of concern and special risks to children

under this alternative from testing and training activities. Any additional local labor or supplies used for the construction of the clay pad landing zone would be temporary and negligible. Any off-base noise associated with open detonations that could affect socioeconomic resources or environmental justice areas of concern would remain similar to the current noise environment in which approximately six annual OB/OD events resulting in 115-dBP levels would extend into off-base areas shown in Figure 3-9 would continue to occur annually. The affected area under the noise contours has a higher proportion of minority, low-income, and youth populations as compared with the county, which would indicate this is an area of concern. As described in Section 3.5.1, the level of noise generated from detonations does not exceed any significance threshold but would result in annoyance to approximately 15 percent of the population. Additionally, strafing runs using 25-millimeter ammunition would be conducted at TA C-62 under this alternative. As stated in Section 3.4, Noise, strafing missions would not result in 62 dB CDNL extending off-base that would result in significant adverse impacts.

3.5.3.2 Alternative 2: Alternative 1 Plus a 100 Percent Mission Surge

Under Alternative 2, the potential impacts to socioeconomic resources and environmental justice areas of concern would be similar to those as described under Alternative 1. However, the 100 percent increase in mission activities would likely result in an increase in the number of OB/OD events. It is anticipated that up to 12 OB/OD events resulting in 115 dBP to the areas shown in Figure 3-9. would occur annually under this alternative. Therefore, while there would be no significant noise impacts anticipated to socioeconomic resources or significant disproportionate adverse impacts to environmental justice areas of concern, the frequency of disruptions and annoyance would be greater under this alternative.

3.5.3.3 No Action Alternative

Under this alternative, there would be less noise impacts that would impact socioeconomic resources and environmental justice areas of concern. Noise levels above the 62 dB CDNL noise threshold would not extend off-base and, therefore, no significant disproportionate adverse impacts to minority and low-income populations or special risks to children are anticipated under the No Action Alternative. Although CDNL is below threshold noise levels off-base, the noise of individual explosions may be considered disruptive and annoying to nearby residents. It is anticipated that noise events associated with OB/OD events would be less under this alternative, since OB/OD detonations NEW limits would be 1,000 pounds per detonation as compared to the baseline permitted amount of 3,000 pounds per detonation.

4.0 CUMULATIVE IMPACTS

According to CEQ regulations, cumulative effects analysis should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR § 1508.7). Cumulative effects may occur when there is a relationship between a proposed action or alternative and other actions expected to occur in a similar location or during a similar time period. This relationship may or may not be obvious. The effects may then be incremental (increasing) in nature, resulting in cumulative impacts.

Actions overlapping with or in proximity to a proposed action or alternative can reasonably be expected to have more potential for cumulative effects on “shared resources” than actions that may be geographically separated. Similarly, actions that coincide temporally tend to have a greater potential for cumulative effects.

Analysis was conducted by first identifying past, present, and reasonably foreseeable actions as related to the ROI for the particular resource. Cumulative impacts were then identified if the combination of proposed actions and past, present, and reasonably foreseeable actions were to interact with the resource to the degree that incremental or additive effects occur.

4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

The relevant past, present, and reasonably foreseeable actions associated with the impacts of the Proposed Action include continued use of the test and interstitial areas for military test and training, existing base development and operations, plus nearby development and infrastructure improvements such as roads, pipelines, and power transmission lines. There are no past and present actions within the immediate vicinity of TA C-62 other than ongoing testing and training activities and residential development and infrastructure improvements on off-base property.

4.1.1 Soils

Ground-disturbing activities and vegetation removal has the potential to increase the likelihood of erosion and directly, as well as cumulatively, affect surface waters. The introduction of hazardous materials and metals into the soil creates the potential for direct impacts to groundwater. It is expected that with adherence to current management practices, in addition to NPDES permitting and erosion control requirements, there is no potential for direct impacts to soil resources. Implementation of the SWPPP and permit requirements would necessarily minimize the potential for incremental impacts associated with soil erosion. Since the proposed ground disturbance is long term but well managed by these required actions, no significant cumulative impacts to soils have been identified.

4.1.2 Water Resources

Stormwater runoff can adversely impact water resources, due to its ability to carry sediments and contaminants. Addition of impermeable surfaces (i.e., concrete, asphalt) would result in an increase in stormwater runoff. If all past, present, and reasonably foreseeable projects include

implementation of site-specific management actions and BMPs, it is unlikely that adverse cumulative impacts to water resources would occur.

4.1.3 Biological Resources

Localized loss of habitat, degradation of habitat, noise impacts, or direct physical impacts to species can have a cumulative impact when viewed on a regional scale if that loss or impact is compounded by other events with the same end result. In other cases, impacts decrease when viewed on a larger spatial and temporal scale. Although negative impacts would occur to some biological resources, overall, the past, present, and reasonably foreseeable action would not threaten the continued existence of any biological resources; thus, impacts would not be significant. Implementation of management actions and regulatory requirements would further reduce the potential for negative impacts to biological resources.

4.1.4 Noise

Construction noise is temporary, lasting only for the duration of the construction projects, and is typically limited to normal working hours. In addition to construction projects, noise levels produced during training would not be expected to be additive to one another and would not be expected to contribute to noise levels of greater than 62 dB CDNL extending beyond range boundaries.

4.1.5 Socioeconomics/Environmental Justice

The combined effects of the military testing and training at Eglin AFB and regional developments and population growth of the surrounding off-base areas would increase the noise levels currently experienced by the surrounding population and the number of people exposed to adverse noise impacts. Cumulative noise impacts from past, present, and foreseeable future actions originating on Eglin AFB, would not be anticipated to result in noise levels greater than 62 dB CDNL that would extend off-base. While no significant noise thresholds would be exceeded as a result of cumulative impacts, the number of people exposed to adverse noise impacts and the frequency of events that could be considered annoying would increase.

4.2 IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires environmental analysis to identify any irreversible and irretrievable commitments of resources involved in the implementation of the Proposed Action or alternatives. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site). Implementing the Proposed Action through any of the alternatives would require a commitment of natural, physical, human, and fiscal resources. In all of these categories, irreversible and irretrievable commitments of resources would occur.

5.0 MANAGEMENT PRACTICES

5.1 REGULATIONS, PLANS, AND PERMITS

This will include management actions, mitigation measures, all terms and conditions of the USFWS RCW Biological Opinion and Programmatic Agreement/Memorandum of Understanding (USFWS, 2013), BMPs, and permits required, etc. Terms and conditions from the 2013 RCW Biological Opinion and Programmatic Agreement/Memorandum of Understanding are incorporated here by reference.

5.2 MANAGEMENT ACTIONS

Management requirements presented here were drawn from the 2002 TA C-62 PEA (U.S. Air Force, 2002) and cited in the BRAC EIS (U.S. Air Force, 2008). These would also be applied to strafing targets at TA C-62.

- Construction of the 400- by 400-foot square clay pad would require an Environmental Resource Permit to comply with the Clean Water Act and the NPDES program administered by the FDEP.
- Further, a Construction General Permit for surface disturbance of 1 or more acres is required. Compliance with this permit involves developing and implementing an SWPPP and erosion and sediment control plan that includes site-specific mitigation measures.
- Wheeled vehicles must be restricted to existing trails/roads (described in individual test directives), unless there is special authority to use nonexisting trails/roads.
- All inert weapons, which include practice bombs with spotting charge, on or near the surface must be recovered, removed, and destroyed.
- Follow Regulations on Debris and Hazardous Materials for Cleanup: Cleanup of the test site debris and hazardous materials should be conducted according to appropriate regulations.
- Tactical vehicles must be moved only on range roads. If these vehicles are required for use off of range roads within the confines of the test area, management practices to reduce erosion are presented in Alternative 3 of the TA C-62 PEA.
- All trenches must be filled immediately after use.
- Digging will be kept to a minimum—no holes deeper than 3 feet will be dug, especially within 150 meters of any stream.
- Conduct target and ordnance debris removal and disposal of solid debris from blanks, chaff, smokes, and flares in accordance with Air Force regulations.
- Bullet containment, lead projectiles management, and lead reclamation should be employed to reduce lead concentrations.
- Disposal/discharge of hazardous materials to the ground would be prohibited.

- Smokes, simulators, and flares would not be used within 100 feet of water bodies and would never be thrown directly into a water body.
- Release flares at altitudes that will ensure complete burnout prior to reaching the surface.
- No new cleared target areas should be established within 200 feet of any natural water body.
- If any ordnance lands in a water body, then Eglin Natural Resources should be contacted immediately to coordinate removal in accordance with Air Force policy.
- Check the fire danger rating daily and follow Eglin's Wildfire Specific Action Guide Restrictions (see Eglin AFB Instruction 13-212). Units can contact the JTTOCC for the fire danger rating. Report wildfires immediately to the JTTOCC and Fire Dispatch.
- Gopher tortoise burrows would be avoided by 25 feet.
- Gopher tortoise surveys would be required prior to any land clearing or new target placement.
- If a gopher tortoise, indigo snake, or black bear is sighted, allow the animal to move away from the area undisturbed, and contact Eglin Natural Resources.
- Continue to monitor RCW PRGs in the vicinity of the test area according to the INRMP's T&E Component Plan.
- Keep vehicles out of eroded areas, gullies, and restoration sites. Avoid driving on steep slopes due to erosion potential.
- Mission vehicles must be operated on established roads only.
- If a gopher tortoise, indigo snake, or black bear is sighted, allow the animal to move away from the area undisturbed, and contact Eglin Natural Resources.
- Maintain erosion control measures defined by Eglin Natural Resources.
- Investigate the seepage slope area of Blount Mill Creek for indications of erosion, and establish vegetative buffers or other management actions as necessary and feasible.
- Minimize ground-disturbing vegetation control practices when possible (i.e., prescribed fire instead of roller drum chopping), particularly in erosion-prone areas such as steep slopes.
- Prior to use on Eglin AFB, inspect all out of area equipment for invasive, nonnative species and clean in accordance with Armed Forces Pest Management Board Technical Guide No. 31, Guide for Agricultural and Public Health Preparation of Military Gear and Equipment for Deployment and Redeployment.
- Use established roads to cross streams.
- No new cleared target areas should be established within 200 feet of any stream or seepage slope.

- No ground-disturbing activities should be conducted within 100 feet of a wetland or water body.
- Implement requirements outlined in Eglin AFB Instruction 13-212.
 - Based on Eglin AFB Instruction 13-212, “no digging, off-road driving, vegetation, cutting or pyrotechnics/munitions use within 100 feet of streams or seepage slopes on TA C-62.”

5.2.1 From Part II Subpart A, clause 4, of the OB/OD Permit of October 15, 2010

The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment.

5.2.2 From Part II Subpart B, clause 2, of the OB/OD Permit of October 15, 2010

The Permittee shall maintain the facility to minimize the possibility of fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment, in accordance with 40 CFR 264.31 and 40 CFR 264.601.

5.2.3 BMPs

In addition, the following BMPs listed in Table 5-1 were also recommended in the 2002 TA C-62 PEA. Some of these BMPs have been successfully implemented.

Table 5-1. Recommended Test Area C-62 Range Sustainability BMPs

Management Category	Environmental Sensitivity Assessment		Recommended BMPs
	Issues	Application Area(s)	
Erosion impact area restoration	Accelerated stream slope soil erosion and wetland and stream sedimentation associated with EOD open detonations, road maintenance, TT-3, and roller drum chopping	Erosion Impact Areas (EIAs):	Stream slope restoration
		EIA-1: Blount Mill Creek EOD OB/OD site	Vegetative runoff barriers
		EIA-2: Oakie Creek Ridge Road*	Oakie Creek Ridge Road (EIA-2) obliteration and new road construction
		EIA-3: Oakie Creek North Boundary RR 380*	Oakie Creek RR 380 (EIA-3) obliteration
Wetland habitat management	Degradation of sensitive seepage slope bogs and stream baygall wetlands associated with sedimentation and absence of wetland fires	EIA-4: Burntout Creek Target TT-3*	
		Headwaters of Burntout Creek, Oakie Creek, and Blount Mill Creek*	Stream slope restoration
			Extent of disturbance boundary markers
			Wetland prescribed burning

BMP = best management practice

EOD = explosive ordnance disposal

TT = test target

* denotes work has been completed as of 2014

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- U.S. Air Force, 2014c. Personal communication between Eglin Natural Resources Erosion Control Project Manager and Leidos regarding C-62 strafing area. December 4.
- U.S. Air Force, 2014d. *Annual Monitoring Report, OB/OD Ranges at Eglin AFB*.
- U.S. Census Bureau, 2010. 2010 Census. Query for DeFuniak Springs, Walton County, and Florida.
- U.S. Census Bureau, 2014. State and County Quickfacts. Query for DeFuniak Springs and Walton County.
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APPENDIX A
PUBLIC INVOLVEMENT

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PUBLIC NOTIFICATION

In compliance with the National Environmental Policy Act, Eglin Air Force Base (AFB) announces the availability of the *Test Area C-62 Draft Final Range Environmental Assessment*, and Draft Final Finding of No Significant Impact (FONSI), for public review.

The Air Force proposes to authorize a new level of test and training activities at Test Area (TA) C-62 on Eglin AFB, based on the anticipated maximum usage. Activities would consist of air-to-surface and ground operations. Air-to-surface operations would include the release or firing of bombs and missiles (usually inert) onto the TA, as well as aircraft gunnery missions such as strafing. Ground operations primarily include static bomb testing (where the bomb is suspended above a target, not dropped from an aircraft), ground gun testing, and disposal of unused munitions by either burning or detonating in a designated area. Occasionally, when other test areas are not available, TA C-62 may be used for ground operations such as bullet impact and slow cook-off testing. Vegetation, target, and road maintenance activities on the TA would be continued. The Proposed Action also includes construction of a 400- by 400-foot clay pad to be used as a helicopter landing zone and for emergency landings during strafing missions.

Your comments on this Draft Final Range Environmental Assessment (REA) are requested. Letters or other written or oral comments provided may be published in the Final REA. As required by law, comments will be addressed in the Final REA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment period or to fulfill requests for copies of the Final REA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final REA. However, only the names and respective comments of respondent individuals will be disclosed. Personal home addresses and phone numbers will not be published in the Final REA.

Copies of the Draft Final REA and Draft Final FONSI may be reviewed online at www.eglin.af.mil/eglindocuments.asp from **April 10, 2015**, until **May 9, 2015**. Local libraries have Internet access, and librarians can assist in accessing this document. Comments must be received by **May 12, 2015**, to be included in the Final REA.

For more information or to comment on these proposed actions, contact: Mike Spaits, 96 TW Public Affairs, 101 West D Ave., Ste. 238, Eglin AFB, Florida 32542 or email: mike.spaits@eglin.af.mil. Tel: (850) 882-2836; Fax: (850) 882-4894.



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

MARJORY STONEMAN DOUGLAS BUILDING
3900 COMMONWEALTH BOULEVARD
TALLAHASSEE, FLORIDA 32399-3000

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

JONATHAN P. STEVERSON
SECRETARY

April 14, 2015

Mr. W. Jamie McKee
Project Manager
Leidos
1140 North Eglin Parkway
Shalimar, FL 32579

RE: Department of the Air Force – Draft Range Environmental Assessment (REA)
for Test Area C-62, Eglin Air Force Base – Walton County, Florida.
SAI # FL201503047211C

Dear Jamie:

The Florida State Clearinghouse has coordinated a review of the referenced Draft REA under the following authorities: Presidential Executive Order 12372; § 403.061(42), *Florida Statutes*; the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

As noted in the Draft REA, the Florida Department of Environmental Protection (DEP) concurs that the proposed clay pad construction project will likely require the issuance of an environmental resource permit under Chapter 62-330, *Florida Administrative Code*, for onsite stormwater management. For further information and assistance with the state's permitting requirements, please contact Mr. Scott Casey in the DEP Northwest District Office at (850) 595-0574 or Scott.Casey@dep.state.fl.us.

The Florida Department of State (DOS) reports that a review of the Florida Master Site File indicated that there is an archaeological site (8WL00111) within the proposed project area. Although DOS has insufficient information to determine whether the site is eligible for listing in the *National Register of Historic Places*, if the site is avoided by project activities, there will be no effect on historic properties. If any of the proposed development and associated activities (*i.e.*, staging, storage and temporary access ways) impact this site, further consultation with DOS will be required. Please refer to the enclosed DOS letter for additional information.

Based on the information contained in the Draft REA and enclosed state agency comments, the state has determined that, at this stage, the proposed activities are consistent with the Florida Coastal Management Program (FCMP). To ensure the project's continued consistency with the FCMP, the concerns identified by our reviewing agencies must be addressed prior to project implementation. The state's continued concurrence will be based on the activities' compliance

www.dep.state.fl.us

Mr. W. Jamie McKee

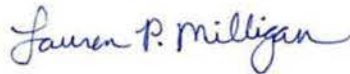
Page 2 of 2

April 14, 2015

with FCMP authorities, including federal and state monitoring of the activities to ensure their continued conformance, and the adequate resolution of any issues identified during subsequent regulatory reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting process, in accordance with Section 373.428, *Florida Statutes*.

Thank you for the opportunity to review the draft document. Should you have any questions regarding this letter, please don't hesitate to contact me at Lauren.Milligan@dep.state.fl.us or (850) 245-2170.

Yours sincerely,



Lauren P. Milligan, Coordinator
Florida State Clearinghouse
Office of Intergovernmental Programs

Enclosures

cc: Timothy Parsons, DOS

www.dep.state.fl.us



Project Information	
Project:	FL201503047211C
Comments Due:	04/07/2015
Letter Due:	04/17/2015
Description:	DEPARTMENT OF THE AIR FORCE - DRAFT RANGE ENVIRONMENTAL ASSESSMENT FOR TEST AREA C-62, EGLIN AIR FORCE BASE - WALTON COUNTY, FLORIDA.
Keywords:	USAF - DREA, TEST AREA C-62 - EGLIN AFB, WALTON CO.
CFDA #:	12.200
Agency Comments:	
FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION	
NO COMMENT PER TED HOEHN ON 3/24/15.	
NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT	
No Comments per Paul Thorpe.	
ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	
As noted in the Draft REA, the DEP concurs that the proposed clay pad construction project will likely require the issuance of an environmental resource permit under Chapter 62-330, Florida Administrative Code, for onsite stormwater management. For further information and assistance with the state's permitting requirements, please contact Mr. Scott Casey in the DEP Northwest District Office at (850) 595-0574 or Scott.Casey@dep.state.fl.us.	
STATE - FLORIDA DEPARTMENT OF STATE	
The DOS reports that a review of the Florida Master Site File indicated that there is an archaeological site (8WL00111) within the proposed project area. Although DOS has insufficient information to determine whether the site is eligible for listing in the National Register of Historic Places, if the site is avoided by project activities, there will be no effect on historic properties. If any of the proposed development and associated activities (i.e., staging, storage and temporary access ways) impact this site, further consultation with DOS will be required.	

For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47
 TALLAHASSEE, FLORIDA 32399-3000
 TELEPHONE: (850) 245-2161
 FAX: (850) 245-2190

Visit the [Clearinghouse Home Page](#) to query other projects.

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FLORIDA DEPARTMENT of STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

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DEP Office of
Intergovt'l Programs

Florida State Clearinghouse
Agency Contact and Coordinator (SCH)
Attn: Lauren Milligan
3900 Commonwealth Blvd. MS-47
Tallahassee, Florida 32399-3000

March 12, 2015

RE: DHR Project File No.: 2015-1083/ Received by DHR: March 06, 2015
Application No.: SAI FL201503047211C
Project: *Draft Range Environmental Assessment for Test Area C-62, Eglin Air Force Base*
County: Walton

Dear Ms. Milligan,

Our office received and reviewed the project in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and the *National Environmental Policy Act of 1969*. The State Historic Preservation Officer is to advise and assist federal agencies when identifying historic properties (archaeological, architectural, and historical resources) listed, or eligible for listing, in the National Register of Historic Places, assessing the project's effects, and considering alternatives to avoid or minimize adverse effects.

A review of the Florida Master Site File data indicates that there is an archaeological site (8WL00111) within the proposed project area. This office has insufficient information to determine if this site is eligible for the *National Register*. It is the opinion of this office that if 8WL00111 is avoided by project activities, there will be no effect on historic properties listed, or eligible for listing, on the *NRHP*. If any of the proposed development and associated activities (i.e. staging, storage, and temporary access ways) may impact this site, further consultation with the Division of Historical Resources will be required.

For any questions concerning our comments, please contact Mary Berman, Historic Sites Specialist, by phone at 850.245.6333 or by electronic mail at Mary.Berman@dos.myflorida.com.

Sincerely,

Robert F. Bendus, Director
Division of Historical Resources
and State Historic Preservation Officer



Division of Historical Resources
R.A. Gray Building • 500 South Bronough Street • Tallahassee, Florida 32399
850.245.6333 • 850.245.6439 (Fax) dos.myflorida.com/historical/
Promoting Florida's History and Culture VivaFlorida.org



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APPENDIX B
ANNUAL OB/OD EXPENDABLES FOR TEST AREA C-62

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Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2011	CARTRIDGE,CALIBER .	0.0074	276
2013	CARTRIDGE,CALIBER .	0.0342	487
2009	CARTRIDGE,CALIBER .	0.03482	71
2009	CARTRIDGE,CALIBER .	0.036112	147
2011	CARTRIDGE,CALIBER .	0.036112	1266
2014	NOT REGISTERED USER	0.0036	162
2010	CARTRIDGE,7.62 MILL	0.0067	2003
2010	CARTRIDGE,20 MILLIM	0.1109	98
2010	CARTRIDGE,CALIBER .	0.0003	465
2013	CARTRIDGE,30 MILLIM	0.4335	1
2010	CARTRIDGE,CALIBER .	0.035847	487
2012	CARTRIDGE,CALIBER .	0.035847	26
2013	CARTRIDGE,CALIBER .	0.035847	234
2014	CARTRIDGE,CALIBER .	0.035847	2
2009	CTG CAL.50 AP	0.0338	22
2009	CARTRIDGE, .50 CAL API	0.03826	72
2013	.50 CAL BALL SINGLE ROUND, M33	0.034	1
2009	CARTRIDGE,7.62 MILL	0.0022	91
2013	CARTRIDGE,7.62 MILL	0.0022	806
2009	CARTRIDGE,7.62 MILL	0.0067	200
2010	CARTRIDGE,7.62 MILL	0.0067	5974
2009	CARTRIDGE, .50 CAL API AND T	0.03751	135
2009	CARTRIDGE,20 MILLIM	0.11074	3148
2010	CARTRIDGE,20 MILLIM	0.1109	30
2011	CARTRIDGE,20 MILLIM	0.1109	750
2009	CARTRIDGE,30 MILLIM	0.331	1
2010	CARTRIDGE,30 MILLIM	0.331	48
2011	CARTRIDGE,30 MILLIM	0.331	9
2013	CARTRIDGE,30 MILLIM	0.4408	6
2010	CARTRIDGE,20 MILLIM	0.1109	35
2011	CARTRIDGE,20 MILLIM	0.1109	198
2013	CARTRIDGE,20 MILLIM	0.1109	3
2010	CARTRIDGE,20 MILLIM	0.1094	620
2011	CARTRIDGE,20 MILLIM	0.1094	161
2012	CARTRIDGE,20 MILLIM	0.1094	5000
2013	CTG 5.56MM BL/TR M193/M196 2-1	0.0051	199
2012	CARTRIDGE,5.56 MILL	0.00379	2
2013	CARTRIDGE,5.56 MILL	0.00379	7278
2009	CARTRIDGE,9 MILLIME	0.000911	15
2010	CARTRIDGE,9 MILLIME	0.000911	14
2011	CARTRIDGE,9 MILLIME	0.000911	14
2012	CARTRIDGE,9 MILLIME	0.000911	700
2013	CARTRIDGE,9 MILLIME	0.000911	592
2014	NOT REGISTERED USER	0.00104	324
2012	CARTRIDGE,7.62 MILL	0.002474	50
2014	CARTRIDGE,7.62 MILL	0.002474	1705
2012	CARTRIDGE,20 MILLIM	0.1047	225

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2013	CARTRIDGE,12 GAGE S	0.00269	6
2013	CARTRIDGE,5.56 MILL	0.0044	204
2011	CARTRIDGE,5.56 MILL	0.001	161
2012	CARTRIDGE,5.56 MILL	0.001	60
2013	CARTRIDGE,5.56 MILL	0.001	912
2011	SLAP .50 CAL	0.042	137
2009	TCG 7.62 BLNK	0.0022	51
2009	CTG .50CAL BALL/TCR LKD M2/M9	0	1
2010	CARTRIDGE,7.62 MILL	0.00858	4202
2014	CARTRIDGE,7.62 MILL	0.00858	1
2013	CARTRIDGE, 50CAL, LINKED	0.0363	3
2009	CTG 20MM PGU-27A/B TP	0	8
2011	CARTRIDGE,20 MILLIM	0.0754	3
2012	CARTRIDGE,20 MILLIM	0.0754	9
2013	CARTRIDGE,20 MILLIM	0.0754	1631
2014	CARTRIDGE,20 MILLIM	0.0754	395
2013	CARTRIDGE,20 MILLIM	0.0788	1
2009	CARTRIDGE,20 MILLIM	0.099	89
2010	CARTRIDGE,20 MILLIM	0.099	164
2011	CARTRIDGE,20 MILLIM	0.099	15128
2012	CARTRIDGE,20 MILLIM	0.099	3495
2010	CARTRIDGE,30 MILLIM	0.331	62
2012	CARTRIDGE,30 MILLIM	0.331	14
2013	CARTRIDGE,30 MILLIM	0.331	1
2013	CARTRIDGE,CALIBER .	0.0366	1
2013	.50 CAL LINKED	0.03655	1396
2012	CTG, 30MM PGU-15/B TP LINKED	0.331	1
2011	CTG, 20MM, MPT-SD, M940	0.108611	2099
2012	CTG, 20MM, MPT-SD, M940	0.108611	28
2010	CARTRIDGE,30 MILLIM	0.4408	60
2011	CARTRIDGE,30 MILLIM	0.4408	30
2013	CARTRIDGE,30 MILLIM	0.4408	2250
2013	CARTRIDGE,30 MILLIM	0.4408	78
2013	CARTRIDGE,30 MILLIM	0.4408	8
2014	CARTRIDGE,30 MILLIM	0.4408	1
2013	CTG, 40MM TP LINKED PRAC MIXED BELT	0.013116	15
2011	30MM MK266 HEI-T CARTRIDGE	0.456	2
2013	30MM HEI PGU-13D/B	0.4408	2
2014	30MM HEI PGU-13D/B	0.4408	1
2011	CARTRIDGE, 30MM PGU-46/B HEI	0.456	3
2012	CARTRIDGE, 30MM PGU-46/B HEI	0.456	4
2013	CARTRIDGE, 30MM PGU-46/B HEI	0.456	5
2009	CARTRIDGE,40 MILLIM	0.67	9
2012	CARTRIDGE,40 MILLIM	0.87	4
2010	CARTRIDGE,40 MILLIM	0.2069	1
2013	CARTRIDGE,40 MILLIM	0.01277	25
2011	CARTRIDGE,40 MILLIM	0.884	107

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2012	CARTRIDGE,40 MILLIM	0.884	1
2013	CARTRIDGE, 40MM, HE	0.08736	19
2010	CARTRIDGE,40 MILLIM	0.6876	61
2011	CARTRIDGE,40 MILLIM	0.6876	93
2012	CARTRIDGE,40 MILLIM	0.6876	60
2013	CARTRIDGE,40 MILLIM	0.6876	20
2013	LAUNCHER AND CARTRI	1.840419	11
2009	CARTRIDGE,105 MILLI	7.73	95
2011	CTG 120MM M934A1 W/ FUZE M734A	7.895	8
2011	CTG, 120MM, IR ILLU, M983	2.345	8
2009	CARTRIDGE,105 MILLI	7.76	5
2010	CARTRIDGE,105 MILLI	7.76	2
2010	CARTRIDGE,105 MILLI	3.26601	1
2013	CARTRIDGE,105 MILLI	3.26601	1
2011	CARTRIDGE,105 MILLI	3.26871	1
2009	CARTRIDGE,105 MILLI	3.26601	1
2013	CARTRIDGE,105 MILLI	7.91	1
2010	CARTRIDGE,105 MILLI	7.76	1
2009	PROJECTILE, 155MM, HE, M107	15.71	2
2010	BOMB,GENERAL PURPOS	192	1
2013	BOMB,GENERAL PURPOS	192	4
2010	BLU-111B/B, 500 LB. BOMB	192	1
2010	FZE BMB NS/TL FMU-81/B	0.0007	24
2013	CLIP SAFETY FZU-18/B	0	70
2013	BOMB,GENERAL PURPOS	945	1
2009	FUZE, BOMB TAIL M905 (T771)	0.015	19
2009	BOMB,GENERAL PURPOS	192	3
2012	GUIDANCE SECTION,GU	0.961	1
2009	FUZE SYSTEM BOMB, FMU-143B/B	0.2721	1
2011	FUZE SYSTEM BOMB, FMU-143B/B	0.278	2
2012	FUZE SYSTEM BOMB, FMU-143B/B	0.278	1
2009	FUZE SET, BOMB FMU-139A/B	0.2778	1
2009	DSU-33A/B PROXIMITY SENSOR	0.0387	22
2013	CONTROL SECTION, GUIDE	0	3
2009	FMU-152A/B FUZE SYSTEM	0.362	4
2011	FMU-152A/B FUZE SYSTEM	0.364	5
2011	GRENAD, HAND FRAGMENTATION MK 2, W/FUZE M6A4C PKG 1/FBR CNTR M41A1 25 CNT	0.1308	2
2012	GRN HAND FRAG DELAY XM67/M67	0.41	161
2012	GRN HAND SMOKE GREEN M18	0.72	33
2012	GRENAD, HAND SMOKE RED M18	0.72	6
2011	GRN HAND SMOKE YELLOW M18	0.72	1
2009	GRENAD,LAUNCHER SM	0.8354	48
2013	SAFETY AND ARM DEV AIM-120	0	5
2014	SAFETY AND ARM DEV AIM-120	0	1
2011	FLIGHT TERMINATION F/JAIM-120A	0	3
2013	FLIGHT TERMINATION F/JAIM-120A	0	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2014	FLIGHT TERMINATION F/JAIM-120A	0	2
2009	RKT MTR MK10 MOD 5 IGN MK114	24.83	6
2010	ROCKET MOTOR	24.9	10
2011	ROCKET MOTOR	24.9	3
2012	ROCKET MOTOR	24.9	10
2014	ROCKET MOTOR	24.9	3
2009	ROCKET MOTOR	35	8
2013	WHD 2.75 RKT SMK M156 PD M427	2.225	1
2009	ROCKET MOTOR	6.4	3
2010	WARHEAD,2.75 INCH R	1.4	8
2011	ROCKET MOTOR	7.12205	9
2012	ROCKET MOTOR	7.12205	1
2009	MK66 MOD2 ROCKET MOTOR, 2.75	7.122	4
2011	ROCKET MOTOR 2.75	7.116	1
2011	ROCKET MOTOR	7.116	2
2014	ROCKET MOTOR	7.116	1
2009	FAIRING, LAU-5002 INVALID NSN	0	4
2014	ROCKET SYSTEM,HIGH	0.83	3
2009	MINE, ANTIPERSONNEL, M18 SERIES	1.5	1
2009	NOT REGISTERED USER	0	66
2011	ARMING DEVICE, UNDERWATER MINE, MK 32 MOD 2, EXPLOSIVE LOADED, F/QUICKSTRIKE	0.03	20
2009	SIMULATOR, EXPL DET M80	0.0075	2327
2011	SIGNAL,SMOKE AND IL	0.212	4
2010	FLARE,AIRCRAFT	22	2
2011	SIGNAL,SMOKE AND IL	0.212	10
2010	SIG KIT PERSONL DISTR A/P25S-5A	0.0812	33
2011	SIG KIT PERSONL DISTR A/P25S-5A	0.0812	6
2013	SIG KIT PERSONL DISTR A/P25S-5A	0.0812	1
2014	SIG KIT PERSONL DISTR A/P25S-5A	0.0812	1
2010	SIGNAL,SMOKE AND IL	4.078	4
2009	FLARE SURFACE TRIP M49A1	0.3	16
2010	FLARE,SURFACE	0.311343	1
2011	FLARE,SURFACE	0.311343	1
2012	FLARE,SURFACE	0.311343	14
2010	SIMULATOR,HAND GREN	0.06182	59
2010	SIMULATOR,PROJECTIL	0.102054	1
2013	SIG KIT PERSONNEL DIST MULTI M186	0.06174	50
2013	SIG SMOKE ILLUM MARINE MK124-0	0.2	4
2009	FLARE, IR CM, M206	0.2866	165
2010	FLARE, IR CM, M206	0.2866	1
2010	FLARE,AIRCRAFT	0.284	127
2011	FLARE,AIRCRAFT	0.284	97
2012	FLARE,AIRCRAFT	0.284	147
2009	MARKER, MARINE, MK58 MOD 1	5.761	1
2012	NOT REGISTERED USER	0.2125	1
2013	NOT REGISTERED USER	0.2125	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	SIMULATOR,DECOY TAR	0.0783	3
2012	Flare, Surface Aircraft Signal, Marine MK 132 MOD 0 PKD 10 Flares/ M2A1 AMM	0.07386	21
2012	SIGNAL,SMOKE	0.14994	9
2010	SIMULATOR,FLARE,INF	0.0783	2211
2010	SIMULATOR,FLARE,INF	0.0783	1899
2012	FLARE, IR CM, MJU-10/B	2	5
2013	FLARE, IR CM, MJU-10/B	2	5
2010	CHAFF CARTRIDGE, RR-180	0	19
2012	CHAFF CARTRIDGE, RR-180	0	3
2011	SIG SMK ILL MK6 MOD 5	4.065	3
2010	FLARE, IR CM, MJU-7A/B	0.6278	1
2011	FLARE, IR CM, MJU-7A/B	0.6278	78
2012	FLARE, IR CM, MJU-7A/B	0.6278	2
2013	FLARE, IR CM, MJU-7A/B	0.6278	8
2009	SIMULATOR,FLARE,INF	0.0783	180
2010	SIMULATOR,FLARE,INF	0.0783	1024
2012	SIG ILL GRND WHT STAR M127A1	0.280693	4
2013	SIG ILL GRND WHT STAR M127A1	0.280693	2
2009	MJU-32/B	0.333	5
2010	MJU-32/B	0.33	7
2011	MJU-32/B	0.33	2
2010	FLARE,IR CM M211	0	304
2011	FLARE,IR CM M211	0	1
2012	FLARE,IR CM M211	0	12
2010	FLARE,COUNTERMEASUR	0.24268	100
2010	FLARE INFARED MJU-50	0	44
2013	FLARE INFARED MJU-50	0	8
2010	DECOY,INFRARED,COUN	0	440
2013	DECOY,INFRARED,COUN	0	138
2011	FLARE,IR,CM MJU-47/B	0	56
2013	FLARE,IR,CM MJU-47/B	0	538
2012	FLARE,INFRARED,COUN	0.52	1
2010	FLARE,COUNTERMEASUR	0.669	1
2011	FLARE, SIMULATOR, SM-875B/ALE	0.08564	2
2014	DECOY, INFRARED COU	0	8
2010	FLARE,TARGET MARKIN	16	1
2010	DECOY,IR,CM M211	0	150
2009	DECOY,IR CM MJU-51A/B	0	1
2013	FLARE, AIRCRAFT, XM216	0.264554	660
2012	CHG DEMO 40LB CRATERING W/WELL	40	3
2013	CHG DEMO 40LB CRATERING W/WELL	40	1
2009	FUZE,BLASTING,TIME	0.007	50
2010	FUZE,BLASTING,TIME	0.00267	164
2011	FUZE,BLASTING,TIME	0.00267	315
2012	FUZE,BLASTING,TIME	0.00267	33
2009	CHARGE,DEMOLITION	30	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	CHARGE,DEMOLITION	30	5
2009	FUZE, BLASTING, TIME	0.007	111.5
2010	FUZE, BLASTING, TIME	0.007	31
2012	FUZE,BLASTING,TIME	0.00267	178
2013	FUZE,BLASTING,TIME	0.00267	359.6
2014	FUZE,BLASTING,TIME	0.00267	65
2010	DYNAMITE	0.5	108
2011	DYNAMITE	0.5	54
2013	DYNAMITE	0.5	3
2010	CORD, DETONATING	0.007	20
2009	CAP, BLASTING, NON ELEC, M7	0.0027	15
2010	CAP, BLASTING, NON ELEC, M7	0.0027	4
2010	CAP,BLASTING	0.00268	1
2012	CAP,BLASTING	0.00268	14
2009	IGNITER TIME BLAST FUZE M60	0.0001	12
2010	IGNITER TIME BLAST FUZE M60	0.0001	24
2011	IGNITER TIME BLAST FUZE M60	0.0001	20
2012	IGNITER TIME BLAST FUZE M60	0.0001	10
2013	IGNITER TIME BLAST FUZE M60	0.0001	118
2014	IGNITER TIME BLAST FUZE M60	0.0001	5
2011	CHG ASSEMBLY DEMO M183 COMP 4	20	6
2012	CHG ASSEMBLY DEMO M183 COMP 4	20	32
2009	CHARGE, DEMOLITION	20	101
2009	CHARGE, DEMOLITION	20	423
2011	CHARGE, DEMOLITION	20	50
2010	CHARGE, DEMOLITION	0.263	2
2012	CAP, BLASTING, NON ELEC, M7	0.0027	8
2013	CAP, BLASTING, NON ELEC, M7	0.0027	13
2009	CHG DEMO LIN SHAPED 30 GR/FT	0.0171	36
2009	CHG DEMO LIN SHAPED 225 GR/FT	0.1287	54
2009	CHG DEMO LIN SHAPED 20 GR/FT	0.0114	30
2009	CHG DEMO LIN FLX W/600 GR	0.0343	24
2009	CORD,DETONATING	0.0286	376
2013	CORD,DETONATING	0.0286	85
2010	CAP,BLASTING	0.00276	19
2011	CAP,BLASTING	0.00276	60
2013	CAP,BLASTING	0.00276	134
2014	CAP,BLASTING	0.00276	4
2011	IGNITER,TIME BLASTING	0	5
2012	IGNITER,TIME BLASTING	0	7
2013	IGNITER,TIME BLASTING	0	13
2012	IGNITER,TIME BLASTI	0.00005	5
2013	IGNITER,TIME BLASTI	0.00005	5
2013	75PCT AMMON NITRATE	0.37	6
2013	RDX, TYPE II, CLASS III	1	4200
2013	HIGH EXPLOSIVE MATERIAL	0	1220
2013	HIGH EXPLOSIVE MATERIAL RDX	1	2426

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2013	HIGH EXPLOSIVE MATERIAL GRANUL	0	400
2013	HIGH EXPLOSIVE MATERIAL	0	1172
2011	PROPELLANT, M1-.034, COMERCIAL	1	90
2009	PROPELLANT POWDER	1	491
2011	PROPELLANT POWDER	1	414
2013	BULK CXM-AF-7 EXPLOSIVES	1	50
2010	CTG IMP MK2 MOD 1	0.2	17
2010	CTG IMP MK2 MOD 1	0.01	16
2011	CTG IMP MK2 MOD 1	0.01	12
2012	CTG IMP MK2 MOD 1	0.01	14
2013	CTG IMP MK2 MOD 1	0.01	24
2012	IGNITION ELEMENT MK17 MOD 0	0.0006	3
2009	CTG IMPULSE BBU-36/B	0.0022	19
2012	CTG IMPULSE BBU-36/B	0.0022	8
2013	CTG IMPULSE BBU-36/B	0.0022	7
2009	CARTRIDGE, IMPULSE, M796	0.0008	2
2010	CARTRIDGE, IMPULSE, M796	0.0008	420
2011	CARTRIDGE, IMPULSE, M796	0.0008	120
2012	CARTRIDGE, IMPULSE, M796	0.0008	480
2014	CARTRIDGE, IMPULSE, CCU-41/B	0.0006	20
2009	EPA COVER ASSMBLY, DEICING SET	0.023	1
2009	CTG IMPULSE BBU-48/B	0.0004	38
2010	CTG IMPULSE BBU-48/B	0.0004	23
2012	CTG IMPULSE BBU-48/B	0.0004	1
2013	CTG IMPULSE BBU-48/B	0.0004	450
2014	CTG IMPULSE ARD 863-1	0.009	1
2009	CTG IMPULSE BBU-35/B	0.0008	32
2010	CTG IMPULSE BBU-35/B	0.0008	246
2011	CTG IMPULSE BBU-35/B	0.0008	31
2012	CTG IMPULSE BBU-35/B	0.0008	215
2013	CTG IMPULSE BBU-35/B	0.0008	172
2014	CTG IMPULSE BBU-35/B	0.0008	8
2012	CARTRIDGE,IMPULSE	0.056405	2
2012	CARTRIDGE,IMPULSE	0.025	2
2014	CARTRIDGE,IMPULSE	0.025	1
2011	CARTRIDGE,EXPLOSIVE	0.016	1
2011	CARTRIDGE,EXPLOSIVE	0.016	1
2011	FZ PD M557 W/BSTR 0.05 SEC DEL	0.03	1
2012	PRIMER ELECTRIC 20 MM CTG	0.0004	6
2013	PRIMER ELECTRIC 20 MM CTG	0.0004	13
2012	NOT REGISTERED USER	0.048	9
2012	NOT REGISTERED USER	0.048	2
2009	PRIMER, PERCUSSION, M82	0.0308	1
2011	AN/DAW-2 GUIDANCE SECTION	0.548	2
2013	CTG 7.62MM RUSSIAN		2
2013	30MM PRIMED CASE	0.00041	24
2009	.308 MATCH GRADE	0.0025	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2011	.308 MATCH GRADE	0.00254	299
2010	SMKRNF-MOFA-GSPF FUZE	0.00063	10
2011	20MM HEI ZAP SUPER QUICK CTG	0.106042	4418
2010	.338 CAL, LMEPP MOD 1	0.012742	55
2009	7.62MM X 39MM BALL AMMUNITION	0.003527	150
2009	PROJECTILE, 30MM, HEI PGU-13	0.1369	75
2010	PROJECTILE, 30MM, HEI PGU-13	0.1369	83
2013	PROJECTILE, 30MM, HEI PGU-13	0.1369	341
2014	PROJECTILE, 30MM, HEI PGU-13	0.1369	40
2009	30MM CASE W PRIMER / FLASHTUBE	0.0004	5
2010	7.62MM CASE W/PRIMER	0.00001	200
2012	7.62MM CASE W/PRIMER	0.00001	604
2013	7.62MM CASE W/PRIMER	0.00001	303
2010	7.62MM TRACER PROJECTILE	0.00121	100
2011	7.62MM TRACER PROJECTILE	0.00121	52
2012	7.62MM TRACER PROJECTILE	0.00121	100
2013	7.62MM TRACER PROJECTILE	0.00121	100
2009	CTG CASE, .50 CAL W/PRIMER	0.0003	214
2011	20MM PELE W/ALUMINUM NOSE	0.086	136
2010	CARTRIDGE, 30MM HEI-T MK266	0.449	332
2009	CTG, 14.5MM, API-T	0.1217	1927
2009	CTG, 14.5MM, API	0.073	423
2011	.50 CAL BALL PROJ W/TRACER	0.0014	43
2011	CTG CASE, 20MM ELECTRIC PRIMED	0.0004	8
2010	20MM SAPHEI PROJECTILE	0.024	185
2011	20MM SAPHEI PROJECTILE	0.024	439
2012	20MM SAPHEI PROJECTILE	0.024	275
2013	20MM SAPHEI PROJECTILE	0.024	125
2010	20MM M56A4 HEI PR W/M505A3 FZ	0.0237	625
2011	20MM M56A4 HEI PR W/M505A3 FZ	0.0237	20
2010	20MM M56A3 HEI PR W/M505A3 FZ	0.0248	300
2012	20MM M56A3 HEI PR W/M505A3 FZ	0.0248	50
2010	.50 CAL POWDER	1	1
2010	.50 CTG W/ 9 IN BENITE STRAND	0.0993	9
2011	.50 CAL P-4 PERCUSSION PRIMER	0.000322	43
2011	7.62X39MM FOREIGN MIXED CASES	0.003527	72
2014	WINDSOR HP PROBE SYSTEM	0.0012	363
2012	20MM TRACER PROJECTILE	0.0034	25
2013	20MM TRACER PROJECTILE	0.0034	223
2014	CTG 12.7 X 108MM API-T	0.11729	1
2014	CARTRIDGES, 12.7 X 108MM BALL	0.087479	1
2014	14.5X114MM API-T	0.0765	2
2014	CTG 14.5MM X 114MM API	0.156528	36
2013	AEROJET PGU-13/B PROJECTILE	0.1317	102
2014	CTG, 23MM X 152MM API-T	0.194933	2
2014	CTG, 23MM X 152MM, API	0.186776	5
2012	40MM PRIMED CASE	0.0001	2

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	40MM CASE W/PRIMER W/O PROPPEL	0.001	373
2013	40MM CASE W/PRIMER W/O PROPPEL	0.001	20
2010	MODIFIED 40MM AP PROJECTILES	0.0176	60
2011	40MM NAMMO TALLEY HEI PRJ W/FZ	0.2068	61
2012	40MM NAMMO TALLEY HEI PRJ W/FZ	0.2068	32
2010	40MM ATK/HDS FUZED PROJO HEI	0.2039	64
2012	40MM ATK/HDS FUZED PROJO HEI	0.2039	10
2013	40MM ATK/HDS FUZED PROJO HEI	0.2039	38
2013	40MM, ATK/HDS FUZE FMU-154/B	0.0054	2
2011	40MM, GD-OTS, FUZED PROJECTILE	0.1796	43
2012	40MM, GD-OTS, FUZED PROJECTILE	0.1796	2
2013	40MM, GD-OTS, FUZED PROJECTILE	0.1796	22
2013	40MM, GD-OTS, M07 FUZE	0.0032	2
2011	NAMMO TALLY CTG, 40MM, HEI (WDN BOX)	0.9847	46
2011	40MM ATK/HDS CTG, L/60 HEI (WDN BOX)	0.982	36
2010	40MM ATK/HDS PRIMED CTG CASE	0.0069	64
2012	40MM ATK/HDS PRIMED CTG CASE	0.0069	10
2013	40MM ATK/HDS PRIMED CTG CASE	0.0069	20
2010	TYPE NC 1066 PROPELLANT	0.7709	53
2011	TYPE NC 1066 PROPELLANT	0.7709	3
2011	PRIMED CTG CASE W/O PROPELLANT	0.0063	61
2012	PRIMED CTG CASE W/O PROPELLANT	0.0063	32
2011	TYPE NC 1281 PROPELLANT	0.7716	50
2012	40MM GD-OTS CTG CASE W/PRIMER	0.0089	2
2013	40MM GD-OTS CTG CASE W/PRIMER	0.0089	43
2013	CTG, 125MM, APFSDS-T	22	5
2012	40MM PGU-9C/B PROJECTILE	0.224	2
2013	40MM HEP PROJECTILES W/FUZE	0.1646	16
2013	GD-OTS 40MM HEI PROJO W/O FUZE	0.1764	2
2013	ATK 40MM HEI PROJO W/O FUZE	0.1984	2
2013	CTG, 120MM APFSDS-T KE-W A1	18.52	1
2010	WCMD TAIL KIT, GVT BLOCK 3A	0.0007	4
2009	WCMD TAIL KIT W/O GPS (MARTIN)	0.0007	3
2010	LOWER HOUSING ASSY	2.088	5
2013	SURFACE TGT ORD PKG W/O WCMD	0.17	1
2011	WGU-36B/B GCU MOD FOR T/M	0.0003	1
2012	FUZE, BOMB - MEHTF	0.0002	1
2013	JDAM MK-82 GTV	0	2
2009	MODIFIED FMU-143B/B W/350 G	0.274	2
2010	MODIFIED FMU-143B/B W/350 G	0.274	1
2011	BLU-122/B W/AFX-757	820	1
2010	FMU-143B/B FUZE W/RP-87 DET	0.335	2
2010	AS-11 MISSILE WARHEAD W/O S A	335	4
2010	AS-14 MISSILE WARHEAD W/O SAFE	256	2
2010	AS-12 MISSILE WARHEAD W/O S A	163	1
2010	ASM-3 MISSILE WARHEAD W/O SAFE	80	2
2010	ASM-5 MISSILE WARHEAD W/ROCKET	57	5

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	ASM-4 WARHEAD W/O SAFE AND ARM	28	1
2010	AS-11 SAFE AND ARMING DEVICE	0.1	14
2010	ASM-2 MISSILE WARHEAD W/O SAFE	245	1
2010	AS-14 SAFE AND ARMING DEVICE	0.12	4
2010	AS-12 SAFE AND ARMING DEVICE	0.1	1
2010	ASM-5 SAFE AND ARMING DEVICE	0.1	10
2010	ASM-3 SAFE AND ARMING DEVICE	0.1	2
2010	ASM-4 SAFE AND ARM DEVICE	0.1	1
2010	FIBDID EJECTOR MODULE	0.0037	11
2009	FMU-143H/B MOD W/PBXN-11 BOOST	0.3309	2
2011	FMU-143H/B MOD W/PBXN-11 BOOST	0.3309	14
2009	FMU-152A/B JPF BOOSTERS	0.3638	2
2009	FMU-143D/B W/PBXN-11 AND CHI-6	0.3109	4
2011	SDBII INSENSITIVE MUNITION FUZ	0.3934	9
2012	SDB II S/A DEVICE 2290049-1	0.0002	5
2014	FMU-152A/B W/ 400G OR HIGHER	0.002	1
2012	SDB II SMDC 17341300-1	0.0007	4
2012	SDB II SMDC 17341300-2	0.0007	4
2012	SDB II FLT DESTRUCT 17341100-1	0.0816	4
2012	SDB II LAP ASSEM N00682163-107	31.3	1
2012	SDB II LAP ASSEM N00682198-503	35.5	1
2012	SDB II LAP ASSEM N00682200-501	32.5	1
2012	SDB II ASSEM N00682202-501	35.3	1
2012	SDB II LAP ASSEM N00682204-201	32.2	1
2013	SDB II ATK WARHEAD	25.64	2
2010	PELLET ASSEMBLY, BOOSTER LIVE	0.3752	4
2012	PELLET ASSEMBLY, BOOSTER LIVE	0.3752	15
2010	FMU-168/B FUZE SYSTEM LIVE	0.377275	1
2010	FMU-168/B FUZE SYSTEM P/NDE344	0.000395	1
2010	FMU-168 HTVSF P/N DE326	0.000143	4
2012	FMU-168 HTVSF P/N DE326	0.000143	3
2011	FMU-152B/B FLIGHT TEST FUZE	0.364	6
2013	CUTTER, CTG ACTUATED MO. H4B-0	0.00011	2
2010	FMU-168/B FUZE SYS INERT DE347	0.000143	1
2012	FMU-168/B FUZE SYS INERT DE347	0.000143	1
2011	SDB/FLM	137	2
2011	Encased Tritonal 11 in X 4.25	4.6	1
2010	TETRYL LEAD	0.00037	12
2011	DSU-33/B PROXIMITY SENSOR	0.00024	1
2012	BLACKTIP ORDNANCE PACKAGE	0.778	6
2012	PG-7 WARHEAD W/FUZE	0.8532	2
2012	MK82 WIREACT LINER AND MNX-791	192	1
2013	BLU-109 WITH EMBEDDED FUZEWELL	580	1
2011	HAND GRENADE ELCTRO-MECHANICAL	0.2535	1
2010	KB-1 SUBMUINITION GRENADE	0.074957	4
2012	M583A1 CANDLE COMPOSITION	0.205	52
2010	ACTUATOR,EXPLOSIVE,	0.0003	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	SHAPED CHARGE WARHEAD	4.5243	20
2010	AAM1 WARHEAD W/O S/A DEVICE	44	10
2010	AAM2 WARHEAD W/O S/A DEVICE	23	22
2010	AAM3 W/H W/O S/A DEVICE VER 2	4	3
2010	AAM5 W/H W/O S/A DEVICE VER 2	8	3
2010	LEGACY CARTRIDGE ASSEMBLY	0.0026	3
2009	SAFE & ARMING SAF	0.25	1
2010	LAP ASSY, BATTLEAXE, GEN 1	1.8254	2
2010	WARHEAD ROCKET 122MM 9M22U	60	1
2010	ROCKET MOTOR, 2.75IN HYD. NDI	6.224	3
2010	SUBMUNITION, ANTI-TANK,	0.6085	2
2010	LAP ASSY, BATTLEAXE, GEN II	3.43	2
2013	GATR/EAS70 LOADED ROCKET MOTOR	1.7	1
2013	GATR AUR W/INERT WARHEAD	7.3209	4
2010	LIVE MVCH-62 FUZE	0.022	1
2010	LIVE MVP-62 FUZE	0.022046	13
2012	CBU-104(T-1)/B	0.135	1
2011	ANTI TANK MINE TM62P3	16.3	3
2011	SIG KIT PERSNL DISTR MX79	0.054	2
2010	FLARE,INFRARED,COUN	0	300
2010	SIMULATOR,FLARE,INF	0	7
2011	DEVICE DECOY MJU-58/B(4.2G)	0.00077	39
2010	DEVICE, DECOY, MJU-56/B	0.52	173
2011	ARM-010 INFRARED FLARE	0.291	60
2011	ATK-2CC DECOY FLARE	0.269	10
2011	FLARE, INFRARED, ARM-012	0.3446	26
2014	MJU-59/B	1.3	1
2011	FLARE, DECOY, IR ASC-1060-004	0	38
2013	ATK-62X2 AERIAL FLARE	0.669	1
2013	FIRING DEVICE DEMO M5 PRES-REL	0.0001	8
2010	CORD ASSEMBLY, DETONATING	0.007	74
2011	CORD ASSEMBLY, DETONATING	0.007	299
2012	CORD ASSEMBLY, DETONATING	0.007	70
2014	CORD ASSEMBLY, DETONATING	0.007	215
2012	CHARGE,DEMOLITION	1.25	2338
2012	CHARGE,DEMOLITION	0.52632	76
2013	CHARGE,DEMOLITION	0.52632	152
2009	EXPLOSIVE,WATER GEL	0.5	1
2010	EXPLOSIVE,WATER GEL	0.5	30
2009	CHG DEMO M112 COMP 4 1.25 LBS	1.25	1045
2010	CHG DEMO M112 COMP 4 1.25 LBS	1.25	1618
2011	CHG DEMO M112 COMP 4 1.25 LBS	1.25	2460
2012	CHG DEMO M112 COMP 4 1.25 LBS	1.25	295
2013	CHG DEMO M112 COMP 4 1.25 LBS	1.25	318
2014	CHG DEMO M112 COMP 4 1.25 LBS	1.25	559
2013	CHARGE,DEMOLITION	0.507063	1
2009	DYNAMITE	0.55	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	DYNAMITE	0.37	38
2011	DYNAMITE	0.37	18
2012	DYNAMITE	0.37	6
2010	CHARGE,DEMOLITION	1.2	361
2013	CHARGE,DEMOLITION	1.2	1174
2011	DETONATOR, RP-1	0.00138	2
2011	DETONATOR, RP-2	0.00011	1
2011	RP-87, DETONATOR	0.0001	3
2009	DETONATOR, RP-4 SC EBW	0.0096	25
2009	EXPLOSIVE BOLTS FOR BLU-108	0.0005	12
2011	EXPLOSIVE BOLTS FOR BLU-108	0.0005	7
2009	HDP BOOSTER	1	48
2010	HOUSING INIT. LOAD SUBASSY.	0.0022	5
2010	FLSC,COPPER,RDX 230-900	0.0057	8
2010	FLSC,COPPER,RDX 230-1200	0.1713	23
2010	FLSC,COPPER,RDX 2000GR/FT	0.289	23
2010	MK 140 SLIP-ON BOOSTER (PETN)	0.044092	34
2010	DETONATORS ELECTRIC, AUSTRIAN	0.002205	4
2010	CIRCUT ARRAY W/19 RSI-007 MINI	0.00314	2
2013	SQ-80 IGNITER THERMITE SQUIB	0.001	200
2011	TITAN IV DESTRUCT CHARGE	1.327	1
2010	COVER PLATE ASSEMBLY (LIVE)	0.001653	4
2012	COVER PLATE ASSEMBLY (LIVE)	0.001653	20
2013	RSI-956-2 SHAPE CHARGE	0.0014	27
2012	CYLINDER, TEST, LDD W/PBXC-139	1	4
2013	2X2-IN COMP-B W/1X1-IN COMP A5	0.433	1
2011	PROP BENITE STRANDS 30.2	50	26
2013	PELLET 3, HNS IV .125X.10	0.0001	742
2011	CL-20 EXPLOSIVE PELLETS	0.0794	948
2009	DET CORD	0.007143	280
2010	DET CORD	0.00714	1000
2013	TRIMETHYLOLETHANE TRINITRATE	1	1109
2010	PROPELLANT, 30MM SPDN	1	6
2013	PROPELLANT, 30MM SPDN	1	80
2011	FMU-143B/B FUZE W/PBNX-11 BOOS	0.3109	1
2012	FMU-143B/B FUZE W/PBNX-11 BOOS	0.3109	1
2013	PBXN-9 PELLET 50MM/50MM/20MM	0.1918	1
2013	PBXN-9 PELLET 50MM DIA 10MM HI	0.0771	4
2013	PBXN-9 PELLET 20MM X 40MM	0.264	1
2009	PGU-13, PGU-14 SERIES PROPELLA	1	2
2010	PGU-13, PGU-14 SERIES PROPELLA	1	281
2012	PGU-13, PGU-14 SERIES PROPELLA	1	4
2013	PGU-13, PGU-14 SERIES PROPELLA	1	196
2010	7.62MM PROPELLANT	1	1
2011	7.62MM PROPELLANT	1	2
2012	7.62MM PROPELLANT	1	4
2013	7.62MM PROPELLANT	1	7

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	20MM PROPELLANT	1	116
2011	20MM PROPELLANT	1	104
2012	20MM PROPELLANT	1	113
2013	20MM PROPELLANT	1	74
2009	(M1) PROPELLANT	0.669	116
2010	(M1) PROPELLANT	0.669	139
2011	(M1) PROPELLANT	0.669	31
2012	(M1) PROPELLANT	0.669	168
2013	(M1) PROPELLANT	0.669	34
2014	COMP-B BOOSTERS 3.75 IN X 1 IN	0.6545	2
2011	COMP-B CHIPS	1	78
2012	COMP-B CHIPS	1	42
2014	PENTOLITE BOOSTER, 3.25X3.25IN	1.58	3
2014	PBXN-9 BOOSTER 2 X 1.25 IN	0.37	10
2014	PBXN-9 BOOSTER 2.37X.87 IN	0.236	1
2012	BARE AFX-757	1	14
2012	PBXN-109 CHARGE, 2.5X15.5 IN	4.5	1
2012	PBXN-109 CHARGE 2X12.625 IN	2.4	3
2012	PBXN-109 CHARGE 1.87X8 IN	1.37	1
2012	MNX-793 CHARGE 2X18 IN	2.832	3
2012	MNX-791 CHARGE 2X18 IN	2.852	3
2012	MNX-795 CHARGE 2X18 IN	2.952	3
2012	AFX-196 TY2 CHARGE 2X18 IN	2.788	3
2012	TNAZ BULK EXPLOSIVE	1	60
2014	TNAZ BULK EXPLOSIVE	1	30
2013	TEGDN EXPLOSIVE	1	270
2012	PAX/AFX-196 UNMACHINED CHARGE	4.8	4
2012	PAX AFX-196 UNMACHINED CHARGES	3.69	1
2012	PAX AFX-196 UNMACHINED CHARGES	2.9	1
2014	TNB FLAKES	1	66
2012	PBX-9501 PRESSED BULK	1	47
2014	PBXW-11 BOOSTER, 2.25 X 1.25	1.79	1
2014	PBXN-7 BOOSTER 1 X 1 IN	0.05	1
2014	BULK TNB	1	5
2012	TNT PADS, 2.5 X 2 IN	0.494	8
2012	TNT PADS, 2.5 X 1 IN	0.28	4
2014	FGO PADS, 2.5 X 1 IN	0.318	5
2014	BARATOL CHARGES, 2.5 X 1 IN	0.422	1
2014	BARATOL CHARGES, 2.5 X 1.5 IN	0.504	6
2014	PBX-9501 BOOSTERS, 2.75 X 2 IN	0.7835	9
2014	PBX-9501 RECT PRISM	0.226	1
2014	PBX-9501 BOOSTER, 4 X 2 IN	1.58	1
2014	PBX-9501 BOOSTER, 4X2 SQU BOT	2.888	1
2012	TNT CHARGE, 2.5 X 2 IN	0.512	51
2011	P-72 PLAIN WAVE LENS	13.524	1
2012	Tritonal Chips	1	1
2014	BARATOL 67/33 CRG 2.5 X 8.5 IN	3.576	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2014	BARATOL 67/33 CRG 2.5 X 5 IN	2.064	1
2012	BOMB, SWAT WARHEAD W/ESAF	5.2122	2
2013	CHARGE, AFX 757, UNCASSED 2X8	1.75	1
2012	CHARGE, AFX 757 BARE 3 X 24	12	1
2013	CHARGE, AFX 757 STEEL 2.3 X 8.25	1.68	1
2012	MNX-256 CHAMFERED (3.5 X 3.5)	2.069	23
2012	AFX-196 TY II HOPI BAR PELLETS	0.0007	75
2014	BARE COMP B CHARGE, 3 X 6 IN	2.62	2
2014	COMP B UNMACHINED 3.25 X 6.5	3.298	6
2011	COMP B 8 IN CYLINDER	1	10
2013	ELGST TUBES LOADED W/ IMX-101	4.2	7
2013	MNX-256 FACED CHARGES	0.772	7
2012	.50 CAL PROPELLANT	1	2
2013	IMX-101 PELLETS	0.055116	3
2013	IMX-104 PELLETS	0.055116	3
2013	PBXN-9 PELLETS (2.5X1.24)	0.55	2
2013	PBXN-9 CUBE (1.65X2.54X6.8)	2	2
2013	BULK CXM-AF-5 EXPLOSIVES	1	32
2013	40MM PROPELLANT, M1	1	44
2013	40MM PROPELLANT, TYPE NC 1281	1	1
2014	MNX-1282 CYLINDRICAL DISK	1.205	6
2010	SQUIB, FIRE EXT	0.181	9
2010	SQUIB, FIRE EXT	0.0007	3
2011	SQUIB, FIRE EXT	0.0007	3
2012	SQUIB, FIRE EXT	0.0007	5
2013	SQUIB, FIRE EXT	0.0007	2
2009	DIV RKT MOTOR	0.4003	4
2010	DIV RKT MOTOR	0.1008	1
2011	DIV RKT MOTOR	0.1008	2
2013	DIV RKT MOTOR	0.1008	3
2011	CARTRIDGE,AIRCRAFT	0.00028	1
2013	ROCKET MOTOR	0	2
2013	T0-5 HEMETIC CHIP SLAP 2 PIN	0.0001	13
2014	T0-5 HEMETIC CHIP SLAP 2 PIN	0.0001	72
2014	LOW ENERGY EXPLODING FOIL INIT	0.0003	7
2011	(APKWS)THERMAL BATTERY INIT	0.000099	1
2009	HEKO 3651 IMPULSE CARTRIDGE SQ	0.0008	54
2009	PW11HV IMPULSE CARTRIDGE SQ	0.0008	20
2011	ANUBIS LAUNCHER W/GAS GENERATO	0.0072	2
2011	APKWS GUIDED RKT ETBI (2849-1)	0.000099	1
2010	MINIATURE ELECTRIC DETONATORS	0.000251	4
2012	MINIATURE ELECTRIC DETONATORS	0.000251	14
2011	MODIFIED BBU-63/B EJECTION CTG	0.056	30
2011	PRIMER NO. 34	0.00001	159
2009	AGM-65D AUR	80	1
2010	AS-11 AUR MISSILE	787.1	1
2010	AAM3 AUR	35.2	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2012	GUIDE SECT, WGU-40/B AGM-130	0	1
2012	ADU-573A/B MCG ANT, AGM-130	0	3
2012	STINGER PROPULSION SECTION	9.69	1
2012	SA-7 WARHEAD	0.8801	10
2011	PG-7 RPG	1.684	1
2012	PG-7 RPG	1.684	28
2012	WAR HEAD SECTION M258	1	10
2010	STINGER W/INERT W/H OR TM	10.684	6
2009	STINGER GUIDANCE SECTION	0.0002	1
2013	ANUBIS WARHEAD, P/N TD106334	0.24	1
2013	WARHEAD SECTION M258	0.876	2
2013	PBXN-110	1	69.11
2009	MJU-38/B Flare	0.333158	462
2010	CARTRIDGE, IMPULSE CCU-92/A PKG 1/ HERMETICALLY CNTR	0.02	1
2010	(U) CCU-96B	0.02	2
2009	AFX-1209	1	11
2010	AFX-1209	1	1584
2012	AFX-1209	1	2077
2013	AFX-1209	1	1200
2014	AFX-1209	1	4
2010	Comp B, MNX-256, PBXN-109	1	20
2010	MNX-757 MOD 1	1	2
2010	MNX-757 MOD 2	1	2
2010	NITROQUANODINE	1	136
2010	NTO	1	1331
2010	OCTOL 75/25	1	125
2010	P-16 PWL	1	16
2010	PALNE WAVE LENS, P-40	1	30
2010	PAX/AFX-196 TYPE II	1	3
2010	PBX-9501	1	20
2010	PBXN - 5	1	50
2010	PBXN-5	1	5
2010	PBXN-9	1	3
2010	PBXW-11	1	6
2010	PETN .25% KEL-F	1	3
2010	PLANE WAVE LENS, P-60	1	3
2010	PX9503	1	43
2010	RDX 4m DYNO	1	44
2010	Red Dot Powder	1	17
2010	Sump Waste, MNX-1212, MNX-294, Slow Explosive	1	20
2010	SWAT Warhead, MNX-256	1	10
2009	FGO, TNT, MNX-256	1	25
2010	TATB	1	5
2010	TEGDN	1	50
2011	TMETN, TEGDN	1	2
2010	TNT / FGO	1	1

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	TWT	1	1
2010	WASTE FLAMMABLE SOLID, INORGANIC N.O.S. (ALUMINUM, TUNGSTEN)	1	250
2011	Ammonium Nitrate	1	1055
2011	APET	1	1633
2012	APET	1	55
2009	MNX-1209, MNX-1212, Tritonal, AFX-757	1	63
2011	MNX-791	1	94
2012	MNX-791	1	116
2013	MNX-791	1	0.678
2011	PBXN-113	1	4
2012	PBXN-113	1	158
2013	PBXN-113	1	176.524
2011	RP-4 (AWEF)	1	1
2011	Waste, Explosive blasting Type D (Classified)	1	33
2011	MNX-1282, Comp B	1	33
2011	PBXN-109, AFX-256, MNX-294	1	3
2011	MNX-1282, AFX-256, TNT	1	31
2011	MNX-294	1	9
2011	MNX-295	1	5
2012	MNX-295	1	12
2013	MNX-295	1	14.654
2011	MNX-1282 HALF BOMB	26.94	1
2009	MNX-1212	1	137
2010	MNX-1212	1	27
2012	AFX-1282	1	342
2012	Sump Waste	1	38
2013	Sump Waste	1	32.28
2014	Sump Waste	1	3
2012	Foreign Impulse Cart	0.00025	4
2013	AFX-295	0	0.4
2013	MNX-808	1	407.982
2014	MNX-808	1	91
2013	AFX-256, Explosive blasting Type D	1	13
2013	MNX-808, Bombs	1	58
2013	DNAN	1	4.83
2013	MNX-196 TYPE II	1	22.91
2014	MNX-196 TYPE II	1	122
2013	MNX-876	1	92.498
2013	MNX-196	0	3.118
2014	AFX-256 CHIPS	0	9
2014	IMX-101	1	4
2014	MNX-256 CHIPS	1	4
2010	MNX-256	1	87
2012	MNX-256	1	101
2010	MNX-256, Comp B	1	92
2009	MNX-795	1	60

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	MNX-795	1	5
2009	MNX-841	1	34
2009	Nitrocellulose	1	150
2010	Nitrocellulose	1	20
2009	PBXN-109	1	6
2010	PBXN-109	1	49
2011	PBXN-109	1	10
2012	PBXN-109	1	164
2013	PBXN-109	1	289.34
2014	PBXN-109	1	14
2009	TNT	1	11
2010	TNT	1	217
2011	TNT	1	57
2012	TNT	1	109
2009	Waste Flammable Solid, Inorganic, N.O.S. (Aluminum, Tungsten), 4.I, UN3178, III	1	125
2010	Waste Flammable Solid, Inorganic, N.O.S. (Aluminum, Tungsten), 4.I, UN3178, III	1	325
2010	AFX-196	1	35
2011	AFX-196	1	1
2013	AFX-196	1	152.71
2009	Waste, Explosive, blasting, type D	1	1850
2010	Waste, Explosive, blasting, type D	1	1001
2011	Waste, Explosive, blasting, type D	1	1689
2012	Waste, Explosive, blasting, type D	1	1346
2013	Waste, Explosive, blasting, type D	1	1139
2014	Waste, Explosive, blasting, type D	1	222
2009	Driver Recall (Articles, Pyrotechnic)	0.101	23
2009	Thunderflash, Small (Fireworks)	0.478	58
2009	Driver Recall Supervisor (Cartridges, Signal)	0.551	1
2009	AFX-256/PBXN-110/MNX-657 Mod 2	1	27
2009	AFX-757	1	72
2010	AFX-757	1	142
2011	AFX-757	1	42
2012	AFX-757	1	197
2013	AFX-757	1	324.034
2009	AFX-757, PBXN-110, AFX-196, MNX-256	1	59
2010	AFX-757, Tritonal, Comp B	1	26
2010	AFX-821	1	2
2010	AFX-221	1	4
2009	Comp B Chips	1	80
2014	Comp B Chips	1	8
2009	Comp B Risers	1	72
2010	MNX-1209	1	1
2011	MNX-1209	1	2600
2010	MNX-1209 HD II	1	72
2009	MNX-1212, MNX-256, MNX-793	1	138

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2010	MNX-657	1	24
2009	MNX-657 Mod 2/AFX-256/Tritonal	1	14
2009	MNX-793	1	125
2010	MNX-793	1	34
2009	MNX-795, AFX-196	1	87
2009	Octol	1	35
2010	Octol	1	29
2010	PAX-45	1	18
2010	PBX-9501	1	135
2009	PBXN-109, Comp B	1	22
2009	PBXN-109, COMP B, TRITONAL, PBXN-110	1	44
2009	PBXN-109, MNX-256, MNX-793, MNX-1212	1	30
2010	PBXN-110	1	12
2011	PBXN-110	1	35
2012	PBXN-110	1	230
2013	PBXN-110	1	8
2014	PBXN-110	1	12
2009	TNT/Octol/Tritonal	1	32
2009	TNT/PBXN-110/MNX-657 Mod 2	1	34
2009	Tritonal	1	26
2010	Tritonal	1	50
2011	Tritonal	1	31
2012	Tritonal	1	94
2009	TRITONAL, MNX-256	1	27
2010	AFX-795	1	5
2009	CARTRIDGES, POWER DEVICE	0.00008	1
2011	.22 Cal Rat Shot		8
2011	.357 Magnum Rounds		37
2011	.38 Special Rounds		8
2011	.44 Magnum Rounds		6
2010	30mm powder	1	173
2010	40mm Propellant	1	13
2010	AFX - 196 II	1	17
2014	AFX - 196 II	1	102
2010	AFX -1209 TYPE II	1	1721
2011	AFX-256	1	34
2012	AFX-256	1	71
2013	AFX-256	1	46.965
2009	Comp B	1	70
2010	Comp B	1	497
2011	Comp B	1	222
2012	Comp B	1	111
2013	Comp B	1	223.63
2011	AFX-256, TNT	1	24
2010	AFX-757, AFX-256	1	22
2010	AFX-757, Comp B, MNX-1212	1	86
2010	AFX-757, MNX-256	1	22

Annual OB/OD Expendables for Test Area C-62

FY	Nomenclature	TE_NEW	Sum of Quantity
2011	AFX-757, PBXN-110	1	36
2010	ASWT DET	1	1
2010	Baratal	1	24
2010	Black Powder	1	9
2010	BOOSTER PELLET	1	3
2010	COMP B, AFX-196	1	45
2009	Comp B, AFX-757, MNX-256, MNX-1212, PBXN-109	1	42
2010	Comp B, AFX-256	1	17
2010	Comp B, AFX-256, AFX-1209	1	85
2010	COMP-B, BARATOL, LX-14	1	4
2010	COMPB,AFX-1757,PBXN-110	1	22
2010	CXM-AF-5	1	26
2010	D-2 WAX	1	45
2010	DINGU //KEL-F 95/5	1	20
2010	FEM/RDX/DOA	1	525
2010	FUZE, 1E23 PWL	1	1
2010	FUZE, HTSF	1	1
2011	HMX (various)	1	19
2010	HMX-V	1	29
2010	HOL SNPE RDX - 1	1	120
2010	LEEF1 Exp Foil Init	1	1
2010	MNX - 1209 TYPE II	1	252
2010	MNX-1282	1	256
2011	MNX-1282	1	976
2012	MNX-1282	1	243
2013	MNX-1282	1	90
2010	MNX-1282 3.46g/cc, AFX-256	1	201
2011	MNX-1282, AFX-256	1	16
2011	MNX-1282, Comp B	1	118
2011	MNX-1282, PBXN-110	1	39

Source: U.S. Air Force, 2014b. *Range Utilization Data*. July.

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APPENDIX C
RELEVANT LAWS, REGULATIONS, AND POLICIES

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RELEVANT LAWS, REGULATIONS, AND POLICIES

The Range Environmental Assessment was prepared with consideration and compliance of relevant environmental laws, regulations, and policies; including federal and state laws and regulations, Department of Defense (DoD) directives, and Air Force instructions. A brief description of specific laws and regulations that legally define issues of compliance associated with the mission activities of this document are outlined below.

General

42 USC 4321 et seq; 1969; National Environmental Policy Act of 1969 (NEPA); Requires that federal agencies (1) consider the consequences of an action on the environment before taking the action and (2) involve the public in the decision making process for major Federal actions that significantly affect the quality of the human environment.

Executive Order 12372; 14-Jul-82; Intergovernmental Review of Federal Programs; Directs federal agencies to inform states of plans and actions, use state processes to obtain state views, accommodate state and local concerns, encourage state plans, and coordinate states' views.

Executive Order 12856; 3-Aug-93; Right to Know Laws and Pollution Prevention Requirements; Directs all Federal agencies to incorporate pollution planning into their operations and to comply with toxic release inventory requirements, emergency planning requirements, and release notifications requirements of Emergency Planning and Community Right-to-Know Act (EPCRA).

Executive Order 12898; 11-Feb-94; Environmental Justice; Directs federal agencies to identify disproportionately high and adverse human health or environmental impacts resulting from programs, activities or policies on minority populations.

Air Force Instruction 13-212; 16-Nov-07 (incorporating change 10-Jul-08; certified current 9-Aug-12(incorporates ANG supplement)); Range Planning and Operations; Establishes procedures for planning, construction, design, operation, and maintenance of weapons ranges as well as defines weapons safety footprints, buffer zones, and safest procedures for ordnance and aircraft malfunction.

Eglin AFB Instruction 13-212; 20-Dec-10; Range Planning and Operations; Implements AFD 13-2, *Air Traffic, Airfield, Airspace, and Range Management* and sets forth policies regarding the Eglin Test and Training Complex (ETTC) activities of all personnel (all Active Duty, Civilians, Guard, Reserves, Contractors, etc.) executing official business on the range and meets the requirements identified in AFI 13-212, *Range Planning and Operations*.

Air Force Policy Directive (AFPD) 32-70; 20-Jul-94; Environmental Quality; Develops and implements the Air Force Environmental Quality Program composed of cleanup, compliance, conservation, and pollution prevention.

Air Force Instruction 90-803; 11-Feb-13; Environmental, Safety, and Occupational Health Compliance Assessment and Management; Implements AFPD 90-8 by providing guidance for

establishing an assessment process designed to ensure compliance with Federal, State, and local environmental laws, Occupational Safety and Health Administration (OSHA) regulations, as well as Department of Defense (DoD), and Air Force policies and instructions.

32 CFR 989; 1-Jul-11; Environmental Impact Analysis Process (EIAP)--; This regulation provides a framework for how the Air Force is to comply with NEPA and the CEQ regulations.

Air Force Instruction 32-7062; 27-June-13 (supersedes AFI32-7062, 1-Oct-97); Air Force Comprehensive Planning; Implements AFPD 32-70 by establishing Air Force Comprehensive Planning Program for development of Air Force Installations, ensuring that natural, cultural, environmental, and social science factors are considered in planning and decision making.

Physical Resources

Air Quality

42 USC 7401 et seq.; 40 CFR Parts 50, 51 and 58; Clean Air Act, National Ambient Air Quality Standards (CAA, NAAQS); Ambient Air Quality Surveillance. Emission sources must comply with air quality standards and regulations established by federal, state, and local regulatory agencies.

Air Force Policy Directive (AFPD) 32-70; 20-Jul-94; Environmental Quality; Develops and implements the Air Force Environmental Quality Program composed of cleanup, compliance, conservation, and pollution prevention.
Implements Clean Air Act.

Air Force Instruction 32-7040; 30-Oct-13; Air Quality Compliance and Resource Management; This AFI sets forth actions for bases to implement to achieve and maintain compliance with applicable standards for air quality compliance, and responsibilities for who is to implement them. Includes requirements for NEPA and RCRA as well as CAA.

F.S. Ch. 403, Part I; Florida Air and Water Pollution Control Act; Regulates air pollution within the state.

FAC Chap. 62-204; Repealed 16-Feb-12; Florida State Implementation Plan, with Ambient Air Quality Standards and Prevention of Significant Deterioration (PSD) Program; Establishes state air quality standards and requirements for maintaining compliance with NAAQS.

FAC Chap. 62-213; Operation Permits for Major Sources of Air Pollution; Adopted PSD permit program, designed to control the impact of economic growth on areas that are already in attainment.

Air Space Use

49 USC 106 & Subtitle VII; 2011; Federal Aviation Act of 1958 (FAA); Created the FAA and establishes administrator with responsibility of ensuring aircraft safety and efficient utilization of the National Airspace System.

14 CFR Part 71; 1-Jan-11; Federal Aviation Regulation (FAR); Defines federal air routes, controlled airspace, and flight locations for reporting position.

14 CFR Part 73; 1-Jan-11; Federal Aviation Regulation (SFAR No. 53); Defines and prescribes requirements for special use airspace.

14 CFR Part 91; 1-Jan-11; FAR; Governs the operation of aircraft within the United States, including the waters within 3 nautical miles of the U.S. Coast. In addition, certain rules apply to persons operating in airspace between 3 and 12 nautical miles from the U.S. Coast.

Land Resources

16 USC 670a to 670o; 1997; Sikes Act, Conservation Programs on Military Reservations; DoD, in a cooperative plan with DOI and State, opens AF bases to outdoor recreation, provides the state with a share of profits from sale of resources (timber), and conserves and rehabilitates wildlife, fish, and game on each reservation. AF is to manage the natural resources of its reservations to provide for sustained multipurpose use and public use.

16 USC 1451 to 1466; 1997; Coastal Zone Management Act of 1972 (CZMA); Federal agency activities in coastal zones should be consistent with state management plans to preserve and protect coastal zones. Lands for which the Federal Government has sole discretion or holds in trust are excluded from the coastal zone.

USC 1701 et seq., Public Law 94-579; October 2001; Federal Land Policy and Management Act of 1976 (FLPMA); Provides that the Sec. of Interior shall develop land use plans for public lands within BLM jurisdiction to protect scientific, scenic, historical, ecological, environmental and archeological values, and to accommodate needs for minerals, food and timber.

16 USC 3501 to 3510; 2011; Coastal Barrier Resources Act (CBRA); Limits Federal expenditure for activities on areas within the Coastal Barrier Resources System. An exception is for military activities essential to national security, after the Federal agency consults with the Secretary of the Interior.

Air Force Instruction 32-7062; 27-June-13 (supersedes AFI32-7062, 1-Oct-97); Air Force Comprehensive Planning; Implements AFD 32-70 by establishing Air Force Comprehensive Planning Program for development of Air Force Installations, ensuring that natural, cultural, environmental, and social science factors are considered in planning and decision making.

Air Force Instruction 32-7063; 13-Sep-05 (certified current 17-Nov-09); Air Installation Compatible Use Zone Program (AICUZ); Provides a framework to promote compatible development within area of AICUZ area of influence and protect Air Force operational capability from the effects of land use which are incompatible with aircraft operations.

Air Force Instruction 32-7064; 17-Sep-04; Integrated Natural Resources Management; Provides for development of an integrated natural resources management plan to manage the installation ecosystem and integrate natural resources management with the rest of the installation's mission. Includes physical and biological resources and uses.

Noise

42 USC 4901 to 4918, Public Law 92-574; 1972; Noise Control Act of 1972 (NCA); Provides that each Federal agency must comply with Federal, State, interstate and local requirements for control and abatement of environmental noise.

49 USC 44715; 1997; Controlling Aircraft Noise and Sonic Boom; Provides that the Federal Aviation Administration will issue regulations in consultation with the USEPA to control and abate aircraft noise and sonic boom.

Executive Order 12088; 1978; Federal Compliance with Pollution Control Standards; Requires the head of each executive agency to take responsibility for ensuring all actions have been taken to prevent, control, and abate environmental (noise) pollution with respect to federal activities.

Air Force Instruction 32-7063; 13-Sep-05 (certified current 17-Nov-09); AICUZ; The AICUZ study defines and maps noise contours. Update when noise exposure in air force operations results in a change of Day-Night Average Sound Level of 2 decibels (dBs) or more as compared to the noise contour map in the most recent AICUZ study.

Water Resources

33 USC 426, 577, 577a, 595a; 1970; River and Harbor Act of 1970 (RHA); Keeps navigable waterways open, authorizing the Army Corps of Engineers to investigate and control beach erosion and to undertake river and harbor improvements.

33 USC 1251 et seq.; 1997; Clean Water Act (CWA) (Federal Water Pollution Prevention and Control Act, FWPCA); In addition to regulating navigable water quality, the CWA establishes NPDES permit program for discharge into surface waters and storm water control; Army Corps of Engineers permit and state certification for wetlands disturbance; regulates ocean discharge; sewage wastes control; and oil pollution prevention.

33 USC 1344-Section 404; 1997; Federal Water Pollution Control Act/Clean Water Act (FWPCA/CWA), Dredged or Fill Permit Program; Regulates development in streams and wetlands by requiring a permit from the Army Corps of Engineers for discharge of dredged or fill material into navigable waters. A Section 401 (33 USC 1341) Certification is required from the State as well.

42 USC 300f et seq.; 1997; Safe Drinking Water Act (SDWA); USEPA-Requires the promulgation of drinking water standards, or MCLs, which are often used as cleanup values in remediation; establishes the underground injection well program; and establishes a wellhead protection program.

42 USC 6901 et seq.; 29-May-05; Resource Conservation and Recovery Act of 1976 (RCRA); Establishes standards for management of hazardous waste so that water resources are not contaminated: RCRA Corrective Action Program requires cleanup of ground water that has been contaminated with hazardous constituents.

42 USC 9601 et seq., Public Law 96-510; 11-Dec-80; Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA); Establishes the emergency response and remediation program for water and ground water resources contaminated with hazardous substances.

Air Force Policy Directive 32-70; 20-Jul-94; Environmental Quality; Develops and implements the Air Force Environmental Quality Program composed of cleanup, compliance, conservation, and pollution prevention. Implements Clean Water Act, Safe Drinking Water Act, and Water Quality Act of 1987.

Air Force Instruction 32-7041; 10-Dec-03 (certified current 28-Jan-10); Water Quality Compliance; Instructs the Air Force on maintaining compliance with the Clean Water Act; other federal, state, and local environmental regulations; and related DoD and AF water quality directives.

Air Force Instruction 32-7041, Eglin AFB Supplement; 16-Jun-10; Water Quality Compliance; This supplement applies to all units assigned or attached to Eglin Air Force Base, to include any associate/tenant organizations and off-base and remote site units. This supplement should be read in conjunction with AFI 32-7041, Water Quality Compliance.

Air Force Instruction 32-7064; 217-Sep-04; Integrated Natural Resources Management; Sets forth requirements for addressing wetlands, floodplains and coastal and marine resources in an integrated natural resources management plan (INRMP) for each installation.

F.S. Chaps. 253, 258; Florida Aquatic Preserves Act; Establishes state aquatic preserves.

F.S. Chap. 403, Part I; Florida Air and Water Pollution Control Act; establishes the regulatory system for water resources in the State of Florida.

FAC Chap. 62-302; Surface Water Quality Standards; Classify Florida surface waters by use. Identify Outstanding Florida Waters.

FAC Chap. 62-312; Florida Dredge and Fill Activities; Requires a State permit for dredging and filling conducted in, on, or over the surface waters of the State.

Biological Resources

Animal Resources

16 USC 668 to 668d; 1995; Bald and Golden Eagle Protection Act (BGEPA); Makes it illegal to take, possess, sell, barter, offer to sell, transport, export or import Bald and Golden eagles in the United States. Taking may be allowed for scientific, exhibition, or religious purposes, or for seasonal protection of flocks.

16 USC 703 - 712; 1997; Migratory Bird Treaty Act (MBTA); Makes it illegal to take, kill or possess migratory birds unless done so in accordance with regulations. An exemption may be obtained from the Dept. of the Interior for taking a listed migratory bird.

16 USC 1361 et seq.; 1997; Marine Mammal Protection Act of 1972, as amended (MMPA); Makes it illegal for any person to “take” a marine mammal, which term includes significantly disturbing a habitat, unless activities are conducted in accordance with regulations or a permit.

Air Force Instruction 32-7064; 17-Sep-04; Integrated Natural Resources Management; Explains how to manage natural resources on Air Force property, and to comply with Federal, State, and local standards for resource management.

Executive Order 13112; 1999; Instructs federal agencies to monitor for, control, and prevent the introduction of non-native, invasive species of plants and animals.

Executive Order 13186; 2001; Directs federal agencies whose actions may affect migratory birds to establish and implement a Memorandum of Understanding with the U.S. Fish and Wildlife Service (USFWS) to promote the conservation of migratory birds.

DoD and USFWS Memorandum of Understanding (MOU); 31-Jan-06; Requires the DoD to acquire permits for normal and routine operations, such as installation support functions, that may result in pursuit, hunting, taking, capturing, killing, possession, or transportation of any migratory bird.

50 CFR 21; 2007; Exempts the Armed Forces from the incidental taking of migratory birds during military readiness activities, except in cases where an activity would likely cause a significant adverse effect on the population of a migratory bird species. In this situation, the Armed Forces, in cooperation with the USFWS, must develop and implement conservation measures to mitigate or minimize the significant adverse impacts.

Threatened & Endangered Species

16 USC 1361 et seq., Public Law 92-574; 1997; Marine Mammal Protection Act of 1972, as amended (MMPA); Makes it illegal for a person to “take” a marine mammal, which term includes significantly disturbing the habitat, unless done in accordance with regulations or a permit.

16 USC 1531 to 1544-16 USC 1536(a); 1997; Endangered Species Act 1973 (ESA); Federal agencies must ensure their actions do not jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify the habitat of such species and must set up a conservation program.

50 CFR Part 402; Endangered Species Act Interagency Cooperation; These rules prescribe how a Federal agency is to interact with either the FWS or the NMFS in implementing conservation measures or agency activities.

50 CFR Part 450; Endangered Species Exemption Process; These rules set forth the application procedure for an exemption from complying with Section 7(a)(2) of the ESA, 16 USC 1536(a)(2), which requires that Federal agencies ensure their actions do not affect endangered or threatened species or habitats.

Air Force Policy Directive 32-70; 20-Jul-94; Environmental Quality; Develops and implements the Air Force Environmental Quality Program composed of cleanup, compliance, conservation, and pollution prevention. Implements Endangered Species Act.

Air Force Instruction 32-7064; 17-Sep-04; Integrated Natural Resources Management; This AFI directs an installation to include in its INRMP procedures for managing and protecting endangered species or critical habitat, including State-listed endangered, threatened or rare species; and discusses agency coordination.

Human Safety

29 CFR 1910.120; Occupational Safety and Health Act, Chemical Hazard Communication Program (OSHA); Requires that chemical hazard identification, information and training be available to employees using hazardous materials and institutes material safety data sheets (MSDS) which provide this information.

Department of Defense Instruction 6055.01; 14-Oct-14; Establishes occupational safety and health guidance for managing and controlling safety risks and health hazards.

Department of Defense Flight Information Publication; Identifies regions of potential hazard resulting from bird aggregations or obstructions, military airspace noise sensitive locations, and defines airspace avoidance measures.

Air Force Instruction 13-212. Certified current 06 January 2010. Range Planning and Operation; Establishes procedures for planning, construction, design, operation, and maintenance of weapons ranges as well as defines weapons safety footprints, buffer zones, and safest procedures for ordnance and aircraft malfunction.

Eglin Air Force Base Instruction 13-212. 20 December 2010. Implements AFD 13-2, Air Traffic, Airfield, Airspace, and Range Management. This Directive sets forth policies regarding the Eglin Test and Training Complex (ETTC) activities of all personnel (all Active Duty, Civilians, Guard, Reserves, Contractors, etc.) executing official business on the range and meets the requirements identified in AFI 13-212, Range Planning and Operations.

Air Force Instruction 32-2001; 27-Feb-14; supersedes 9-Sep-08; Fire Emergency Services Program; Identifies requirements for Air Force fire protection programs (equipment, response time, and training).

Air Force Instruction 32-7063; 13-Sep-05 (certified current 17-Nov-09); AICUZ. The AICUZ Study defines and maps accident potential zones and runway clear zones around the installation, and contains specific land use compatibility recommendations based on aircraft operational effects and existing land use, zoning and planned land use.

Air Force Manual 91-201; 12-Jan-11; Explosives Safety Standards; Regulates and identifies procedures for explosives safety and handling as well as defining requirements for ordnance quantity distances, safety buffer zones, and storage facilities.

Air Force Guidance Memorandum to AFI 91-203, Air Force Consolidated Occupational Safety Instruction; 19-Aug-14; supersedes AFI 91-203. Provides guidance on following OSHA and Air Force safety standards.

Habitat Resources

Executive Order 11990; 24-May-77; Protection of Wetlands; Requires federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in their activities. Construction is limited in wetlands and requires public participation.

Executive Order 11988; 24-May-77; Floodplain Management; Directs Federal agencies to restore and preserve floodplains by performing the following in floodplains: not supporting development; evaluating effects of potential actions; allowing public review of plans; and considering in land and water resource use.

Air Force Policy Directive 32-70; 20-Jul-94; Environmental Quality; Develops and implements the Air Force Environmental Quality Program composed of cleanup, compliance, conservation, and pollution prevention. Implements Executive Order 11988 and 11990.

Anthropogenic Resources

Hazardous Materials

7 USC 136 et seq., Public Law 92-516; 1997; Federal Insecticide, Fungicide, and Rodenticide Act Insecticide and Environmental Pesticide Control (FIFRA); Establishes requirements for use of pesticides that may be relevant to activities at Eglin Air Force Base.

42 USC Sect. 2011 - Sect. 2259; Atomic Energy Act (AEA); Assure the proper management of source, special nuclear, and byproduct material.

42 USC 6901 et seq.; 1980; Resource Conservation and Recovery Act of 1976 and Solid Waste Disposal Act of 1980 (RCRA); Subchapter III sets forth hazardous waste management provisions; Subchapter IV sets forth solid waste management provisions; and Subchapter IX sets forth underground storage tank provisions; with which Federal agencies must comply.

42 USC 9601 et seq., Public Law 96-510; 1997; Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA); Establishes the liability and responsibilities of federal agencies for emergency response measures and remediation when hazardous substances are or have been released into the environment.

42 USC 11001 to 11050; Emergency Planning and Community Right-to-Know Act (EPCRA); Provides for notification procedures when a release of a hazardous substance occurs; sets up community response measures to a hazardous substance release; and establishes inventory and reporting requirements for toxic substances at all facilities.

42 USC 13101 to 13109; 1990; Pollution Prevention Act of 1990 (PPA); Establishes source reduction as the preferred method of pollution prevention, followed by recycling, treatment, then disposal into the environment. Establishes reporting requirements to submit with EPCRA reports. Federal agencies must comply.

Air Armament Center Plan 32-3; January 2004; Asbestos Management Plan; This plan establishes procedures for the Eglin Air Force Base (AFB) facility asbestos management program. It contains the policies and procedures used in controlling the health hazards created by asbestos containing materials (ACM), and the procedures used in ACM removal required to protect the health of personnel and to comply with applicable federal, state, and Air Force laws and inspections.

Air Armament Center Plan 32-4; January 2004. Lead-Based Paint Management Plan; This plan establishes procedures for the Eglin AFB lead-based paint management program. It contains policies and procedures used in controlling health hazards from exposure to lead-based paint.

Air Armament Center Plan 32-7; February 2003; Integrated Solid Waste Management Plan; The Eglin AFB Integrated Solid Waste Management Plan documents guidance and procedures with regard to regulatory compliance in the handling, reduction, recycling and disposal of solid waste. It contains requirements necessary to reach the mandated incremental waste diversion goal of 40-percent diversion of municipal solid waste from landfill disposal by fiscal year (FY) 2005. These policies and procedures are designed to preserve landfill space, increase recycling and reuse, address revenues and cost avoidance, provide pollution prevention alternatives and promote Affirmative Procurement. This plan draws from the aspects of two programs, the Integrated Solid Waste Management Program (ISWMP) and the Qualified Recycling Program (QRP).

Air Armament Center Plan 32-9; February 2003; Hazardous Materials Management Plan; The Eglin AFB Hazardous Material Management Plan documents existing policy and procedures for organizations requesting, procuring, issuing, handling, storing and disposing of hazardous material (HM) in accomplishment of the Air Armament Center (AAC) mission. These policies provide guidance for compliance with federal, state, and local occupational safety, health, and environmental regulations.

Air Force Policy Directive 32-70; 20-Jul-94; Environmental Quality; Provides for developing and implementing an Air Force Environmental Quality Program composed of four pillars: cleanup, compliance, conservation and pollution prevention. Implements Resource Recovery and Conservation Act, Comprehensive Environment Response Compensation and Liability Act of 1980, Emergency Planning and Community Right-to-Know Act, Pollution Prevention Act, Executive Order 12088, Executive Order 12777, and Executive Order 12586. Implements DoD Instruction 4120.14, DoD Directive 4210.15, and DoD Directive 5030.41.

Eglin AFB Instruction 32-7003; 1-Nov-2010; Hazardous Waste Management; This instruction is intended to provide a framework for complying with environmental standards applicable to

Hazardous Waste (HW), Universal Waste (UW), Special Waste (SW) and used petroleum products on Eglin AFB.

Air Force Instruction 32-7020; 7-Feb-01; The Environmental Restoration Program; Introduces the basic structure and components of a cleanup program under the Defense Environmental Restoration Program. Sets forth cleanup program elements, key issues, key management topics, objectives, goals, and scope of the cleanup program.

Air Force Instruction 32-7042; 15-Apr-09 (incorporating change 31-Mar-10); Waste Management; Provides that each installation must develop a hazardous waste (HW) and a solid waste (SW) management plan; characterize all HW streams; and dispose of them in accordance with the AFI. Plans must address pollution prevention as well.

Air Force Instruction 32-7042, Eglin AFB Supplement; 28-Jan-10; Waste Management; Serve as the Solid Waste Management plan required by AFI 32-7042, *Solid and Hazardous Waste Compliance*, and applies to all agencies and organizations on Eglin AFB, all personnel living in military family housing (MFH) and contractors performing work under government contracts. Although the parent AFI also addresses hazardous waste, this supplement concerns only non-hazardous solid waste.

Air Force Instruction 32-7001; 4-Nov-11; Environmental Management; supersedes AFI 32-7001; AFI 32-7006 and AFI 32-7080; Establishes the framework for an Environmental Management System (EMS) at Headquarters, United States Air Force (HQ USAF), major commands (MAJCOMs), and at installations.

Air Force Policy Directive 40-2; 15-Mar-07; Radioactive Materials; Establishes policy for control of radioactive materials, including those regulated by the U.S. Nuclear Regulatory Commission (NRC), but excluding those used in nuclear weapons.

Cultural Resources

16 USC 431 et seq.; PL 59-209; 34 Stat. 225; 43 CFR 3; 1906; Antiquities Act of 1906; Provides protection for archeological resources by protecting all historic and prehistoric sites on Federal lands. Prohibits excavation or destruction of such antiquities without the permission (Antiquities Permit) of the Secretary of the department that has the jurisdiction over those lands.

16 USC 461 to 467; 1997; Historic Sites, Buildings and Antiquities Act (HAS); Establishes national policy to preserve for public use historic sites, buildings and objects of national significance: the Secretary of the Interior operates through the National Park Service to implement this national policy.

16 USC 469 to 469c-1; 1997; Archaeological and Historic Preservation Act of 1974 (AHPA); Directs Federal agencies to give notice to the Sec. of the Interior before starting construction of a dam or other project that will alter the terrain and destroy scientific, historical or archeological data, so that the Sec. may undertake preservation.

16 USC 470aa-470mm, Public Law 96-95; 1997-Supp; Archaeological Resources Protection Act of 1979 (ARPA); Establishes permit requirements for archaeological investigations and

ensures protection and preservation of archaeological sites on federal and tribal lands. ARPA sets descriptions of prohibited activities in regards to cultural resources and provides financial and incarceration penalties for convicted violators.

16 USC 470 to 470w-6-16 USC 470f, 470h-2; 1997-Supp; National Historic Preservation Act (NHPA); The NHPA is our Nation's keystone federal law for historic preservation. Section 106 of NHPA is a planning process that requires Federal agencies to take into account the effects of their actions on historic properties, and provide ACHP with a reasonable opportunity to comment on those actions. Section 106 regulations explicitly address NEPA (see 36CFR§800.8).

25 USC 3001 - 3013), (Public Law 101-601); 1997-Supp; Native American Graves Protection and Repatriation Act of 1991 (NAGPRA); provides for the rights of Native American lineal descendants, Indian tribes, and Native Hawaiian organizations with respect to the treatment, repatriation, and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, with which they can show a relationship of lineal descent or cultural affiliation.

42 USC 1996; 1994; American Indian Religious Freedom Act (AIRFA); Federal agencies are to make reasonable efforts to accommodate access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional rites in the practice of their traditional religions.

32 CFR Part 200; 1996; Protection of Archaeological Resources: Uniform Regulations; Implements ARPA; provides that no person may excavate or remove any archaeological resource located on public lands or Indian lands unless such activity is conducted pursuant to a permit issued under this Part or is exempted under this Part.

36 CFR Part 60; 1996; Nominations to NRHP; Details how the Federal agency Preservation Officer is to nominate properties to the NPS for consideration to be included on the NRHP.

36 CFR Part 800; 5-Aug-04; Protection of Historic and Cultural Properties; Sets out the requirements of Section 106 of the National Historic Preservation Act (NHPA): under these regulations Federal agencies must take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings.

Executive Order 11593, 16 USC 470; 13-May-71; Protection and Enhancement of the Cultural Environment; Instructs federal agencies to identify and nominate historic properties to the NRHP, as well as avoid damage to Historic properties eligible for NRHP.

Executive Order 13007; 24-May-96; Directs federal agencies to provide access to and ceremonial use of sacred Indian sites by Indian religious practitioners as well as promote the physical integrity of sacred sites.

DoD Directive 4715.16; 18-Sept-08; Cultural Resources Management; This DoDI establishes DoD policy and assigns responsibilities for DoD components (identified in the DoDI) to comply with applicable Federal statutory and regulatory requirements, Executive orders, and Presidential memorandums for the integrated management of cultural resources on DoD-managed lands.

DoD Directive DoDI 4710.02; 14-Sep-06 "DoD; Interactions with Federally-Recognized Tribes: This DoDI implements DoD policy, assigns responsibilities, and provides procedures for DoD branches' interactions with federally-recognized tribes.

Air Force Instruction 32-7065; 1-Jun-04; Cultural Resource Management Program; Directs AF bases to comply with historic preservation requirements, and describes Air Force organizational responsibilities. The AFI provides guidance for principal actions associated with cultural resources compliance: Inventory, Project Review, and General Management.

AF Manual 126-5, Natural Resources, Outdoor Recreation, and Cultural Values; provides guidance, standards, and technical information on management of natural resources, outdoor recreational resources, and cultural resources.

APPENDIX D
FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT
(CZMA) CONSISTENCY DETERMINATION

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FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA)

CONSISTENCY DETERMINATION

This document provides the State of Florida with the U.S. Air Force's Consistency Determination under CZMA Section 307 and 15 C.F.R. Part 930 sub-part C. The information in this Consistency Determination is provided pursuant to 15 C.F.R. Section 930.39 and Section 307 of the Coastal Zone Management Act, 16 U.S.C. § 1456, as amended, and its implementing regulations at 15 C.F.R. Part 930.

This federal consistency determination addresses current and anticipated Test Area (TA) C-62 operations on Eglin AFB, Florida.

Proposed Federal Agency Action:

The location of the Proposed Action is at TA C-62, a 1,290-acre weapon systems testing and training area (Figure D-1). A stabilized clay landing strip (currently inactive) is located on the test area adjacent to its northwestern edge. The main cleared area on C-62 is a 6,000-foot equilateral triangle with the target center in a 2,000-foot radius circle at one corner of the triangle. An additional area has been cleared for strafing in the northwest corner of the range. Six numbered target areas are currently used for mission activities on TA C-62. Mission activities utilize one additional target on TA C-62, referred to as the "billboard," which is located northeast of Test Target (TT)-1, between TT-1 and TT-4 (Figure D-2). There are two permanent 45-foot steel scoring towers with M-2 spotting scopes on the range. Meteorological equipment on TA C-62 includes a Cardion surface wind measuring set (with readouts in the main control tower and the range control building), a pibal-theodolite wind sounding system, and surface temperature and humidity measuring equipment.

Air-to-Surface (A/S) Operations:

A/S test missions may involve testing a new weapon, new fuze, upgraded guidance or sensor system, or a weapon's penetration capability. In most cases, the warheads are removed (i.e., the weapons are inert) and replaced with a telemetry package that sends data back to the control facility for analysis. These types of missions involve releasing or firing the bomb or missile from an aircraft and having the weapon impact somewhere on the test area. High-performance aircraft gunnery testing and training, such as strafing, is also included in A/S operations. Routine strafing at TA C-62 has been conducted on TT-1 and TT-3 using 7.62-, 20-, and 30-millimeter ammunition by F-15, F-16, A10 and CV-22 aircraft (*Maximum Annual Expendables are listed in Tables 2-1, 2-2, and 2-3 of the C-62 Range Environmental Assessment [REA]*).

A/S training missions may involve the release or launch of munitions over land. These weapons are scored on the ground or by the aircrew. Training altitudes may range from a few hundred feet to over 20,000 feet, and speeds may range from 200 knots to near supersonic.

Ground Operations:

TA C-62 is a "lesser" test area only used for ground tests when the major test areas are not available. Traditional ground test activities like arena testing and hazard classification tests such

as bullet impact and slow cook-off testing are seldom performed on TA C-62. However, TA C-62 has historically supported these types of tests and can still do so. Ground operations also include general static testing of small-diameter bombs (SDBs). During static testing, the SDB is suspended above a target and initiated. Targets could include communication facilities, lightly armored ground combat systems and vehicles. There are four static test pads for ground operations, including a SDB test pad for bare charges only and low weight munitions; SDB “Pad A” and SDB “Pad B,” both used for fragment and nonfragment munitions; and a ship-to-shore connector test pad for nonfragment munitions only. Test pad areas are cleared as needed in preparation for a test.

The Hurlburt Special Operations Schools and Small Arms Range Complex has operated on TA C-62. Past activities included classroom training or training with weapons that require a large area (e.g., Light Antitank Weapon System rocket firing).

Future Activities:

The Air Force has identified several new missions to be analyzed as part of the Proposed Action:

- Approximately 50 strafing runs for the CV-22 using 0.50-caliber ammunition with 100,000 rounds annually
- F-35 strafing runs using live 25-millimeter ammunition up to 114,977 rounds annually
- Construction of a 400- by 400-foot square clay pad along the existing westernmost dirt road/landing zone to be designated as a rotary helicopter landing zone for emergency landings during strafing missions
- Use of TT-3 (Strafe Pit) Improved Remote Strafe Scoring System (IRSSS) equipment for future ground gun testing

Federal Consistency Review:

Statutes addressed as part of the Florida Coastal Zone Management Program consistency review and considered in the analysis of the Proposed Action are discussed in the following table.

Pursuant to 15 C.F.R. § 930.41, the Florida State Clearinghouse has 60 days from receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension, in writing, under 15 C.F.R. § 930.41(b). Florida’s concurrence will be presumed if Eglin AFB does not receive its response on the 60th day from receipt of this determination.

Florida Coastal Management Program Consistency Review

Statute	Consistency	Scope
Chapter 161 <i>Beach and Shore Preservation</i>	<p>The Proposed Action would not affect beach and shore management, specifically as it pertains to:</p> <ul style="list-style-type: none"> • The Coastal Construction Permit Program. • The Coastal Construction Control Line (CCCL) Permit Program. • The Coastal Zone Protection Program. <p>All activities would occur on federal property.</p>	This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.
Chapter 163, Part II <i>Growth Policy, County and Municipal Planning: Land Development Regulation</i>	The Proposed Action would not affect local government comprehensive plans.	Provide for the implementation of comprehensive planning programs to guide and control future development of the state.
Chapter 186 <i>State and Regional Planning</i>	The Proposed Action would not affect state plans for water use, land development, or transportation.	Provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state, and a method for evaluating the accomplishment of those goals in regards to the state comprehensive plan.
Chapter 252 <i>Emergency Management</i>	<p>The Proposed Action would not affect the state's vulnerability to natural disasters.</p> <p>The Proposed Action would not affect emergency response and evacuation procedures.</p>	Directs the state to reduce the vulnerability of its people and property to natural and manmade disasters; prepare for, respond to and reduce the impacts of disasters; and decrease the time and resources needed to recover from disasters.
Chapter 253 <i>State Lands</i>	All activities would occur on federal property; therefore the Proposed Action would not affect state lands.	Addresses the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all state lands.
Chapter 258 <i>State Parks and Preserves</i>	The Proposed Action would not affect state parks, recreational areas and aquatic preserves.	Addresses the state's administration of state parks, aquatic preserves, and recreation areas.
Chapter 259 <i>Land Acquisitions for Conservation or Recreation</i>	The Proposed Action would not affect tourism and/or outdoor recreation.	Addresses public ownership of natural areas for purposes of maintaining the state's unique natural resources; protecting air, land, and water quality; promoting water resource development to meet the needs of natural systems and citizens of this state; promoting restoration activities on public lands;

Statute	Consistency	Scope
		and providing lands for natural resource based recreation.
Chapter 260 <i>Florida Greenways and Trails Act</i>	The Proposed Action would not affect the Greenways and Trails Program.	Statewide system of greenways and trails established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes.
Chapter 267 <i>Historical Resources</i>	There are no known cultural resources located on Test Area C-62. Therefore, the Proposed Action would have no effect on archaeological and historical resources. However, in the event that archaeological resources are inadvertently discovered, Cultural Resources (96 CEG/CEIEA) would be notified immediately and further ground disturbing activities would cease in that area. Identified resources would be managed in compliance with federal law and Air Force regulations.	Addresses the management and preservation of the state's archaeological and historical resources.
Chapter 288 <i>Commercial Development and Capital Improvements</i>	The Proposed Action would not affect future business opportunities on state lands, or the promotion of tourism in the region.	Promotes and develops general business, trade, and tourism components of the state economy
Chapter 334 <i>Transportation Administration</i>	The Proposed Action would not affect transportation.	Addresses the state's policy concerning transportation administration.
Chapter 339 <i>Transportation Finance and Planning</i>	The Proposed Action would not affect the finance and planning needs of the state's transportation system.	Addresses the finance and planning needs of the state's transportation system.
Chapter 373 <i>Water Resources</i>	<p>Potential impacts on water resources are analyzed in Section 3.2.3 of the REA. C-62 operations would be conducted in coordination with Eglin's Water Resources Office (96 CEG/CEIEC). There is a potential for an increase in the frequency of groundwater cleanup target level (GCTL) exceedances of one or more contaminants and an increase in the total number of items detonated and their respective net explosive weights (NEWs), which would correspond to an increase in explosive residues in the soil and water. Adverse impacts to surface water resources are not anticipated, since erosion control measures are in place.</p> <p>An Environmental Resource Permit (ERP) from the Northwest Florida Water Management District (NFWFMD) per FAC 62-330 may be required for the construction of the clay pad.</p>	Addresses sustainable water management; the conservation of surface and ground waters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians.

Statute	Consistency	Scope
	<p>Applicable permitting requirements for the clay pad would be satisfied in accordance with FAC 62-25 and National Pollutant Discharge Elimination System (NPDES). Eglin AFB would submit a notice of intent to use the generic permit for stormwater discharge under the NPDES program prior to project initiation according to Section 403.0885, Florida Statutes (FS). The clay pad would also require coverage under the generic permit for stormwater discharge from construction activities that disturb one or more acres of land (FAC 62-621).</p> <p>Therefore, the Proposed Action would be consistent with Florida's statutes and regulations regarding the water resources of the state.</p>	
Chapter 375 <i>Outdoor Recreation and Conservation Lands</i>	The Proposed Action would not affect opportunities for recreation on state lands.	Addresses the development of a comprehensive multipurpose outdoor recreation plan, with the purpose to document recreational supply and demand, describe current recreational opportunities, estimate the need for additional recreational opportunities, and propose the means to meet the identified needs.
Chapter 376 <i>Pollutant Discharge Prevention and Removal</i>	<p>Potential impacts from chaff fibers, phosphorus from flares, and lead from munitions released during C-62 operations are analyzed primarily in Sections 3.1.3, 3.2.3, and 3.3.3 of the REA. Based on the analysis conducted, potential releases during C-62 operations would not significantly impact soils, water resources, or biological resources. Handling, storage, and disposal of hazardous materials/wastes associated with C-62 operations would be conducted in coordination with Eglin's Compliance Office (96 CEG/CEIEC) and in accordance with all applicable environmental compliance regulations and Eglin AFB environmental management plans.</p> <p>Therefore, the Proposed Action would be consistent with Florida's statutes and regulations regarding the transfer, storage, transportation of pollutants, and cleanup of pollutant discharges.</p>	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.
Chapter 377 <i>Energy Resources</i>	The Proposed Action would not affect energy resource production, including oil	Addresses regulation, planning, and development of the energy resources of

Statute	Consistency	Scope
	and gas, and/or the transportation of oil and gas.	the state; provides policy to conserve and control the oil and gas resources in the state.
Chapter 379 <i>Fish and Wildlife Conservation</i>	<p>Potential impacts on biological resources, including sensitive species, are analyzed in Section 3.3.3 of the REA. The probability of striking an individual animal during strafing is considered extremely low. Noise would be produced more frequently on the test area as a result of additional strafing missions and could result in harassment or injury to wildlife species, including protected species. However, significant impacts to any population would not be expected under current or future missions.</p> <p>Prior to any target placement or ground disturbance, a gopher tortoise survey is required. If a gopher tortoise burrow cannot be avoided, then the tortoise would be relocated in accordance with the Florida Fish and Wildlife Conservation Commission (FWC) protocols.</p> <p>Therefore, the Proposed Action would be consistent with Florida's statutes and regulations regarding the protection of fish and wildlife resources of the state.</p>	Establishes the framework for the management and protection of the state of Florida's wide diversity of fish and wildlife resources.
Chapter 380 <i>Land and Water Management</i>	The Proposed Action would not affect development of state lands with regional (i.e., more than one county) impacts. The Proposed Action would not include changes to coastal infrastructure such as capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, designing or construction.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 <i>Public Health, General Provisions</i>	The Proposed Action would not affect the state's policy concerning the public health system.	Establishes public policy concerning the state's public health system.
Chapter 388 <i>Mosquito Control</i>	The Proposed Action would not affect mosquito control efforts.	Addresses mosquito control efforts in the state.
Chapter 403 <i>Environmental Control</i>	Open burn and open detonation (OB/OD) activities release emissions. OB/OD actions are permitted by the Florida Department of Environmental Protection (FDEP), which has determined that air monitoring is not necessary based on first-year sampling results. Potential air quality impacts have been previously analyzed and found not to be significant.	Establishes public policy concerning environmental control in the state.

Statute	Consistency	Scope
	<p>Potential impacts on water quality are analyzed in Section 3.2.3 of the REA. Handling, storage, and disposal of hazardous materials/wastes associated with C-62 operations would be conducted in coordination with Eglin's Compliance Office (96 CEG/CEIEC) and in accordance with all applicable environmental compliance regulations, permitting requirements, and Eglin AFB environmental management plans.</p> <p>Therefore, the Proposed Action would be consistent with the State's policies concerning air quality, water quality, pollution control, solid waste management, and other environmental control efforts.</p>	
Chapter 553 <i>Building and Construction Standards</i>	The Proposed Action would not include construction of buildings.	Addresses building construction standards and provides for a unified Florida Building Code.
Chapter 582 <i>Soil and Water Conservation</i>	<p>Potential impacts on soils are analyzed in Section 3.1.3 of the REA. No adverse impact to soil resources is anticipated under the Proposed Action. The current management actions (listed in Section 5 of the REA) are sufficient to prevent soil loss and erosion from the ongoing and Proposed Actions at TA C-62. Therefore, the Proposed Action would not adversely impact soils or increase soil erosion potential.</p> <p>Therefore, the Proposed Action would be consistent with Florida's statutes and regulations regarding soil and water conservation efforts.</p>	Provides policy regarding the control and prevention of soil erosion.
Chapter 597 <i>Aquaculture</i>	The Proposed Action would not affect state aquaculture efforts.	Establishes public policy concerning the cultivation of aquatic organisms of the state. Addresses state aquaculture plan which provides for the coordination and prioritization of state aquaculture efforts, the conservation and enhancement of aquatic resources and provides mechanisms for increasing aquaculture production.

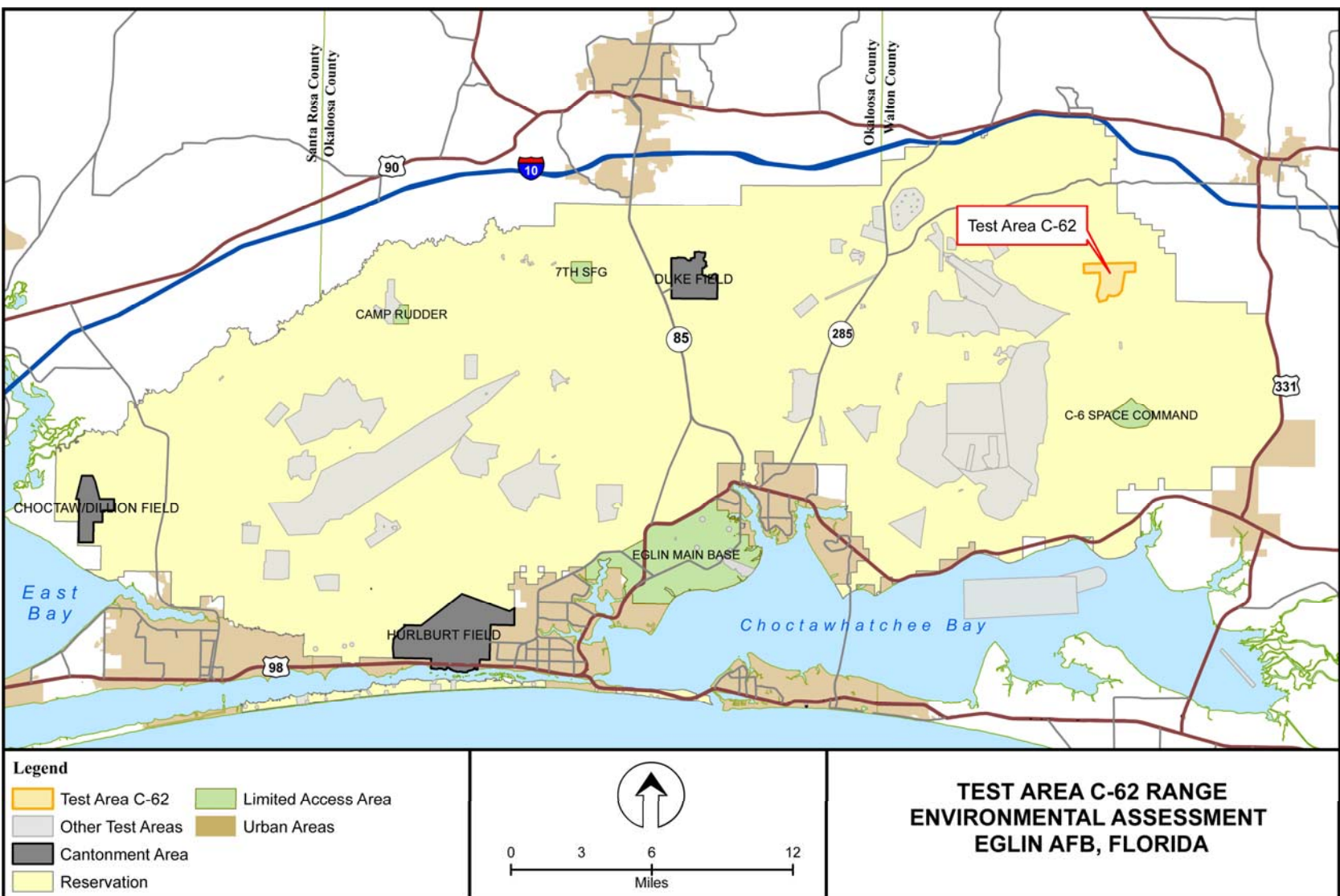


Figure D-1. Location of Test Area C-62 on Eglin AFB

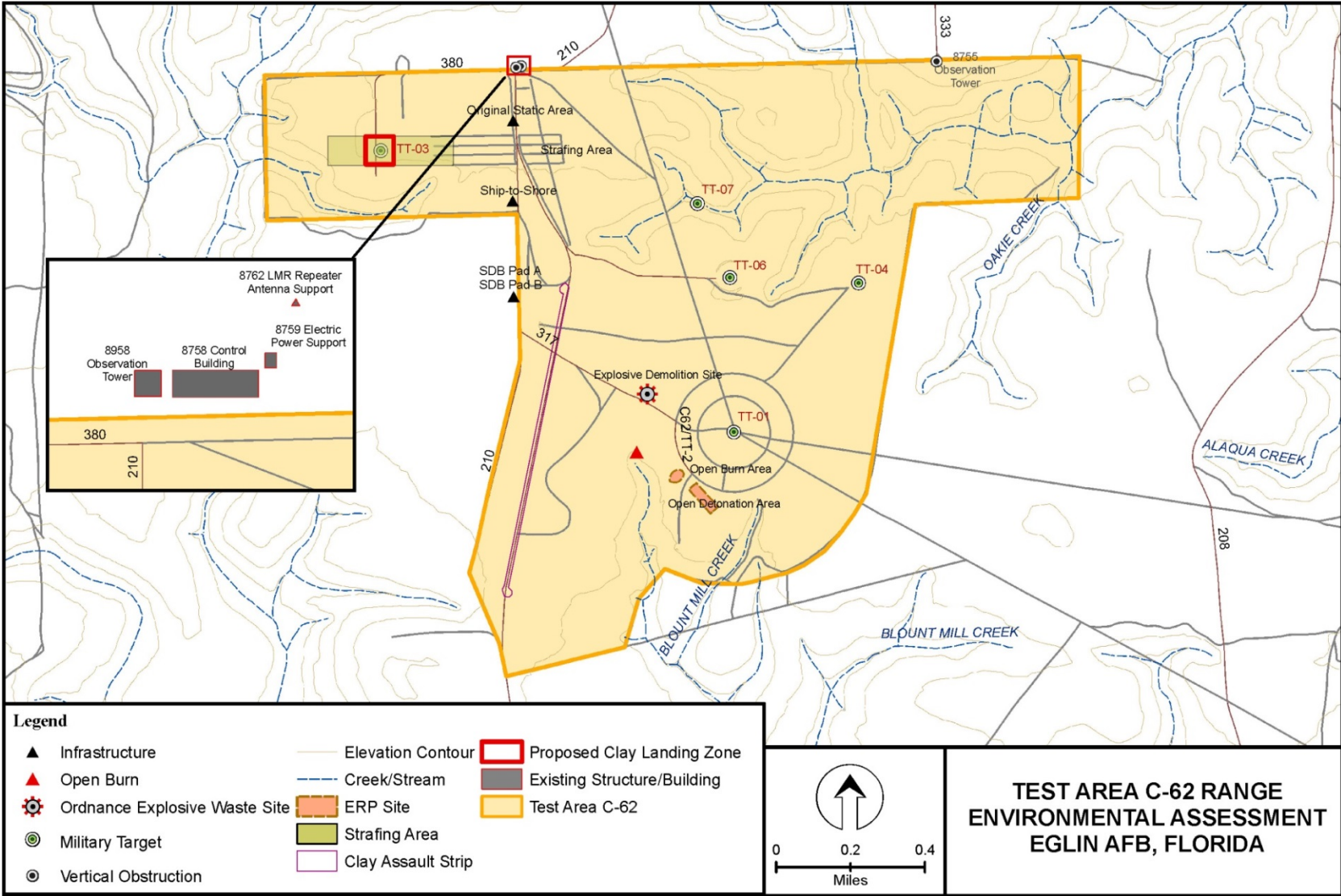


Figure D-2. Infrastructure Locations on C-62

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