

**ENVIRONMENTAL ASSESSMENT  
IMPLEMENTATION OF THE 2015 INTEGRATED  
NATURAL RESOURCES MANAGEMENT PLAN  
FORT BLISS, TEXAS AND NEW MEXICO**



**Prepared for:**

**U.S. Army Garrison  
Fort Bliss**

**Prepared by:**

**Directorate of Public Works  
Environmental Division  
Fort Bliss**

**March 2015**

**Environmental Assessment  
For the Implementation of the 2015  
Integrated Natural Resources Management Plan  
Fort Bliss, Texas and New Mexico**

**PREPARED FOR:  
U.S. ARMY GARRISON FORT BLISS**

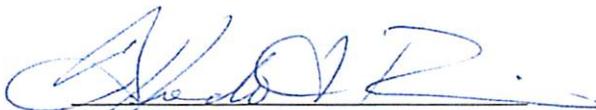
**REVIEWED BY:**



Brian D. Knight, RPA  
Chief (Acting),  
DPW-Environmental Division

2/10/2015  
Date

**CONCURRED BY:**



Alfredo J. Riera, P.E.  
Director  
Directorate of Public Works

2/10/15  
Date

**APPROVED BY:**



Mike Hester  
Colonel, U.S. Army  
Commanding

21 Feb 16

## **DRAFT FINDING OF NO SIGNIFICANT IMPACT**

### **1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION**

Fort Bliss intends to implement the *Fort Bliss Texas and New Mexico Integrated Natural Resources Management Plan* (INRMP). The INRMP was developed by Fort Bliss per the Sikes Act (16 US Code 670), the Sikes Act Improvement Act (SAIA), Department of Defense (DoD) Instruction 4715.03, and Army Regulation 200-1 *Environmental Protection and Enhancement*.

An INRMP is a planning document that allows DoD installations to implement landscape-level management of their natural resources in cooperation with various stakeholders. The Fort Bliss INRMP would provide guidance for the management of natural resources and the implementation of natural resource programs and initiatives to increase mission capabilities and minimize military training constraints. Implementation of the INRMP would create potential impacts on the natural and human environment and, as such, requires an Environmental Assessment (EA) per 32 Code of Federal Regulations (CFR) Part 651 *Environmental Analysis of Army Actions*.

The Proposed Action is to implement the INRMP at Fort Bliss that would guide environmental management on the installation through 2018. The INRMP is the primary tool for implementing the goals of the U.S. Army environmental vision statement: *The U.S. Army will be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of our mission*. The Proposed Action would meet the need for Fort Bliss to comply with 32 CFR Subpart 651.10 (b) whereby environmental management programs (such as an INRMP) must undergo environmental impact analysis. The purpose of the Proposed Action is to ensure the conservation and sustainability of natural resources on Fort Bliss through compliance with applicable environmental laws and regulations so as to maintain quality lands upon which the Army can continue to accomplish its training mission.

### **2.0 DESCRIPTION OF ALTERNATIVES**

#### **No Action**

Under the No Action Alternative, the proposed management measures set forth in the 2015 INRMP would not be implemented. Fort Bliss would continue to manage its natural resources under the goals, objectives, and strategies outlined in the 2001 INRMP and as analyzed in the *Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental Programmatic Environmental Impact Statement* (SEIS), for which a Record of Decision (ROD) was signed on 30 April 2007; and the *Fort Bliss Army Growth and Force Structure Realignment Final Environmental Impact Statement* (GFS EIS), for which a ROD was signed on 08 June 2010. The No Action Alternative would not comply with the SAIA which requires a formal INRMP revision every five years.

#### **Proposed Action**

Fort Bliss proposes to implement the 2015 INRMP, which supports the management of natural resources as described by the INRMP itself. The purpose of the Proposed Action is to continue the management programs currently in place and carry out a revised set of resource specific natural management measures. The 2015 INRMP represents a formal revision of the 2001

INRMP. It reviews the natural resources activities undertaken at Fort Bliss since implementation of the 2001 INRMP and proposes new projects and initiatives for the next five years. The 2015 INRMP is a living document and designed to be a valuable, dynamic management tool that changes as the military mission or natural resources conditions change. It is a practical guide for the management, sustainment, and stewardship of all natural resources present on Fort Bliss, thus helping to insure no net loss in mission capabilities.

The INRMP establishes installation-specific natural resource management goals and objectives consistent with DoD, SAIA, and U.S. Army policy and guidance. Additionally the INRMP presents a series of projects and activities that would enhance natural resources for multiple use, sustainable yield, and biological integrity without affecting other installation plans, activities, or the overall mission. The goals and objectives would allow Fort Bliss to manage its natural resources through an integrated, adaptive, ecosystem management approach that is designed to sustain and be consistent with the military mission.

### **3.0 SUMMARY OF ENVIRONMENTAL RESOURCES AND IMPACTS**

Implementation of the Proposed Action Alternative will have no significant detrimental impacts on land use, soils, biological resources, surface water, air quality and greenhouse gases, and health and safety on Fort Bliss or the surrounding area. The new goals, objectives, and projects established and undertaken under the Proposed Action Alternative will have a beneficial long-term impact on the environment.

### **4.0 CONCLUSION**

Based on the analysis of the Proposed Action presented in the Environmental Assessment, I conclude that the impacts of the Proposed Action will not significantly affect the human or natural environment of Fort Bliss or the surrounding area. I further conclude that implementation of the Proposed Action will not constitute a major Federal action requiring the preparation of an Environmental Impact Statement, pursuant to the National Environmental Policy Act of 1969 (Public Law 91-190). Therefore, a Finding of No Significant Impact is warranted.

**DRAFT**

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Mike Hester  
Colonel, U.S. Army  
Commanding

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## EXECUTIVE SUMMARY

1  
2 This Environmental Analysis (EA) analyzes the effects upon the environment from proposed  
3 actions described in the United States Department of the Army (U.S. Army) Fort Bliss Integrated  
4 Natural Resources Management Plan, 2015 (INRMP). The INRMP was developed by Fort Bliss  
5 in accordance with the Sikes Act (16 US Code 670), the Sikes Act Improvement Act (SAIA),  
6 Department of Defense (DoD) Instruction 4715.03, and Army Regulation 200-1 *Environmental*  
7 *Protection and Enhancement* (U.S. Army 2007b). The purpose of the Fort Bliss INRMP - 2015  
8 is to provide guidance for the implementation and management of natural resources on Fort Bliss  
9 during the 5-year period from 2015 through 2019.

10 The Fort Bliss INRMP 2015 uses an integrated, adaptive, ecosystem management approach for  
11 sustainability and consistency with the military missions on Fort Bliss. The U.S. Army with the  
12 assistance of the U.S. Fish and Wildlife Service (USFWS) and the states of New Mexico and  
13 Texas are responsible under the Sikes Act (16 U.S.C. 670a-670f, as amended) for carrying out  
14 programs and implementing management strategies to conserve and protect biological resources  
15 on Fort Bliss lands. Implementation of this INRMP is imperative for increasing mission  
16 capabilities, minimizing military training constraints and maintaining maximum flexibility.  
17 Implementation of this INRMP would create potential impacts on the natural and human  
18 environment and, as such, require an Environmental Assessment (EA) per 32 Code of Federal  
19 Regulations (CFR) Part 651, *Environmental Analysis of Army Actions*, § 651.33 (h).

20 This EA therefore identifies, documents, and evaluates the potential environmental effects of the  
21 implementation of the INRMP at Fort Bliss, and has been prepared by Fort Bliss Directorate of  
22 Public Works – Environmental Division (DPW-E) to comply with the National Environmental  
23 Policy Act (NEPA) of 1969 (Public Law [PL] 91-190;42 U.S. Code [USC] 4321-4347, as  
24 amended. NEPA is a Federal environmental law establishing procedural requirements for all  
25 Federal agency actions, and directs the Army to disclose the environmental effects of its  
26 proposed activities to the public and officials who must make decisions regarding a proposed  
27 action.

28 The 2015 Fort Bliss INRMP as proposed is a revision of the *Integrated Natural Resources*  
29 *Management Plan, U.S. Army Air Defense Artillery Center Fort Bliss, November 2001* (U.S.  
30 Army 2001). Differences from the 2001 INRMP that drive this EA include:

- 31 • Change in the overall mission of Fort Bliss. As a result of the Base Realignment and Closure  
32 (BRAC) mandates and Army Transformation and Growth Initiatives, Fort Bliss has transitioned  
33 from supporting the Army's Air Defense Artillery School to a major mounted training facility  
34 that supports the U.S. Army 1<sup>st</sup> Armored Division. Fort Bliss has become a training platform for  
35 multiple units deploying to theater and is a focal point for the U.S. Army as a major installation  
36 for training Soldiers for combat readiness. This change in mission has resulted in the stationing  
37 of approximately 26,000 additional Soldiers and their families at Fort Bliss and has increased the  
38 demand and impact on Fort Bliss's resources. The impacts of this mission change has been  
39 analyzed in the *Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental*  
40 *Programmatic Environmental Impact Statement (SEIS)*, for which a Record of Decision (ROD)  
41 was signed on 30 April 2007 (U.S. Army 2007a); and the *Fort Bliss Army Growth and Force*  
42 *Structure Realignment Final Environmental Impact Statement (GFS EIS)*, for which a ROD was  
43 signed on 08 June 2010 (U.S. Army 2010). This EA incorporates these documents by reference.

- 44 • Introduction of Program Element Goals and Objectives and specific projects for the management  
45 of individual resources.
- 46 • New goals, objectives, and management actions based on the new *Fort Bliss Integrated Wildland*  
47 *Fire Management Plan* (IWFMP).
- 48 • Introduction of Adaptive Management for Climate Change. The INRMP addresses potential  
49 impacts of climate change on natural resources and the training mission within the goals and  
50 objectives. Forecasted trends of climate change for the southwest U.S. include an increase in  
51 summer temperatures, an increase in winter temperatures, decrease in annual precipitation, an  
52 increase in frequency and duration of drought events, extended fire seasons with more frequent  
53 and intense wildfires, and an increase in the susceptibility of ecosystems to invasion from non-  
54 native species.
- 55 • Introduction of a Soil Erosion and Sediment Control Component (SESCC). The INRMP  
56 introduces a policy for the management of soil resources for the entire installation. The policies  
57 are designed to keep soil erosion within tolerance limits as specified in soil surveys and reduce  
58 sedimentation in wetlands and waterways. Minimizing soil erosion would help maintain the  
59 sustainability of Fort Bliss's primary land use which is military training.

60 The Proposed Action of this EA is to implement the Fort Bliss 2015 INRMP which will guide  
61 environmental management on the installation through 2018. The purpose of the Proposed  
62 Action is to ensure the conservation and sustainability of natural resources on Fort Bliss through  
63 compliance with applicable environmental laws and regulations so as to maintain quality lands  
64 upon which the Army can continue to accomplish its training mission.

65 The U.S. Army (and by extension, Fort Bliss) is the lead agency responsible for the completion  
66 of this EA. If no significant environmental impacts are determined based on the evaluation of  
67 impacts in the EA a Finding of No Significant Impact (FNSI) will be determined and signed by  
68 the Garrison Commander. If it is determined that the Proposed Action will have significant  
69 environmental impacts, the Proposed Action will be suspended, revised, reevaluated, or a Notice  
70 of Intent (NOI) to prepare an Environmental Impact Statement (EIS) will be published in the  
71 *Federal Register*.

72 The Army invites public participation in the NEPA process to promote open communication and  
73 enable better decision making. Input and comments will be solicited from the public in  
74 accordance with NEPA. The EA and draft FNSI will be made available to the public with a  
75 Notice of Availability (NOA) published in the *El Paso Times*, *Las Cruces Sun-News*, and the  
76 *Alamogordo Daily News*, and the drafts will be distributed to local libraries, agencies, and  
77 organizations who have expressed interest in the INRMP. The EA will also be posted to the Fort  
78 Bliss website at [www.bliss.army.mil](http://www.bliss.army.mil). The EA and draft FNSI (if applicable) will be made  
79 available to the public for a 30-day comment period. During this time the Army will consider  
80 any comments submitted on the Proposed Action, the EA, or the draft FNSI. At the conclusion  
81 of the comment period, the Army may, if appropriate, execute the FNSI and proceed with the  
82 Proposed Action.

## 1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

### 1.1 INTRODUCTION

Fort Bliss is a multi-mission U.S. Army installation encompassing approximately 1.12 million acres in western Texas and south central New Mexico. Approximately 11 percent of the Fort Bliss land area is in El Paso County, Texas, and approximately 89 percent in Doña Ana and Otero counties in New Mexico (Figure 1-1). The Main Post is adjacent to the city of El Paso and is composed of East and West Bliss, Biggs Army Airfield, William Beaumont U. S. Army Medical Center, Logan Heights and Castner Range. The Fort Bliss Training Center (FBTC), on which most of the training activities occur, consists of the South Training Area in Texas, and the Doña Ana Range - North Training Area and McGregor Range in New Mexico. The FBTC is comprised of several major physiographic features including the Organ Mountains, the Tularosa Basin, Otero Mesa, the escarpment, and the foothills of the Sacramento and Hueco mountains.

Fort Bliss proposes to implement the *Fort Bliss Texas and New Mexico Integrated Natural Resources Management Plan, 2015* (INRMP). The INRMP was developed by Fort Bliss in accordance with the Sikes Act (16 US Code 670), the Sikes Act Improvement Act (SAIA), Department of Defense (DoD) Instruction 4715.03, and Army Regulation 200-1 *Environmental Protection and Enhancement* (U.S. Army 2007b).

An INRMP is a planning document that allows DoD installations to implement landscape-level management of their natural resources in cooperation with various stakeholders. The Fort Bliss INRMP would provide guidance for the management of natural resources and the implementation of natural resource programs and initiatives from 2015 through 2019 to increase mission capabilities and minimize military training constraints. Implementation of the INRMP would create potential impacts on the natural and human environment and, as such, require an Environmental Assessment (EA) per 32 Code of Federal Regulations (CFR) Part 651 *Environmental Analysis of Army Actions*.

The proposed INRMP is a revision of the *Integrated Natural Resources Management Plan, U.S. Army Air Defense Artillery Center Fort Bliss, November 2001* (U.S. Army 2001). Differences from the 2001 INRMP that drive this EA include:

- Change in the overall mission of Fort Bliss. As a result of the Base Realignment and Closure (BRAC) mandates and Army Transformation and Growth Initiatives, Fort Bliss has transitioned from supporting the Army's Air Defense Artillery School to a major mounted training facility that supports the U.S. Army 1<sup>st</sup> Armored Division. Fort Bliss has become a training platform for multiple units deploying to theater and is a focal point for the U.S. Army as a major installation for training Soldiers for combat readiness. This change in mission has resulted in the stationing of approximately 26,000 additional Soldiers and their families at Fort Bliss and has increased the demand and impact on Fort Bliss's resources. The impacts of this mission change has been analyzed in the *Fort Bliss, Texas and New Mexico Mission and Master Plan Final Supplemental Programmatic Environmental Impact Statement (SEIS)*, for which a Record of Decision (ROD) was signed on 30 April 2007 (U.S. Army 2007a); and the *Fort Bliss Army Growth and Force*

47 *Structure Realignment Final Environmental Impact Statement (GFS EIS)*, for which a  
48 ROD was signed on 08 June 2010 (U.S. Army 2010). This EA incorporates these  
49 documents by reference.

- 50 • Introduction of Program Element Goals and Objectives and specific projects for the  
51 management of individual resources (See Appendix A).
- 52 • New goals, objectives, and management actions based on the new *Fort Bliss Integrated*  
53 *Wildland Fire Management Plan (IWFMP)* (Fort Bliss DPW-E 2014).
- 54 • Introduction of Adaptive Management for Climate Change. The INRMP addresses  
55 potential impacts of climate change on natural resources and the training mission within  
56 the goals and objectives. Forecasted trends of climate change for the southwest U.S.  
57 include an increase in summer temperatures, an increase in winter temperatures, decrease  
58 in annual precipitation, an increase in frequency and duration of drought events, extended  
59 fire seasons with more frequent and intense fires, and an increase in the susceptibility of  
60 ecosystems to invasion on non-native species (USDA 2012).
- 61 • Introduction of a Soil Erosion and Sediment Control Component (SESCC). The INRMP  
62 introduces a policy for the management of soil resources for the entire installation. The  
63 policies are designed to keep soil erosion within tolerance limits as specified in soil  
64 surveys and reduce sedimentation in wetlands and waterways. Minimizing soil erosion  
65 would help maintain the sustainability of Fort Bliss's primary land use which is military  
66 training.

## 67 68 **1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION**

69  
70 The Proposed Action is to implement the INRMP at Fort Bliss that would guide environmental  
71 management on the installation through 2018. The INRMP is the primary tool for implementing  
72 the goals of the U.S. Army environmental vision statement: *The U.S. Army will be a national*  
73 *leader in environmental and natural resource stewardship for present and future generations as*  
74 *an integral part of our mission.* The Proposed Action would meet the need for Fort Bliss to  
75 comply with 32 CFR Subpart 651.10 (b) whereby environmental management programs (such as  
76 an INRMP) must undergo environmental impact analysis. The purpose of the Proposed Action  
77 is to ensure the conservation and sustainability of natural resources on Fort Bliss through  
78 compliance with applicable environmental laws and regulations so as to maintain quality lands  
79 upon which the Army can continue to accomplish its training mission.

## 80 81 **1.3 SCOPE**

82  
83 This EA identifies, documents, and evaluates the potential environmental effects of the  
84 implementation of the INRMP at Fort Bliss, and has been prepared by Fort Bliss Directorate of  
85 Public Works – Environmental Division (DPW-E) to comply with the National Environmental  
86 Policy Act (NEPA) of 1969 (Public Law [PL] 91-190;42 U.S. Code [USC] 4321-4347, as  
87 amended. NEPA is a Federal environmental law establishing procedural requirements for all  
88 Federal agency actions, and directs the Army to disclose the environmental effects of its  
89 proposed activities to the public and officials who must make decisions regarding a proposed  
90 action. Preparation of this EA followed instructions established in 32 CFR 651, *Environmental*  
91 *Analysis of Army Actions*; 40 CFR 15000-1508, Council on Environmental Quality (CEQ)

92 regulations; and Army Regulation 200-1, *Environmental Protection and Enhancement* (U.S.  
93 Army 2007b).

94

#### 95 **1.4 DECISION(S) TO BE MADE**

96

97 The U.S. Army (and by extension, Fort Bliss) is the lead agency responsible for the completion  
98 of this EA. If no significant environmental impacts are determined based on the evaluation of  
99 impacts in the EA a Finding of No Significant Impact (FNSI) will be signed by the Garrison  
100 Commander. If it is determined that the Proposed Action will have significant environmental  
101 impacts, the Proposed Action will be suspended, revised, reevaluated, or a Notice of Intent (NOI)  
102 to prepare an Environmental Impact Statement (EIS) will be published in the *Federal Register*.

103

#### 104 **1.5 PUBLIC AND AGENCY PARTICIPATION**

105

##### 106 **1.5.1 Public Participation**

107 The Army invites public participation in the NEPA process to promote open communication and  
108 enable better decision making. Input and comments will be solicited from the public in  
109 accordance with the NEPA. The EA and draft FNSI will be made available to the public with a  
110 Notice of Availability (NOA) published in the *El Paso Times*, *Las Cruces Sun-News*, and the  
111 *Alamogordo Daily News*, and the drafts will be distributed to the local libraries, agencies, and  
112 organizations who have expressed interest in the INRMP. The EA will also be posted to the Fort  
113 Bliss website at [www.bliss.army.mil](http://www.bliss.army.mil). The EA and draft FNSI (if applicable) will be made  
114 available to the public for a 30-day comment period. During this time the Army will consider  
115 any comments submitted on the Proposed Action, the EA, or the draft FNSI. At the conclusion  
116 of the comment period, the Army may, if appropriate, execute the FNSI and proceed with the  
117 Proposed Action. A distribution list for the EA can be found in Appendix B.

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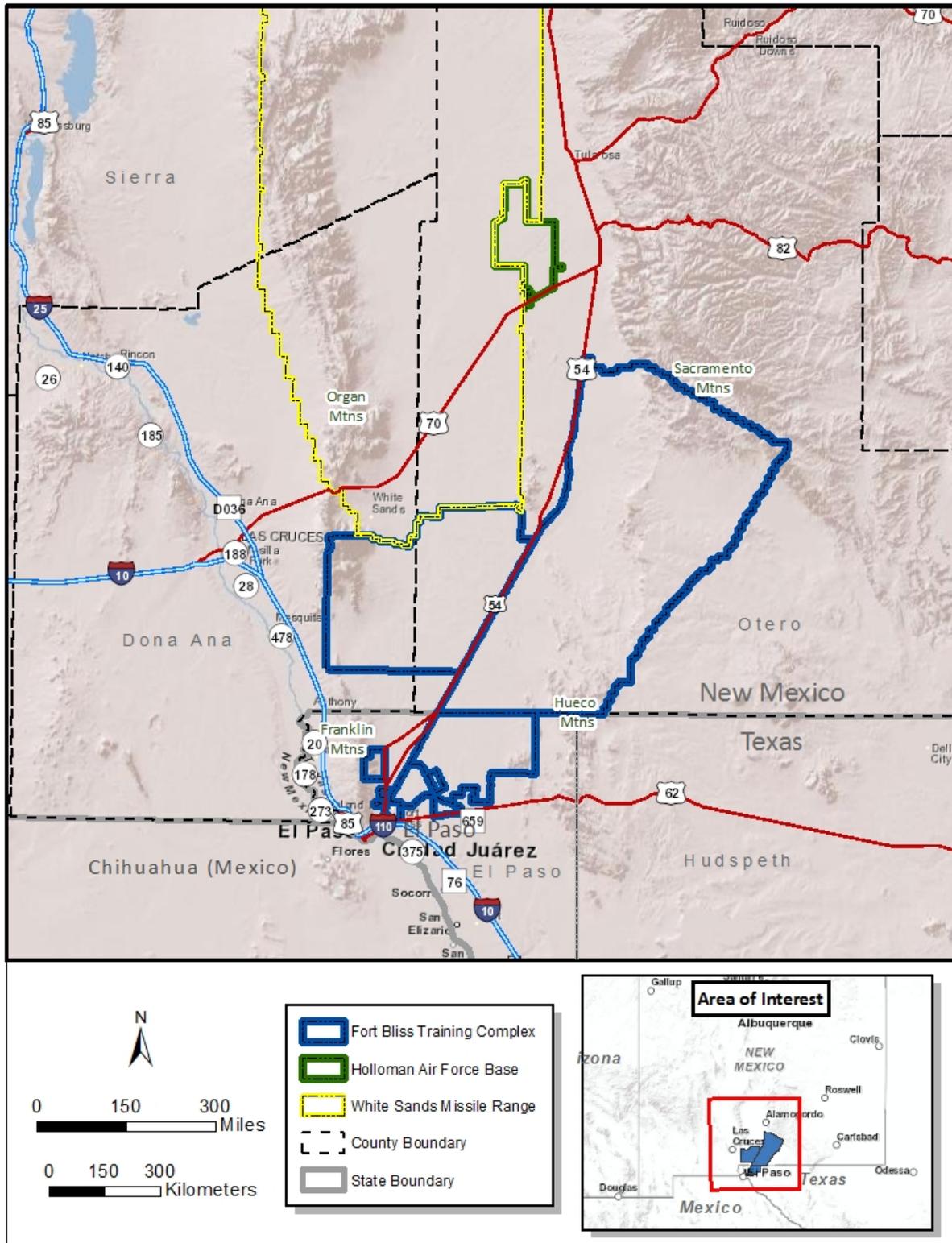
##### 119 **1.5.2 Agency Participation**

120 The INRMP was prepared in cooperation with the agency stakeholders listed below:

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- 122 • **United States Fish and Wildlife Service (USFWS).** The USFWS was a signatory  
123 cooperating agency for the INRMP. The USFWS is responsible for coordinating and  
124 enforcing the regulations promulgated by the Endangered Species Act (ESA), Migratory  
125 Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act, among others.  
126
- 127 • **New Mexico Department of Game and Fish (NMDGF).** The NMDGF was a signatory  
128 cooperating agency for the INRMP. They are the primary state agency regarding fish and  
129 wildlife management and enforcement of hunting regulations, including on Fort Bliss  
130 lands located in New Mexico. The NMDGF also publishes the state listing for threatened  
131 and endangered species in New Mexico.  
132
- 133 • **Texas Parks and Wildlife Department (TPWD).** The TPWD was a signatory  
134 cooperating agency for the INRMP. They are the primary state agency regarding fish and  
135 wildlife management and enforcement of hunting regulations, including on Fort Bliss  
136 lands located in Texas. The TPWD also publishes the state listing for threatened and  
137 endangered species in Texas.

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- **Bureau of Land Management (BLM).** The BLM has natural resources management responsibilities on withdrawn public lands on McGregor Range in New Mexico under provisions of the Military Lands Withdrawal Act (MLWA) of 1999 (PL 106-65). The BLM is not a signatory party to the INRMP; however, BLM and Fort Bliss co-manage McGregor Range under a Memorandum of Agreement (MOA) (USDI 2007). The BLM has management objectives for the following resources found on McGregor Range: minerals, livestock grazing, wildlife habitat, recreation (limited), visual resources, wilderness, and wildland fire management (U.S. Army 2007a).
- 147
- **U.S. Forest Service (USFS).** Fort Bliss has access to approximately 19,000 acres of the Lincoln National Forest on the western slopes of the Sacramento Mountains for training purposes. The USFS is not a signatory party to the INRMP; however, the USFS and Fort Bliss share use of land under provisions in a Memorandum of Understanding (MOU) (USDA 1971). The MOU establishes the USFS as the administering agency for all non-defense land uses and further establishes that these lands will be open to all forest users when not in use by the military.
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Source: U.S. Army 2014

Figure 1-1. Fort Bliss and Region

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## 159 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

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### 161 2.1 NO ACTION ALTERNATIVE

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163 Under the No Action Alternative, the proposed management measures set forth in the 2015  
164 INRMP would not be implemented. Fort Bliss would continue to manage its natural resources  
165 under the goals, objectives, and strategies outlined in the 2001 INRMP and as analyzed in the  
166 *SEIS* and the *GFS EIS*. The No Action Alternative would not comply with the Sikes Act  
167 Improvement Act (SAIA) which requires a formal INRMP revision every five years. The No  
168 Action Alternative serves as the baseline against which federal actions can be evaluated, and as  
169 such, inclusion of the No Action Alternative is prescribed by CEQ regulations.

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### 171 2.2 PROPOSED ACTION ALTERNATIVE

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173 Fort Bliss proposes to implement the 2015 INRMP, which supports the management of natural  
174 resources on the installation and is a revision of the 2001 INRMP. The purpose of the Proposed  
175 Action is to continue the management programs currently in place and to carry out revisions to  
176 improve these programs. The 2015 INRMP reviews the natural resources activities undertaken  
177 at Fort Bliss since implementation of the 2001 INRMP and proposes new projects and initiatives  
178 for the next five years. The 2015 INRMP is a living document and designed to be a valuable,  
179 dynamic management tool that changes as the military mission or natural resources conditions  
180 change. It is a practical guide for the management, sustainment, and stewardship of all natural  
181 resources present on Fort Bliss, thus helping to insure no net loss in mission capabilities.

182

183 The INRMP establishes installation-specific natural resource management goals and objectives  
184 consistent with DoD, SAIA, and U.S. Army policy and guidance. Additionally the INRMP  
185 presents a series of projects and activities that would enhance natural resources for multiple use,  
186 sustainable yield, and biological integrity without affecting other installation plans, activities, or  
187 the overall mission. The goals and objectives would allow Fort Bliss to manage its natural  
188 resources through an integrated, adaptive, ecosystem management approach that is designed to  
189 sustain and be consistent with the military mission. The goals and objectives of the INRMP can  
190 be found in Appendix A. The complete Draft 2015 INRMP can be found at [www.bliss.army.mil](http://www.bliss.army.mil),  
191 click on the Environmental Documents button.

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### 3.0 AFFECTED ENVIRONMENT

In accordance with the NEPA and the CEQ regulations implementing NEPA (40 CFR 1501.7[3]), the analysis of environmental conditions only needs to address those areas and environmental resources with the potential to be affected by either of the alternatives. A Table of Valued Environmental Components (VECs) was used to determine which resources would potentially be affected by either of the alternatives (USAEC 2007). A more detail discussion of the mission impacts on the resources are programmatically evaluated in the *SEIS* and the *GFS EIS*.

The following resources are not affected by the Proposed Action Alternative, and as such are not addressed in this EA:

- **Airspace:** The Proposed Action Alternative would not affect, or be affected by, the use of Fort Bliss military airspace or adjacent civilian airspace.
- **Geology:** The Proposed Action Alternative would not affect, nor be affected by, geologic and mineral resources on Fort Bliss.
- **Groundwater:** The Proposed Action Alternative would not affect groundwater resources.
- **Hazardous Materials and Waste:** Hazardous materials are substances that cause human physical or health hazards (29 CFR 1910.1200). Materials that are physically hazardous include combustible and flammable substances, compressed gases, and oxidizers. Health hazards are associated with materials that cause acute or chronic reactions, including toxic agents, carcinogens, and irritants. Hazardous materials are regulated in Texas and New Mexico by a combination of mandated laws promulgated by the U.S. Environmental Protection Agency (USEPA), Texas Commission on Environmental Quality (TCEQ), and the New Mexico Environment Department (NMED). In addition to the mandates established by these agencies, Fort Bliss manages hazardous materials under the Installation Hazardous Waste Management Plan. The Proposed Action Alternative would not change this.
- **Noise:** The Proposed Action Alternative would have no impact on the current noise emissions that would occur on Fort Bliss. Any noise emissions from the Proposed Action Alternative would be temporary and transient, limited to the duration of the action.
- **Socioeconomics:** The Proposed Action Alternative would not affect socioeconomics, as no additional personnel or facilities would be added to the Installation. Any benefit from the increased construction projects would be negligible and temporary.
- **Environmental Justice:** No disproportionate health or environmental effects on minorities or low-income populations or communities would occur as a result of the Proposed Action Alternative. Some projects such as forest fuel reductions and prescribed fires may actually have a beneficial impact to such populations by reducing the chance for a wildland fire to spread off of the Installation and impact a nearby community.
- **Traffic and Transportation:** No public transportation routes or means would be affected by the Proposed Action Alternative. Interior Installation roads would benefit by the continued maintenance and soil erosion prevention measures proposed.

251  
252 The VECs that could be affected by the Proposed Action are Land Use, Soils and Ecosystems,  
253 the Biotic Environment, Cultural Resources, Surface Water, Air Quality and Green House Gas  
254 (GHG) emissions, and Health and Safety.

255  
256 **3.1 LAND USE**

257  
258 Fort Bliss is an Army Installation used primarily for military training. Several plans, MOUs  
259 (BLM, USFS), and EISs direct the land use planning and management at Fort Bliss. They  
260 include the Range Complex Master Plan (RCMP), Real Property Master Plan (RPMP), the 2001  
261 INRMP, the Integrated Cultural Resources Management Plan (ICRMP), the Integrated Training  
262 Area Management Plan (ITAM), the *SEIS*, and the *GFS EIS*.

263  
264 To better manage the land use on Fort Bliss, the FBTC has been divided into Land Use  
265 Categories. These categories are based on such resources as soils, topography, and vegetation  
266 type, and limit what type of training activity can occur in that area (i.e.: on road maneuver, off  
267 road maneuver, dismounted maneuver, live fire, and mission support). Fort Bliss has established  
268 special land use designations to certain areas of the FBTC. These include the Culp Canyon  
269 Wilderness Study Area (WSA), the Black Grama Grassland Areas of Critical Environmental  
270 Concern (ACEC), Limited Use Areas (LUAs), Off Limit Areas (OLAs), and Controlled Field  
271 Training Exercise Sites (FTXs). These land use designations are based on protecting the  
272 underlying resource (i.e.: riparian, grassland), cultural resources, and impact or unexploded  
273 ordnance (UXO) areas (Figures 3-1 and Table 3-1) (U.S. Army 2010).

274  
275 Non-military uses such as public road access and utility easements, hunting, hiking, and birding  
276 are allowed on portions of Fort Bliss provided they do not conflict with military uses or pose  
277 safety risks to the public (Figure 3-1). Hunting on Fort Bliss is co-managed by Fort Bliss, the  
278 TPWD, and the NMDGF. Currently, hunting is allowed on portions of Doña Ana Range – North  
279 Training Areas, McGregor Range, and the South Training Areas. The total acreage available for  
280 hunting is approximately 681,000 acres. No hunting is permitted within the Main Post Area or  
281 Castner Range. All non-military uses can only be undertaken when military training is not  
282 ongoing and when authorized by Fort Bliss (U.S. Army 2010) (see Figures 3-1 and 3-2).

283  
284 Per the MLWA, the Las Cruces District Office of the BLM manages livestock grazing on 14  
285 grazing units (Figure 3-2) covering approximately 270,000 acres of McGregor Range, while the  
286 USFS manages grazing within the Sacramento Mountains portion of the Lincoln National Forest.  
287 The number of grazing units and the number of livestock allowable per unit each year varies  
288 depending upon ecological conditions. When active grazing units are utilized by the military,  
289 livestock are rarely relocated (U.S. Army 2010). Co-use of grazing units by the military and  
290 livestock have been occurring for over 20 years with very few conflicts. This is due to  
291 restrictions on live-fire ammunitions and off-road vehicle maneuvering within the grazing units.

292  
293 The BLM utilizes four categories for rating visual aesthetics of landscapes. They are Class I and  
294 II, the most aesthetically valued; Class III moderate value; and Class IV the least aesthetically  
295 valued. A corridor along US 54 and NM 506 on McGregor Range has been designated as a  
296 Class III. The objective of the Class III designation is to partially retain the existing character of

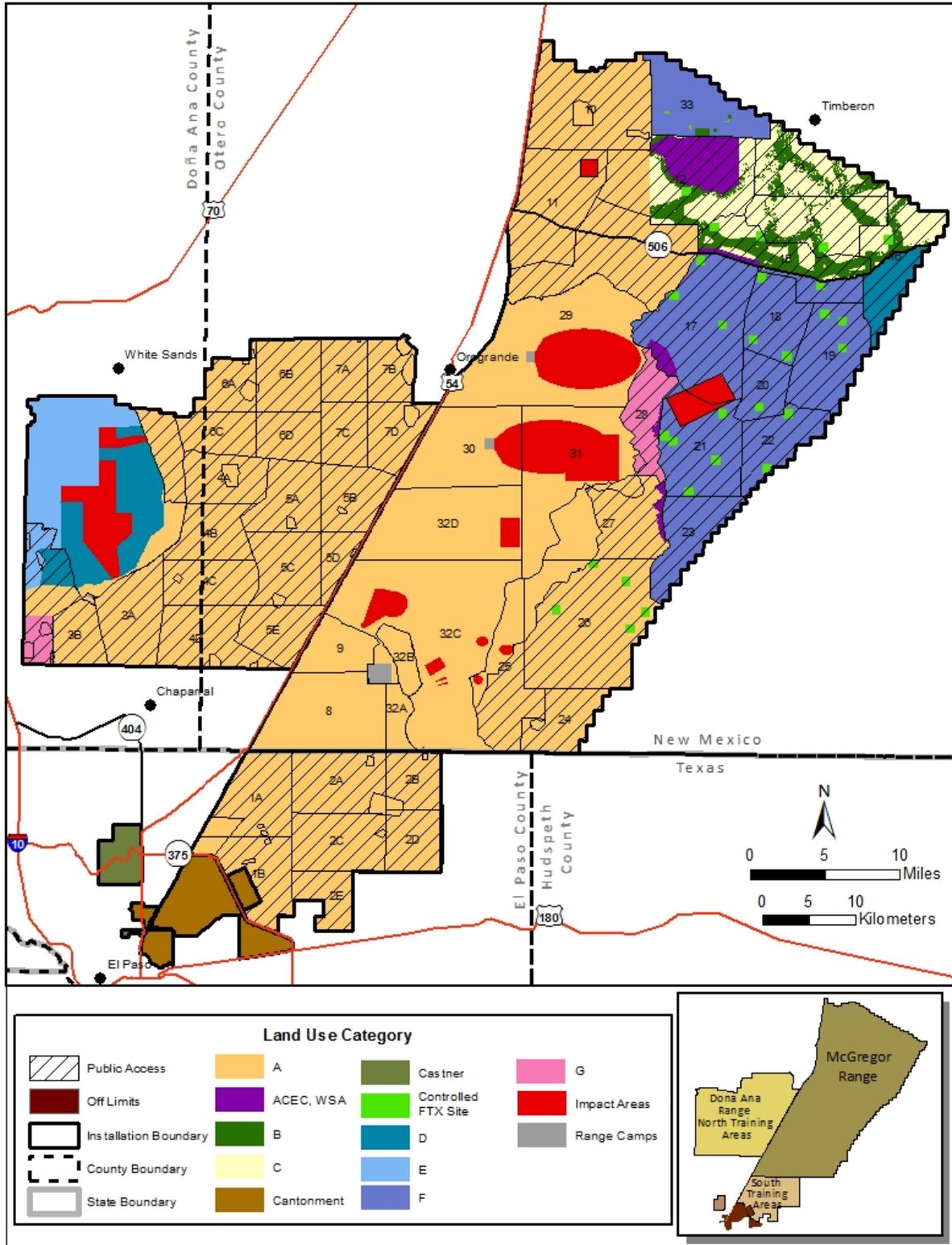
297 the landscape. The BLM has ranked Culp Canyon WSA on McGregor Range as Class II. A  
 298 Class II designation indicates that changes to the characteristic landscape should be low impacts.  
 299 The BLM objective is to retain the existing character of the landscape. The USFS also assigns  
 300 visual classifications to its co-managed-areas, ranging from Preservation to Maximum  
 301 Modification. The Lincoln National Forest adjacent to McGregor Range is classified as a  
 302 Modification Area due to its relatively low visual quality; its alterations, such as roads, signage;  
 303 and evidence of productive uses (U.S. Army 2010) (Figure 3-2).

304  
 305  
 306

**Table 3-1. FBTC Land Use Categories**

FBTC Land Use Category	Military Uses											
	Off-Road Vehicle Maneuver: Heavy	Off-Road Vehicle Maneuver: Light	On-Road Vehicle Maneuver	Dismounted Maneuver	Aircraft Operations	Controlled FTX	Mission Support Facilities	Live-Fire	SDZ / Safety Footprint	Surface Impact	Range Camps	Environmental Management
A	●	●	●	●	●	●	●	●	●			●
B		●	●	●	●	●	●	●	●			●
C			●	●	●	●	●	●	●			●
D			●	●	●		●	●	●			●
E			●	●	●			●	●			●
F			●	●	●	●			●			●
G			●	●	●				●			●
WSA/ACEC*				●	●				●			●
Impact Areas					●				●	●		
Range Camps					●		●		●		●	●

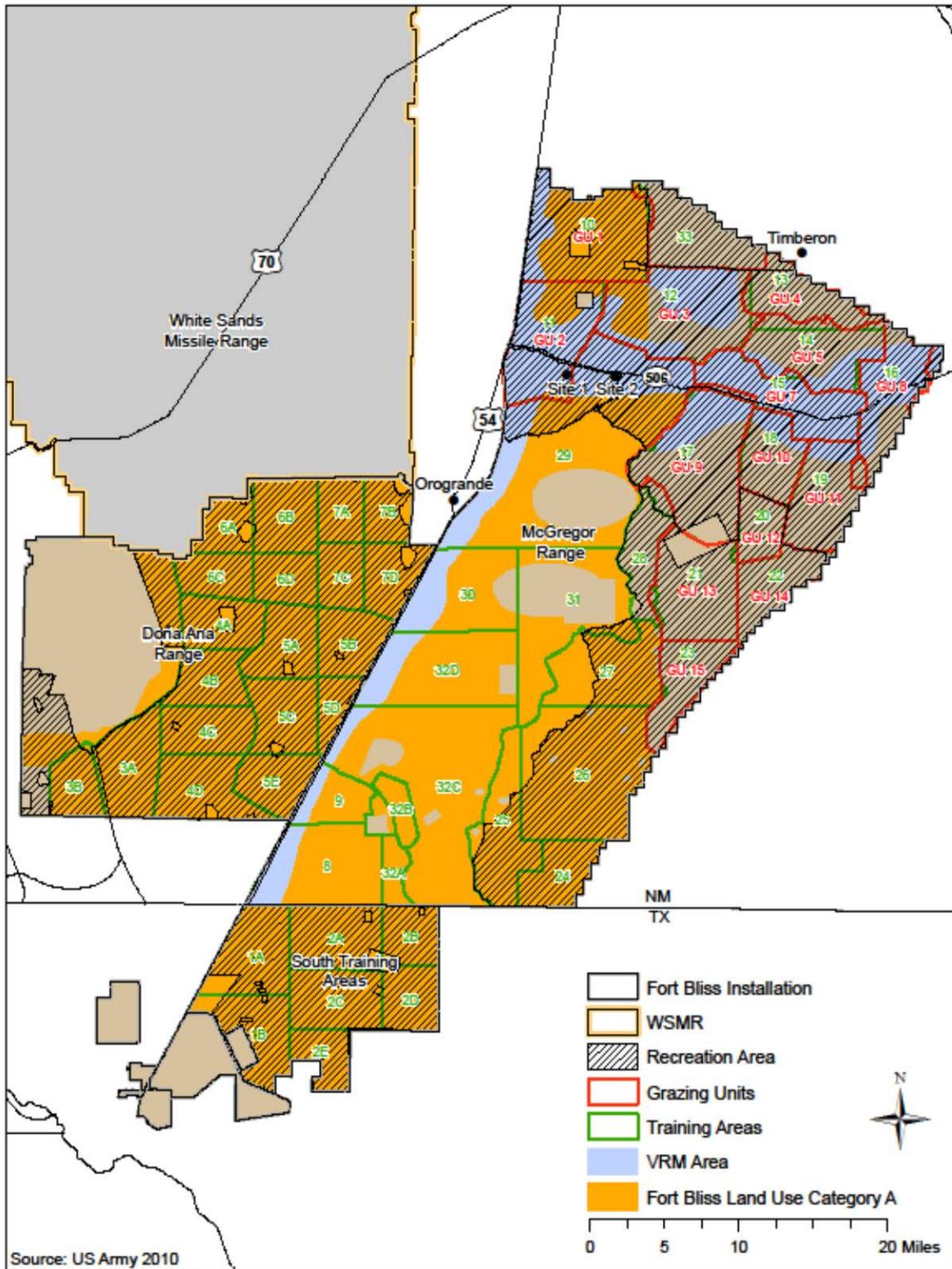
307 Source: U.S. Army 2010  
 308 \* WSA = Wilderness Study Area  
 309 \* ACEC = Area of Critical Environmental Concern  
 310  
 311



Source: U.S. Army 2010

Figure 3-1. Land Use Categories

312  
313  
314  
315



316  
317  
318

Figure 3-2. Land Use and Aesthetics

## 3.2 SOILS AND ECOSYSTEMS

Most of Fort Bliss is located in a large inter-montane closed basin called the Tularosa-Hueco Basin. The basin lies between the Franklin and Organ mountains to the west, and the Sacramento and Hueco mountains to the east. Fort Bliss elevations range from the basin floor at approximately 3,800 ft above sea level, to over 8,800 ft in the Organ Mountains. The region is part of the Basin and Range Province of the western U.S., as well as the northern part of the Chihuahuan Desert, an interior continental desert which receives most of its rainfall during the hot summer months (USAEC 2013).

Fort Bliss uses pedological, geomorphic, vegetative and other criteria to define Ecological Management Units (EMUs) that contain similar natural characteristics. Fort Bliss EMUs were created for use as a management tool to maintain ecological connectivity between Fort Bliss and surrounding lands (Figure 3-3) and to assist in the development of goals for ecosystem management. The EMU concept helps promote better land stewardship and sustainment practices on Fort Bliss within the INRMP (U.S. Army, 2010).

Fort Bliss EMUs (Figure 3-3) consist of areas of similar vegetation, fauna, topography, soils, and climate (U.S. Army 2010) and are as follows:

- Basin Aeolian:** Major landforms of the Basin Aeolian EMU are wind-driven, large shifting sands; coppice dunes; and sandsheets. Elevation ranges from 3,900 to 5,200 feet. Wind-deposited (aeolian) coppice dunes anchored by mesquite (*Prosopis glandulosa* var. *torreyana*) and other desert shrubs, cover most of the basin floor. The dune soils are mainly Entisols, exhibiting little soil horizon development, and having formed only within the last few hundred years. They are sands and loamy sands that are highly susceptible to wind erosion due in part to the lack of soil structural development and sparse vegetative cover. Typically underlying the coppice sand dunes is a much older (Pliocene-Pleistocene) calcrete soil up to several meters thick. The calcrete (“caliche”) is a massive white calcium carbonate unit which generally has a soil texture of sandy clay loam. Where calcrete horizons are exposed on the surface or are shallowly buried, the soils are classified as Aridisols, a soil order having diagnostic subsurface soil horizons (in this case, the calcrete) (USAEC 2013).

Vegetation associated with the coppice dunes includes mesquite, broom snakeweed (*Gutierrezia sarothrae*), and four-winged saltbush (*Atriplex canescens*). Large scale, wind-driven shifting sand dunes contain typical sand-obligate plant species including sensitive briar (*Mimosa quadrivalvis*), pink plains penstemon (*Penstemon ambiguus*), sand reverchonia (*Reverchonia arenaria*), bindweed heliotropium (*Heliotropium convolvulaceum*), and hoary rosemary mint (*Poliomintha incana*) and Shinnery oak (*Quercus havardii*). Shinnery oak occurs in the northern portions of McGregor Range and represents one of the westernmost outlier stands for the species’ geographic distribution. Outside the dune systems, sandy soils persist on the piedmont to the basin bottom transition, forming sparse desert grassland and shrublands of sandscrub (*Ceanothus* spp.), mesquite, and a mix of mesa dropseed (*Sporobolus flexuosus*), four-wing saltbush, and creosotebush (*Larrea tridentata*) (U.S. Army 2010).

365 • **Basin Alluvial:** The Basin Alluvial is the landform intermediate between Basin Aeolian  
 366 and the Foothill-Bajada Complex EMUs. Water-mediated erosion and deposition are the  
 367 major terrain-forming processes as indicated by intermontane valleys, arroyos, alluvial  
 368 fans, alluvial plains, and playas. Soils are mainly Entisols and Aridisols, and are  
 369 predominantly alluvial (derived from water-deposited sediments). Elevation ranges from  
 370 3,900 to 5,200 feet, with upper elevations composed of mainly gravelly soils. At lower  
 371 elevations loamy and silty soils occupy depressions adjacent to Basin Aeolian sandsheets  
 372 and dunes. Silt and clay soils are found in low-lying playas and other depressions that are  
 373 subject to occasional flooding (USAEC 2013).

374  
 375 Desert scrub with scattered inclusions of desert grassland occurs on the shallow rocky  
 376 soils, and tarweed (*Madia* spp.) is found on the lower, gently grading to flat bottom areas  
 377 with siltier soils. Sandy-loam soils support mesquite, sandsage (*Artemisia filifolia*), and a  
 378 mix of mesa dropseed, four-wing saltbush, and creosotebush. The basin alluvial areas are  
 379 the most productive lowland areas and are valuable for wildlife habitat (U.S. Army  
 380 2010).

381  
 382 • **Foothill–Bajada Complex:** The Foothill-Bajada Complex EMU is located in two  
 383 separate areas of Fort Bliss: (1) near the western boundary on the east and south slopes of  
 384 the Organ Mountains, and (2) running north to south along the western edge of the  
 385 Sacramento Mountains, Hueco Mountains, and Otero Mesa. Elevation is between 4,000  
 386 and 5,500 feet. This EMU comprises a gently sloping piedmont dissected by drainages  
 387 originating from the Organ, Franklin, Sacramento, and Hueco mountains and Otero  
 388 Mesa. The texture for these alluvial soils is typically sandy loam, but the soils also  
 389 contain variable amounts rock fragments eroded from the adjacent mountains. Soils in  
 390 the upper elevations of this EMU consist of shallow loamy or gravelly soils atop  
 391 sedimentary or igneous bedrock. These soils are susceptible to gully and sheet erosion  
 392 from running water and less prone to wind erosion (USAEC 2013).

393  
 394 The Foothill-Bajada Complex EMU supports a diversity of shrubs such as; beargrass  
 395 (*Nolina* spp.), sotol (*Dasylyrion* spp.), feather pea bush (*Dalea formosa*.), mormon tea  
 396 (*Ephedra viridis*), mariola (*Parthenium incanum*), javelina bush (*Condalia ericoides*),  
 397 acacia (*Acacia* spp.), mesquite, grasses such as dropseed (*Sporobolus* spp.), grama grass  
 398 (*Bouteloua* spp.), muhly grass (*Muhlenbergia* spp.), and numerous cacti. There are also  
 399 high quality grama grasslands in portions of the EMU (U.S. Army 2010).

400  
 401 • **Franklin Mountains:** The Franklin Mountains are a relatively small EMU located within  
 402 the Castner Range. Elevations range from 4,300 to 5,500 feet. Vegetation is a mix of  
 403 desert scrub with some riparian vegetation and a high diversity of cacti. Water erosion is  
 404 a potential hazard if plant cover is disturbed (U.S. Army 1996).

405  
 406 • **Hueco Mountains:** The Hueco Mountains EMU is at the southeastern border of Fort  
 407 Bliss. Elevation ranges from 4,500 to 6,000 feet. Steep, limestone mountain and hill  
 408 slopes with shallow soils alternate with narrow to broad mountain valleys that drain  
 409 northwest through alluvial piedmonts to the basin floor. Water erosion is a potential  
 410 hazard if plant cover is disturbed (USAEC 2013).

411 Succulent communities with agave, sotol, yucca, beargrass, and cacti populate the lower  
 412 elevations; juniper (*Juniperus* spp.) grows sparsely on the higher slopes and in canyons.  
 413 Although there are mesic canyons, there is no montane riparian vegetation or perennial  
 414 water. In addition, lechuguilla (*Agave lechuguilla*), creosotebush, and mariola dominate  
 415 the shallow soils on the steep, rocky limestone slopes. Sideoats grama (*Bouteloua*  
 416 *curtipendula*) and occasionally black grama (*Bouteloua eriopoda*) desert grasslands  
 417 occupy gentler slopes, as well as gravelly, somewhat deeper soils on the upper piedmont.  
 418 The lower piedmont often supports creosotebush communities (U.S. Army 1996).

- 419
- 420 • **Organ Mountains:** The Organ Mountains EMU encompasses the slopes and peaks of the  
 421 Organ Mountains, which are at the northwest border of Fort Bliss. Elevation ranges from  
 422 4,500 to 8,800 feet. Topographic relief is high with steep, precipitous slopes alternating  
 423 with deep canyons. Steep elevation gradients combine with diverse geologic substrates  
 424 to support the highest vegetation diversity of any EMU on Fort Bliss (USAEC 2013).

425

426 Pinyon pine (*Pinus edulis*) and juniper are dominant forest types, but ponderosa pine  
 427 (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*) stands occur at the higher  
 428 elevations. Oak woodlands are found on the middle slopes along with montane  
 429 grasslands. Chihuahuan Desert grassland and scrub occur at lower elevations. Water  
 430 erosion is a potential hazard if plant cover is disturbed (U.S. Army 1996).

- 431
- 432 • **Otero Mesa:** The Otero Mesa EMU is located adjacent to the Sacramento Mountains and  
 433 the Foothill-Bajada Complex. This area is tableland (a nearly flat, elevated plateau) with  
 434 a broad drainage system that originates in the Sacramento Mountains to the north and the  
 435 Otero Mesa escarpment to the west. Elevations on the mesa range from 4,756 to 5,248  
 436 feet, with average cooler temperatures and rainfall several inches higher than adjacent  
 437 lowlands (USAEC 2013).

438

439 Otero Mesa contains deep, well-drained, sandy and loamy soils and has a large expanse  
 440 of relatively intact black grama grassland mixed with shrubs. Vegetation includes grama  
 441 grasses, muhly grasses, and three-awn (*Aristida* spp.), with swale areas having coarser  
 442 grasses such as tobosa grass (*Pleuraphis mutica*). Four separate plots of land at Fort  
 443 Bliss have been designated as ACECs and were established to ensure that portions of  
 444 black grama grasslands remain intact (U.S. Army 1996).

- 445
- 446 • **Sacramento Mountains:** This EMU comprises the southern end of the Sacramento  
 447 Mountains, which occur at the northeastern border of Fort Bliss. The elevation range is  
 448 4,450 to 7,700 feet. This area is made up of a complex of limestone foothills of diverse  
 449 aspects alternating with steep-sided canyons and narrow to moderately wide valleys. The  
 450 entire mountain range includes coniferous forest, riparian zones, and springs. Water  
 451 erosion is a potential hazard if plant cover is disturbed (USAEC 2013).

452

453 Fort Bliss occupies only a small portion of the Sacramento Mountains range which  
 454 primarily consists of pinyon-juniper and mountain mahogany (*Cercocarpus montanus*) at  
 455 higher elevations, and sandscrub and Chihuahuan Desert scrub at lower elevations. There

456 is no montane riparian vegetation and very little ponderosa pine forest on the McGregor  
457 Range portion.  
458

459 More detailed information on Fort Bliss soils and the ecosystem can be found in the Fort Bliss  
460 Soil Survey (USDA, 2004) which includes physical, chemical, and engineering properties, as  
461 well as limitations for military uses and ecological site descriptions and classifications. The soil  
462 survey contains data characterizing current conditions of soils, vegetation, and overall ecology,  
463 which may be useful in planning military actions and selecting sites for construction or training  
464 purposes.

465

### 466 **3.3 BIOTIC ENVIRONMENT**

467

#### 468 **3.3.1 Plant Communities**

469 Fort Bliss exhibits a high degree of biodiversity due to its varied topography and large size  
470 (approximately 1.12 million acres). Plant communities on the Installation range from the  
471 Chihuahuan Desert plant communities in the Tularosa Basin to Rocky Mountain conifer forests  
472 in the Organ and Sacramento Mountains. The major plant community types in the lower areas of  
473 Fort Bliss are desert grasslands, Chihuahuan Desert scrub, and plains mesa sandscrub.  
474 Vegetation types that occur in the mountains are juniper savanna, coniferous and mixed  
475 woodlands, and montane conifer forests. The Main Post contains trees and other landscaped  
476 shrubbery (U.S. Army 2007).

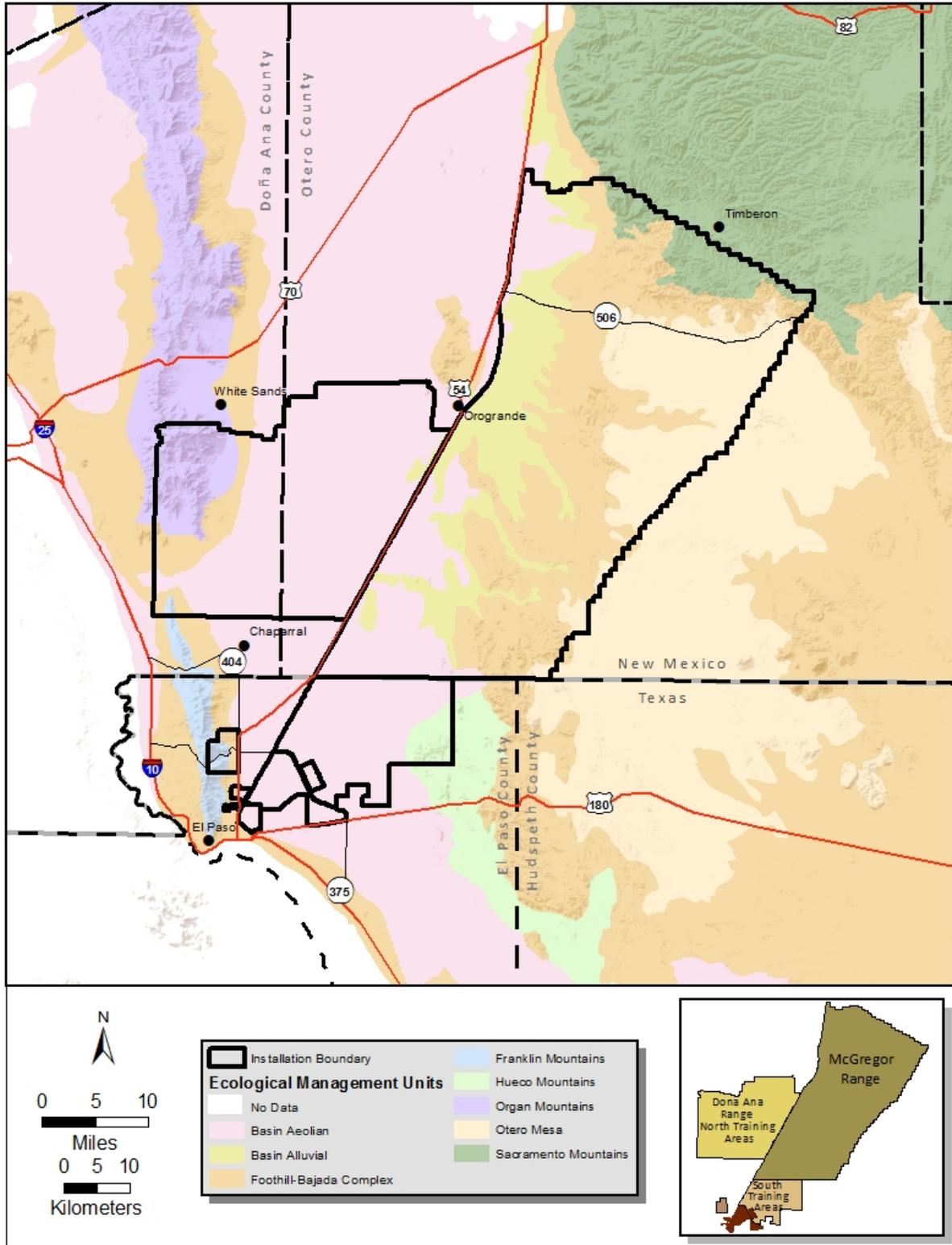
477

478 Fort Bliss is generally characterized as a shrub-grassland vegetation community, as over 98  
479 percent of the Installation is classified by these two general vegetation types. Grassland plant  
480 communities account for over 26 percent of the land on Fort Bliss. Approximately three percent  
481 of Fort Bliss is sandy plains and basin desert grasslands, 11 percent is mesa and piedmont  
482 grasslands, and 12 percent is foothills desert grasslands. Approximately 31 percent of Fort Bliss  
483 is mesquite-dominated plant communities, most of which are coppice dunes, while another 30  
484 percent of the Installation is covered by creosote-dominated plant communities. Basin sandscrub  
485 communities cover about eight percent of Fort Bliss and are areas where a large diversity of  
486 annual and perennial plant species can occur during years of average to above average  
487 precipitation. Woodland plant communities cover approximately one percent of Fort Bliss (U.S.  
488 Army 2007). The land cover vegetation types are shown in Figure 3-4.

489

#### 490 **3.3.2 Fauna**

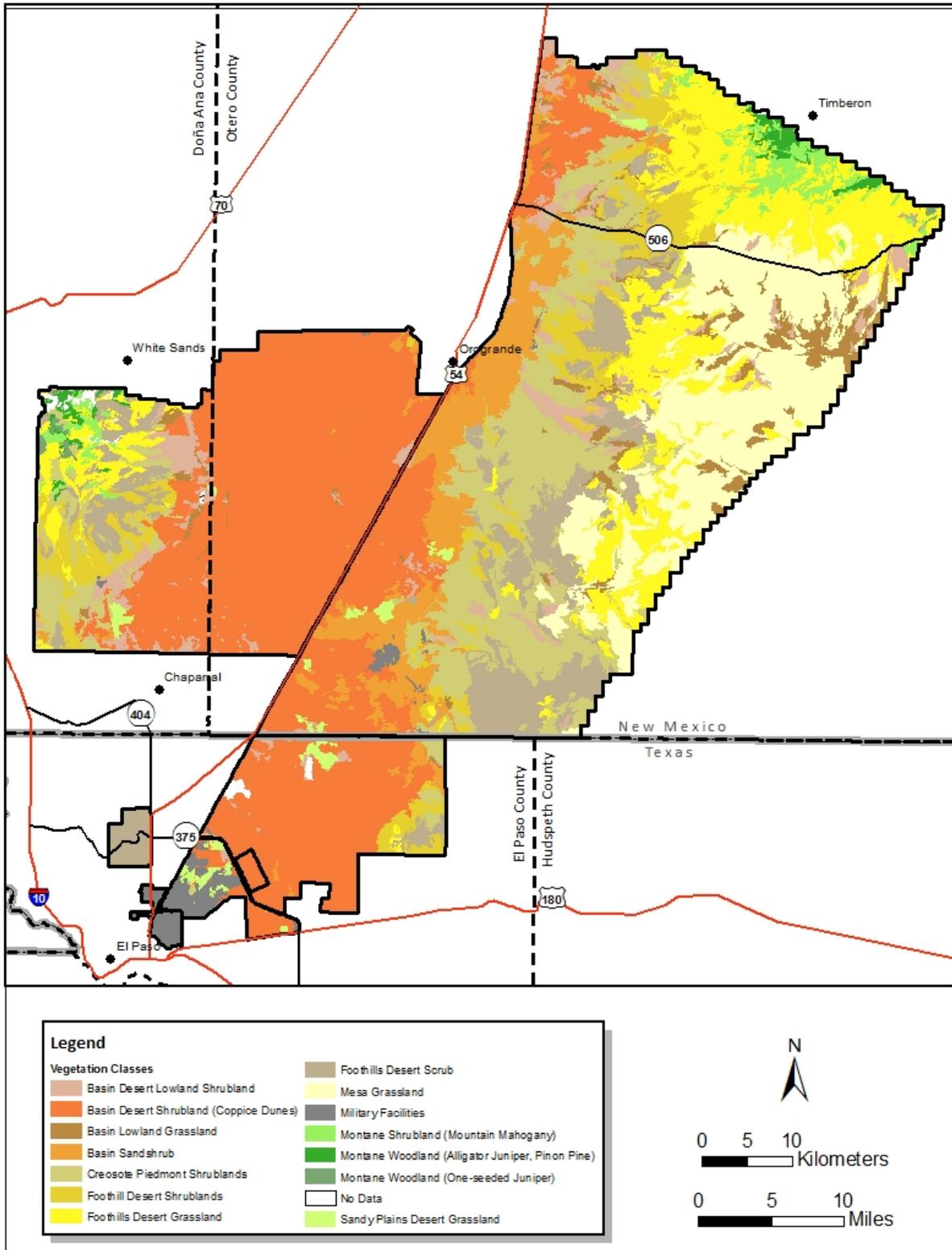
491 The borderlands region of New Mexico/Texas is a center of biodiversity in temperate North  
492 America for birds, mammals, amphibians, and reptiles. Likewise, Fort Bliss supports a relatively  
493 high faunal diversity. Approximately 335 species of birds, 58 species of mammals, 39 species of  
494 reptiles, and eight species of amphibians are known to occur on Fort Bliss lands. In addition,  
495 many more species have the potential to occur on Fort Bliss due to the presence of suitable  
496 habitat, but have not been documented thus far. More detailed information regarding the wildlife  
497 species found on Fort Bliss and their habitats can be found in the *SEIS*, the *GFS EIS*, and the  
498 INRMP.



Source: U.S. Army 2014

**Figure 3-3. Regional and Fort Bliss Ecological Management Units**

499  
500  
501  
502



503 Source: U.S. Army 2014

504

505

**Figure 3-4. Fort Bliss Plant Communities**

### 506 3.3.3 Invasive Species

507 Seven exotic plant species considered noxious occur on Fort Bliss. African rue (*Peganum*  
 508 *harmala*) is the only actively controlled invasive species on Fort Bliss. It invades disturbed sites  
 509 and once successfully established can spread and outcompete native grasses. Russian thistle  
 510 (*Salsola tragus*) is another species that has established on disturbed ground throughout Fort  
 511 Bliss. Salt cedar (*Tamarix ramosissima*) exists at some stocktanks and at other widely scattered  
 512 locations on Fort Bliss. Malta starthistle (*Centaurea melitensis*) is another potential problem  
 513 plant that grows on Fort Bliss along U.S. Highway 54, and may occur along other roadways on  
 514 the Installation as well. Other exotic species of concern include Johnsongrass (*Sorghum*  
 515 *halepense*) which occurs in some drainages, Bermudagrass (*Cynodon dactylon*) which is found  
 516 on some abandoned farmland that is no longer irrigated, and Kochia (*Bassia scoparia*), which  
 517 occurs on Otero Mesa (U.S. Army 2014).

### 518 519 3.3.4 Threatened and Endangered Species

520 The USFWS, under the Endangered Species Act (ESA), and the States of New Mexico and  
 521 Texas list various species of flora and fauna that are known to occur, or have the potential to  
 522 occur on Fort Bliss as threatened, endangered, or species of concern. Additionally, Locally  
 523 Important Natural Resources (LINRs) have been identified for protection by Fort Bliss. LINRs  
 524 include Black Grama Grasslands, Sand Sagebrush Communities, Shinnery Oak Islands, and  
 525 arroyo-riparian drainages and playas (U.S. Army 2010).

526  
 527 Fort Bliss has 57 sensitive, threatened, or endangered species of flora and fauna that are known  
 528 to occur, or have the potential to occur, on the Installation (U.S. Army 2010). Of these 57  
 529 species, 9 have federal special status. Eight species are federally listed as threatened or  
 530 endangered and one is a candidate for listing. Of the eight listed species, only the Sneed's  
 531 pincushion cactus (*Escobaria sneedii* var. *sneedii*) occurs on Fort Bliss. The remaining seven  
 532 species; Kuenzler's hedgehog cactus (*Echinocereus fendleri* var. *kuenzleri*), interior least tern  
 533 (*Sterna antillarum athalassos*), yellow-billed cuckoo (*Coccyzus americanus*), southwestern  
 534 willow flycatcher (*Empidonax trailii extimus*), piping plover (*Charadrius melodus*), northern  
 535 aplomado falcon (*Falco femoralis septentrionalis*) and the Mexican spotted owl (*Strix*  
 536 *occidentalis lucida*) are not known to occur; have no suitable habitat or insufficient habitat to  
 537 maintain a population; or exist as rare, transitory, or seasonal migrants, and breeding is not  
 538 known to occur on Fort Bliss. The northern aplomado falcon (*Falco femoralis septentrionalis*) is  
 539 a Nonessential Experimental Population within the States of New Mexico and Arizona and does  
 540 occur on Otero Mesa, but is a transitory visitor. Sprague's Pipit (*Anthus spragueii*) is a federal  
 541 candidate species for listing as endangered and occurs on the grasslands of Otero Mesa during  
 542 the winter.

543  
 544 Additional detail of Threatened and Endangered Species' current federal and state status and  
 545 known occurrence locations within the Fort Bliss can be found in the SEIS, the *GFS EIS*, and the  
 546 INRMP.

## 547 548 3.4 CULTURAL RESOURCES

549  
 550 Cultural resources represent the material manifestations of the knowledge, technologies, beliefs,  
 551 art, morals, laws, and customs particular to the people who have resided in a region (U.S. Army

2010). Cultural resources on Fort Bliss are managed and protected through historic preservation laws, regulations, and other provisions including, but not limited to: the National Historic Preservation Act (NHPA) of 1966; the American Indian Religious Freedom Act (AIRFA) of 1978; the Archaeological Resources Protection Act (ARPA) of 1979; the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990; Executive Order 11593 Protection of the Cultural Environment (1971); Executive Order 13007 Indian Sacred Sites (1996); Army Regulation 200-4 (Cultural Resources Management) and the Programmatic Agreement (PA) between Fort Bliss and the State Historic Preservation Offices (SHPO) of Texas and New Mexico and the Advisory Council on Historic Preservation (ACHP). Cultural resources include prehistoric and historic archaeological sites, Traditional Cultural Properties (TCP), sacred sites, historic buildings, structures, artifacts, cultural landscapes, and historic districts. Fort Bliss has a designated historic district on the main cantonment, and OLAs have been established within the FBTC to protect a representative sample of significant cultural resources. The *Fort Bliss Texas and New Mexico, Mission and Master Plan, Programmatic Environmental Impact Statement* (U.S. Army 2000) describes in detail the cultural history of Native Americans and post-contact inhabitants in the region. The ICRMP also contains detailed information regarding the history of Fort Bliss (U.S. Army 2008).

Operations that involve ground-disturbing activities have the potential to adversely affect cultural resources on Fort Bliss. These may include military training activities, mission changes, changes to supporting infrastructure, and natural resources management projects. In an unsurveyed area, prior to any ground disturbance for a specific project, an archaeological survey must be performed to ascertain if any cultural resources are present. If any cultural resources are encountered, an evaluation as to their eligibility for inclusion in the National Register of Historic Properties (NRHP) must be conducted. If a site is found eligible for inclusion, appropriate mitigation measures are then prescribed. The preferred measure is usually avoidance of the site.

### 3.5 SURFACE WATER RESOURCES

Surface water is scarce on Fort Bliss. Ephemeral drainages from the Organ, Sacramento, and other surrounding mountains feed into two closed basins; the Tularosa-Hueco Basin and the Salt Basin. (U.S. Army 2000).

Major rainfall within these two basins can result in water accumulating in ephemeral lakes, playas or wetlands, where it is trapped for a few days, weeks or months before evaporating away or infiltrating into the soil. The CE (Federal Register 1982) and the EPA (Federal Register 1980) both define wetlands as “those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” (USACE 1987).

Important functions of wetlands include water quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient cycling, wildlife habitat provision, unique flora and fauna niche provision, storm water attenuation and storage, sediment detention, and erosion protection (USACE 1987). The USACE 1987 Manual defines a wetland using a three-parameter approach: a site must contain the following: hydric soils, wetland hydrology and a dominance of

598 hydrophytic vegetation. Jurisdictional wetlands are wetlands that meet these three above  
599 mentioned parameters and are protected as “waters of the United States” under Section 404 of  
600 the Clean Water Act (CWA). On Fort Bliss, only waters connected to the Rio Grande, or that  
601 may cross state lines, are potential “waters of the United States” and thus considered  
602 jurisdictional. In May 1995, the Army Corps of Engineers (Albuquerque District) delineated less  
603 than 10 acres of jurisdictional wetlands in the Cantonment (at the Fish-Bowl area). All wetlands  
604 are important habitats to many plant and animal species on Fort Bliss and provide important  
605 functions. Fort Bliss has designated them as LINRs.

606

## 607 **3.6 AIR QUALITY**

608

### 609 **3.5.1 National Air Quality Standards**

610 The USEPA established National Ambient Air Quality Standards (NAAQS) for specific  
611 pollutants determined to be out of concern with respect to the health and welfare of the general  
612 public (Appendix C). NAAQS represent the maximum levels of background pollution that are  
613 considered safe, with an adequate margin of safety, to protect the public health and welfare. The  
614 TCEQ and NMED have adopted NAAQS for criteria pollutants. The major pollutants of  
615 concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide  
616 (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter less than 10 microns (PM-10), particulate matter less than  
617 2.5 microns (PM-2.5), and lead (Pb).

618

619 Areas that do not meet NAAQS standards are called non-attainment areas; areas that meet the  
620 standards are known as attainment areas. With the exception of the City of El Paso, El Paso  
621 County is in attainment for all criteria pollutants. The TCEQ has classified the City of El Paso as  
622 non-attainment for PM-10 and the downtown area as Maintenance for CO. (Areas that were  
623 previously non-attainment for a specific pollutant and then re-designated to attainment are called  
624 maintenance areas). The NMED has classified Doña Ana County for non-attainment for PM-10  
625 (limited to the city limits of Anthony, NM) and Otero County for attainment in all criteria  
626 pollutants (USEPA 2013).

627

628 The Federal Conformity Final Rule (40 CFR Parts 51 and 93) mandates that a conformity  
629 analysis must be performed when a Federal action generates air pollutants in a region that has  
630 been designated a non-attainment area for one or more pollutants under NAAQS. The  
631 conformity rule requires the responsible Federal agency to evaluate the nature of the proposed  
632 action and associated air pollutant emissions, and calculates emissions as a result of the proposed  
633 action. If emissions exceed established thresholds, the proponent is required to implement  
634 appropriate mitigation measures.

635

### 636 **3.6.2 Greenhouse Gases and Climate Change**

637 Climate change is presently occurring and is primarily due to heat-trapping gases from human  
638 activities including emissions from burning coal, oil, and gas (Melillo et al. 2014). Greenhouse  
639 gases (GHGs) include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O),  
640 fluorinated gases including chlorofluorocarbons (CFC) and hydrofluorocarbons (HFC), and  
641 halons, as well as ground-level O<sub>3</sub> (California Energy Commission 2007). Under Executive  
642 Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, Fort  
643 Bliss is mandated to reduce its overall GHG production.

644 **3.7 HEALTH AND SAFETY**

645

646 Federal, state, and Fort Bliss guidelines, rules, and regulations are in place to protect personnel  
647 throughout and nearby the Installation. Safety information and analysis is found in literature  
648 published by Fort Bliss, such as Fort Bliss Regulation 385-63 and AR 385-10, *Army Safety*  
649 *Program* (U.S. Army 2011). Health programs are promoted through the U.S. Army Public  
650 Health Command and Medical Command. Fort Bliss has also established various procedures to  
651 meet health and safety requirements of the Installation. Health hazards throughout the  
652 Installation include exposure to UXO; dehydration and heat illness; venomous wildlife; exposure  
653 to smoke; bird/wildlife aircraft strike hazardous (BASH); vehicle accidents; and exposure to  
654 pests. Major pests include mice, gophers, skunks, termites, mosquitoes, flies, cockroaches,  
655 crickets, ants, spiders, and ticks (U.S. Army 2001). Such pests are managed under the *Integrated*  
656 *Pest Management Plan, Fort Bliss, Texas and New Mexico* (IPMP) (Fort Bliss DPW-E 2012).

657

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#### 4.0 ENVIRONMENTAL CONSEQUENCES

Environmental impacts (consequence or effect) can either be beneficial or adverse, and can be either directly related to the action or indirectly caused by the action. Direct impacts are those effects that are caused by the action and occur at the same time and place (40CFR 1508.8[a]). Indirect impacts are those effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR 1508.8 [b]). As discussed in this section, the No Action and Proposed Action Alternatives may create temporary (lasting the duration of construction), short-term (up to 3 years), long-term (greater than 3 years), and permanent impacts.

Environmental impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of the impacts will be classified as negligible, minor, moderate, or major. The intensity thresholds are defined as follows:

- **Negligible:** A resource would not be affected or the effects would be at or below the level of detection, and changes would not result in any measurable or perceptible consequences.
- **Minor:** Effects on a resource would be detectable, although the effects would be localized, small, and of little consequences to the sustainability of the resource. Mitigation measures, if needed to offset adverse effects, would be simple and achievable.
- **Moderate:** Effects on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse effects would be extensive and likely achievable.
- **Major:** Effects on a resource would be obvious, long-term, and would have substantial consequences on a regional scale. Extensive mitigation measures to offset the adverse effects would be required and success of the mitigation measures would not be guaranteed.

Resources that would be impacted by the Proposed Action and discussed in this EA include land use, soils and ecosystems, biotic environment, surface water, air quality, and health and safety. A summary of the impacts on these resources are shown in Table 4-1. A more detail discussion and the impacts on the resources are programmatically evaluated in the *SEIS* and the *GFS EIS*.

#### 4.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, Fort Bliss would continue to manage its resources as detailed within the 2001 INRMP; the MOUs, MOAs, and guidelines, rules, regulations currently in place; and as analyzed in the *SEIS* and the *GFS EIS*. These primarily address the management of its resources from an individual activity or project basis. The No Action Alternative, however, would not adequately address the long-term management of the natural resources from a sustainability perspective, and the goals and objectives would not be updated or reflect current needs. The No Action Alternative does not meet the long-term needs of Fort Bliss as a sustainable military training installation.

705

**Table 4-1. Summary Matrix of Environmental Impacts**

<b>Resource*</b>	<b>No Action Alternative</b>	<b>Proposed Action Alternative</b>
<b>Land Use</b>	<b>Negligible.</b> No changes in current land usage would occur. Land Use would continue to be managed under current guidelines, rules, regulations, and MOUs currently in place and as analyzed in the <i>SEIS</i> and the <i>GFS EIS</i> .	<b>Moderate, beneficial.</b> New goals, objectives, and projects would be established or undertaken that would have a beneficial long-term impact on land use and how it is managed. They would allow Fort Bliss to become a sustainable military training installation.
<b>Soils and Ecosystems</b>	<b>Negligible.</b> Soils and ecosystems would continue to be managed under the provisions of the 2001 INRMP, the Fort Bliss Construction SWPPP guidance and as analyzed in the <i>SEIS</i> and the <i>GFS EIS</i> .	<b>Moderate, beneficial.</b> New goals, objectives, and projects would be established or undertaken that would have a beneficial long-term impact on soil resources and ecosystems by reducing soil erosion and sedimentation on the Installation.
<b>Biotic Environment</b>	<b>Negligible.</b> The biotic environment would continue to be managed as detailed within the 2001 INRMP; the MOUs and guidelines, rules, and regulations currently in place; and as analyzed in the <i>SEIS</i> and the <i>GFS EIS</i> .	<b>Moderate, beneficial.</b> New goals, objectives, and projects would be established or undertaken that would have a beneficial long-term impact on the biotic environment. Updated management practices would be implemented that would mitigate negative impacts of the Installation's mission on the biotic environment.
<b>Cultural Resources</b>	<b>Negligible.</b> Cultural resources would continue to be managed through the ICRMP and the PA.	<b>Minor, beneficial.</b> Cultural resources would continue to be managed through the ICRMP and the PA. The IWFMP identifies additional cultural resource protection measures and plants important to Native American tribes would have additional protection.
<b>Surface Water</b>	<b>Negligible.</b> Surface water resources would continue to be managed under the provisions of the 2001 INRMP, the Fort Bliss Construction and SWPPP guidance, and as analyzed in the <i>SEIS</i> and the <i>GFS EIS</i> .	<b>Moderate, beneficial.</b> New goals, objectives, and projects would be established that would have a beneficial long term impact on surface water resources by reducing sedimentation into the watershed.
<b>Air Quality &amp; GHGs</b>	<b>Negligible.</b> Air quality and GHGs would continue to be managed in accordance with the 2001 INRMP, the <i>SEIS</i> and <i>GFS EIS</i> , the various Federal, State, and U.S. Army laws and regulations governing air emissions.	<b>Negligible.</b> Air emissions from the proposed projects in the INRMP would not exceed <i>de minimis</i> thresholds for any of the NAAQS or GHGs.
<b>Health and Safety</b>	<b>Negligible.</b> Health and safety would continue to be managed under current guidelines, rules, and regulations currently in place and as analyzed in the <i>SEIS</i> and the <i>GFS EIS</i> .	<b>Minor, beneficial.</b> New goals, objectives, and projects would be established that would have a beneficial long-term impact on the health and safety of Fort Bliss Soldiers, families, employees, and the general population of the region.

\* Source: USAEC 2007

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## 4.2 PROPOSED ACTION ALTERNATIVE

### 4.2.1 Land Use

The Proposed Action Alternative would not affect the land use or change the character of the landscape. The primary Land Use will remain military. However, the Proposed Action

714 Alternative establishes goals, objectives, and projects that would have a long-term beneficial  
715 impact on land use and how it is managed. The goals, objectives, and projects would allow Fort  
716 Bliss to become a sustainable military training installation.

717  
718 Such projects as modifying existing fences and relocating fences to be more wildlife friendly,  
719 construction of additional wildlife water sources, prescribed fires for ecosystem benefit and the  
720 rehabilitation of eroded areas would increase wildlife populations. Wildlife population and  
721 habitat surveys would increase the understanding of wildlife management and needs. Increasing  
722 the calendar hunter days and non-consumptive recreation days and the construction of additional  
723 hiking trails would allow more opportunities for recreational land use on Fort Bliss. Range  
724 improvements such as, revegetation and stabilization of eroding pastures and the development of  
725 additional livestock water tanks would benefit livestock and wildlife.

726  
727 The Proposed Action Alternative would also not materially alter the landscape or visual  
728 aesthetics of the area. The BLM and USFS classifications for visual aesthetics would not  
729 change. Travelers on US 54, NM 506, and War Highway, as well as residents of the City of El  
730 Paso, Chaparral, and Timberon may see the smoke from a prescribed fire, depending on where  
731 the fire is located. The impacts of the smoke on visual resources however would be expected to  
732 be temporary, lasting only as long as the event. Blackened and burnt grass and shrubs from a  
733 prescribed fire may be seen by travelers on US 54, NM 506, and War Highway, dependent upon  
734 the location of the prescribed burn. However these effects would be expected to last only until  
735 the next growing season, as grass and shrubs in burned areas quickly re-vegetate due to increased  
736 nutrient availability. Additionally, NM 506 and War Highway are primarily utilized by Fort  
737 Bliss and White Sands Missile Range personnel, ranchers, and local residents accustomed to  
738 seeing military activities, equipment, and smoke in the area. Smoke from prescribed fires would  
739 typically not have a greater impact beyond what is normal for the area.

740  
741 **4.2.2 Soils and Ecosystems**  
742 Fort Bliss mission changes have resulted in an increased demand and pressure on soil resources  
743 on the Installation. The INRMP introduces a SESCC to better manage soils across the  
744 Installation to provide sustainable military training. The Proposed Action Alternative establishes  
745 goals, objectives, and projects that would have a long-term beneficial impact on soil resources  
746 and the ecosystem by reducing soil impacts, erosion and sedimentation. The goals would keep  
747 soil erosion from water within tolerance limits, minimize nonpoint source pollution, and  
748 minimize the impact of land use on soil erosion and sedimentation. Proposed projects include  
749 the rehabilitation of areas that have unacceptable watershed conditions, the rehabilitation of  
750 incised arroyos, rerouting of roads out of arroyos and low-lying areas, and closing and  
751 reclaiming redundant roads.

752  
753 **4.2.3 Biotic Environment**  
754 Mission changes at Fort Bliss have also resulted in an increased demand and pressure on the  
755 biological resources of the Installation. The Proposed Action Alternative establishes goals,  
756 objectives, and projects that would have a long-term beneficial impact on these resources.  
757 Projects include plant and wildlife habitat surveys, rehabilitation and enhancement of riparian  
758 vegetation and corridors, construction of additional wildlife water sources, modification of  
759 fences, rehabilitation and realignment of roads, and the installation of nest boxes and perches. In

760 addition, the Proposed Action Alternative presents various updated management practices  
761 designed to mitigate negative impacts of the Installation's mission on the biotic environment.  
762

763 The various projects proposed in the INRMP would among other things: result in a better  
764 understanding of plant communities and wildlife habitat; provide a higher quality habitat for  
765 wildlife; control non-native vegetative species; enhance vegetative communities; restore  
766 previously disturbed areas; and minimize nonpoint source pollution. Implementing the  
767 Integrated Wild Fire Management Plan (IWFMP) (Appendix M of the INRMP) and conducting  
768 prescribed fires would protect habitat and minimize wild land fires. Implementation of these  
769 plans would continue to conserve listed and sensitive species and contribute to sustaining the  
770 training ranges of Fort Bliss for the foreseeable future.  
771

#### 772 **4.2.4 Cultural Resources**

773 Fort Bliss manages its cultural resources through the ICRMP and the PA. The Integrated  
774 Wildland Fire Management Plan (IWFMP), included as part of the INRMP, identifies wildfire  
775 protection measures regarding cultural resources. Native American tribes with TCP and sacred  
776 sites on Fort Bliss would be consulted if any potential impacts from INRMP projects are  
777 identified. Mitigation measures would be agreed upon before any action is taken. The INRMP  
778 would also address conserving plants important to Native American tribes (such as the agave) to  
779 ensure these resources are adequately protected. With these provisions addressed in the INRMP,  
780 the Proposed Action Alternative would assist in the preservation of cultural resources on Fort  
781 Bliss.  
782

#### 783 **4.2.5 Surface Water Resources**

784 The Proposed Action Alternative establishes goals, objectives, and projects that would have  
785 long-term beneficial impacts on surface water resources by reducing sedimentation. The goals  
786 would keep soil erosion from water within tolerance limits, minimize nonpoint source pollution,  
787 and minimize the impact of land use on erosion and sedimentation. Proposed projects include  
788 the rehabilitation of areas that have unacceptable watershed conditions, the rehabilitation of  
789 incised arroyos, enhancement of riparian vegetation, and rerouting of roads out of arroyos and  
790 low-lying areas.  
791

#### 792 **4.2.6 Air Quality and Greenhouse Gases**

793 The Proposed Action Alternative includes projects under the INRMP, such as prescribed fires,  
794 re-vegetation projects, and road maintenance, that would have temporary and minor increases in  
795 air emissions from the use of fire and heavy equipment (combustion emissions) and the  
796 disturbance of soils (fugitive dust). Guidelines for use of prescribed fires found in the IWFMP  
797 would be followed including mitigation measures to reduce smoke generation and obtaining  
798 appropriate smoke permits from the NMED Air Quality Bureau or TCEQ.  
799

800 Total air quality emissions (including GHGs) for the proposed projects in the INRMP were  
801 calculated to compare to the General Conformity Rule. It was found that air emissions from the  
802 proposed projects in the INRMP would not exceed *de minimis* thresholds for any of the NAAQS  
803 pollutants or GHGs. Details of the analyses are presented in Appendix C.  
804  
805

**4.2.7 Health and Safety**

806  
807 The Proposed Action Alternative establishes new goals, objectives, and projects that would have  
808 a long-term beneficial impact on the health and safety of Fort Bliss Soldiers, families, and the  
809 workforce in general. Goals would be established to minimize non-point source pollution;  
810 reduce fuel loads, thereby reducing the chance for a catastrophic wildfire; reduce the BASH  
811 probability; and better control pests. Projects would include measures to exclude or discourage  
812 animals and pests from roosting, nesting, and inhabiting buildings; reduce vegetative fuel loads  
813 in specific areas; and carrying out surveys for pests that could be a threat to human health or  
814 natural resources. These goals and projects would be integrated with the IPMP and existing  
815 health and safety management practices, and other guidelines, rules, and regulations currently in  
816 place. Prescribed fires would be carried out in accordance with the IWFMP.

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**819 5.0 CUMULATIVE IMPACTS**

820

821 Cumulative impacts are defined as the impacts on the environment that result from the  
822 incremental impact of the action when added to other past, present, and reasonable foreseeable  
823 future actions. The Proposed Action Alternative to implement a revised INRMP would have  
824 beneficial cumulative impacts on the management and sustainability of natural resources on Fort  
825 Bliss, when added to or augmenting the programs and procedures already in effect under the  
826 2001 INRMP. Long-term, beneficial cumulative impacts on Fort Bliss's resources would  
827 include re-vegetation efforts, increased biodiversity, implementation of erosion and  
828 sedimentation control measures, reduction of invasive and exotic plant species, rehabilitation of  
829 eroded landscapes, improved protection of wildlife habitats, and an overall increased knowledge  
830 of Fort Bliss's natural resources.

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858	<b>6.0</b>	<b>ACRONYMS AND ABBREVIATIONS</b>
859		
860	ACEC	Areas of Critical Environmental Concern
861	ACHP	Advisory Council on Historic Preservation
862	AIRFA	American Indian Religious Freedom Act
863	ARPA	Archaeological Resources Protection Act
864	BASH	Bird/Wildlife Aircraft Strike Hazard
865	BLM	Bureau of Land Management
866	BMPs	Best Management Practices
867	BRAC	Base Realignment and Closure
868	CEQ	Council on Environmental Quality
869	CFC	Chlorofluorocarbons
870	CFR	Code of Federal Regulations
871	CH <sub>4</sub>	Methane
872	CO	Carbon Monoxide
873	CO <sub>2</sub>	Carbon Dioxide
874	CWA	Clean Water Act
875	DoD	Department of Defense
876	DOI	Department of Interior
877	DPW-E	Directorate of Public Works – Environmental Division
878	EA	Environmental Assessment
879	EIS	Environmental Impact Statement
880	EMU	Ecological Management Unit
881	ESA	Endangered Species Act
882	FBTC	Fort Bliss Training Center
883	FNSI	Finding of No Significant Impact
884	FTXs	Field Training Exercise Sites
885	GFS EIS	Growth and Force Structure EIS
886	GHGs	Greenhouse Gases
887	HFC	Hydrofluorocarbons
888	ICRMP	Integrated Cultural Resources Management Plan
889	INRMP	Integrated Natural Resources Management Plan
890	IPMP	Integrated Pest Management Plan
891	ITAM	Integrated Training Area Management Plan
892	IWFMP	Integrated Wildland Fire Management Plan
893	LINRs	Locally Important Natural Resources
894	LUA	Limited Use Area
895	MBTA	Migratory Bird Treaty Act
896	MLWA	Military Land Withdrawal Act
897	MOA	Memorandum of Agreement
898	MOU	Memorandum of Understanding
899	NAAQS	National Ambient Air Quality Standards
900	NAGPRA	Native American Graves Protection and Repatriation Act
901	NEPA	National Environmental Policy Act
902	NMDGF	New Mexico Department of Game and Fish
903	NMED	New Mexico Environment Department

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904	N <sub>2</sub> O	Nitrous Oxide
905	NO <sub>2</sub>	Nitrogen Dioxide
906	NOA	Notice of Availability
907	NOI	Notice of Intent
908	NRCS	Natural Resources Conservation Service
909	NRHP	National Register of Historic Places
910	O <sub>3</sub>	Ozone
911	OLA	Off Limit Area
912	Pb	Lead
913	PL	Public Law
914	PM-2.5	Particulate Matter measuring less than 2.5 microns
915	PM-10	Particulate Matter measuring less than 10 microns
916	RCMP	Range Complex Master Plan
917	ROD	Record of Decision
918	RPMP	Real Property Master Plan
919	SAIA	Sikes Act Improvement Act
920	SEIS	Supplemental EIS
921	SESCC	Soil Erosion and Sediment Control Component
922	SHPO	State Historic Preservation Office
923	SO <sub>2</sub>	Sulfur Dioxide
924	SWPPP	Stormwater Pollution Prevention Plan
925	TCP	Traditional Cultural Properties
926	TCEQ	Texas Commission on Environmental Quality
927	TPWD	Texas Parks and Wildlife Department
928	USACE	United States Army Corps of Engineers
929	USC	United States Code
930	USDA	United States Department of Agriculture
931	USEPA	United States Environmental Protection Agency
932	USFWS	United State Fish and Wildlife Service
933	USFS	United States Forest Service
934	UXO	Unexploded Ordnance
935	VEC	Valued Environmental Component
936	WSA	Wilderness Study Area
937		
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- 1020 **8.0 PREPARERS**  
1021  
1022 **John F. Barrera**, NEPA Manager  
1023 Fort Bliss, Directorate of Public Works, Environmental Division  
1024  
1025 **John Kipp, Ph.D.**, NEPA Planner  
1026 Fort Bliss, Directorate of Public Works, Environmental Division  
1027  
1028 **Brian Locke, Ph.D.**, Wildlife Biologist  
1029 Fort Bliss, Directorate of Public Works, Environmental Division  
1030  
1031 **Steven Bumgarner**, Natural Resource Support Management, Biology Contractor – CCI  
1032 Solutions, LLC; Fort Bliss, Directorate of Public Works, Environmental Division  
1033  
1034 **Jeremy Lane**, Natural Resources Support Biology Contractor – Vista Technical Services,  
1035 LLC Fort Bliss, Directorate of Public Works, Environmental Division  
1036  
1037 **Josh McEnany**, Wildlife Biologist, NEPA Support - Gulf South Research Corporation  
1038 Baton Rouge, LA  
1039  
1040 **Mark Walker**, NEPA Support Contractor, Project Manager – Gulf South Research Corporation  
1041 Fort Bliss, Directorate of Public Works, Environmental Division  
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APPENDIX A  
2015 INRMP GOALS AND OBJECTIVES

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## 2015 INRMP GOALS AND OBJECTIVES

### Threatened and Endangered Species

- **TE Goal 1:** Use a regional ecosystem-based approach that manages Fort Bliss's sensitive species and their associated ecosystems while protecting the operational functionality of the mission.
  - *Objective 1.1. Conserve and enhance species, communities and ecosystems on a regional basis.*
  - *Objective 1.2. Apply adaptive management strategies to maintain the integrity of the mission and minimize impacts of training activities.*
- **TE Goal 2:** Ensure that Fort Bliss remains in compliance with the Endangered Species Act (ESA) and appropriate state regulations.
  - *Objective 2.1. Conduct periodic surveys for sensitive, rare, threatened, and endangered species.*
  - *Objective 2.2. Maintain, update and implement the Threatened, Endangered and Species of Concern Management Plans (collectively known as ESMPs), in coordination with the USFWS, NMDGF, and TPWD.*
- **TE Goal 3:** Promote natural resources and ecosystem management in the local region that benefits the functionality of Fort Bliss ecosystems.
  - *Objective 3.1. Maintain or mimic natural processes.*
  - *Objective 3.2. Protect rare and ecologically important species and unique or sensitive environments.*
- **TE Goal 4:** Protect sensitive wildlife habitats on Fort Bliss.
  - *Objective 4.1. Manage for no net loss of sensitive wildlife habitat on Fort Bliss.*
  - *Objective 4.2. Minimize habitat fragmentation and promote the natural connectivity of habitats.*

### Wetlands and Deepwater Habitats

- **WD Goal 1:** Remain in compliance with U.S. Army Corps of Engineers (USACE) and the State of New Mexico and Texas wetland regulations.
  - *Objective 1.1. Contact the USACE to determine verification for projects or activities planned in an area with potential for regulated wetlands.*
  - *Objective 1.2. Survey and identify boundaries to prevent accidental encroachment if wetlands are discovered and existing activities occur in these areas.*
- **WD Goal 2:** Minimize the operational impact of Fort Bliss missions on wetlands and deepwater habitats.
  - *Objective 2.1. Assess biological conditions of aquatic ecosystems on Fort Bliss.*
  - *Objective 2.2. Minimize the amounts of fertilizers and nutrients applied on Fort bliss.*
  - *Objective 2.3. Eliminate potential sources of direct pollutant discharges to waterways, where feasible.*
  - *Objective 2.4. Promote and implement alternative stormwater management approaches, including low-impact development, to minimize adverse impacts of surface runoff from impervious areas.*

- 47           ○ *Objective 2.5. Prevent spills of oil and other hazardous substances, and ensure*  
 48 *the effectiveness of prevention and response planning.*  
 49           ○ *Objective 2.6. Incorporate BMPs into necessary military operations in and*  
 50 *around wetlands.*
- 51 • **WD Goal 3:** Enhance wetland functionality.
    - 52           ○ *Objective 3.1. Minimize habitat fragmentation and promote the natural*  
 53 *connectivity of wetlands and water resources to other important habitats.*
    - 54           ○ *Objective 3.2. Maintain or mimic natural processes.*
    - 55           ○ *Objective 3.3. Sustain and enhance healthy arroyo riparian buffers along*  
 56 *waterways.*
  - 57 • **WD Goal 4:** Manage for no net loss of wetland and floodplain acreage, functions, and  
 58 values.
    - 59           ○ *Objective 4.1. Characterize baseline wetland conditions as needed and ensure the*  
 60 *GIS database reflects Fort Bliss wetland acreage.*
    - 61           ○ *Objective 4.2. Enhance the function(s) and value(s) of Fort Bliss wetlands.*

### 62 **Fish and Wildlife Management**

- 64 • **FW Goal 1:** Manage with an ecosystem-based approach, rather than single-species  
 65 management.
  - 66           ○ *Objective 1.1. Establish and conduct planning-level surveys on the installation as*  
 67 *deemed necessary.*
  - 68           ○ *Objective 1.2. Employ an adaptive management approach to manage wildlife*  
 69 *resources, using a continuous loop process that includes inventory, monitoring,*  
 70 *modeling, management, assessment, and evaluation.*
- 71 • **FW Goal 2:** Minimize wildlife-related health risks and safety risks to humans.
  - 72           ○ *Objective 2.1. Coordinate with Preventative Medicine and Animal Control*  
 73 *personnel and provide expertise as needed to minimize health and safety risks to*  
 74 *Soldiers and other Fort Bliss personnel.*
  - 75           ○ *Objective 2.2. Monitor for Chronic Wasting Disease (CWD) by sampling brain*  
 76 *stem or lymphatic tissue from every mule deer and elk harvested on Fort Bliss.*
- 77 • **FW Goal 3:** Maintain diversity and integrity of wildlife within Ecosystem Management  
 78 Units (UMUs) on Fort Bliss.
  - 79           ○ *Objective 2.1. Protect, restore, and maintain viable populations of native species*  
 80 *found in the ecosystem.*
- 81 • **FW Goal 4:** Maintain and promote partnerships with agencies and groups involved in  
 82 wildlife conservation.
  - 83           ○ *Objective 4.1. Fort bliss establishes a cooperative agreement with the USFWS,*  
 84 *TPWD, and NMDGF to utilize the expertise of these agencies to implement the*  
 85 *goals established in this INRMP.*
  - 86           ○ *Objective 4.2. Develop a Fish and Wildlife Management Plan in coordination*  
 87 *with State and Federal agencies identifying wildlife/mission constraints.*

### 88 **Forestry Management**

- 89 • **FM Goal 1:** Maintain a diverse system of forest stands for the benefits of ecosystem  
 90 health and wildlife habitat.  
 91

- 92 ○ *Objective 1.1. Minimize habitat fragmentation and promote the natural*
- 93 *connectivity of habitats.*
- 94 ○ *Objective 1.2. Design and maintain new landscaped areas that are low*
- 95 *maintenance and strictly incorporate native trees, shrubs, and herbaceous plants*
- 96 *where appropriate.*
- 97 ○ *Objective 1.3. Integrate native plant species into landscaping plans and minimize*
- 98 *impacts to existing native habitats.*
- 99 ○ *Objective 1.4. Implement objectives from the Fire Management Plan (FMP) to*
- 100 *maintain 90 percent of the Coniferous Woodland/Mixed Woodland forest in the*
- 101 *heads of canyons.*
- 102 ○ *Objective 1.5. Implement objectives from the FMP to maintain 96 percent*
- 103 *composition of young and mature mountain-mahogany plants.*
- 104 ○ *Objective 1.6. Implement objective from the FMP to maintain the mountain-*
- 105 *mahogany from class at 85 percent all available and 15 percent partially*
- 106 *available; with 25 percent little hedging, 50 percent moderate hedging, and 25*
- 107 *percent severe hedging.*
- 108 ● **FM Goal 2:** Manage forest stands to be resilient against destructive wildfires and to
- 109 improve watershed capacity.
- 110 ○ *Objective 2.1. Manage forest stands to minimize chances of catastrophic fire*
- 111 *events.*
- 112 ○ *Objective 2.2. Ensure the perpetuation of native habitats and reduce the threat of*
- 113 *wildlife on Fort Bliss by reducing fuel loads in dense stands.*

### 114 **Vegetative Management**

- 115 ● **VM Goal 1:** Maintain the integrity and abundance of sensitive plant species.
- 116 ○ *Objective 1.1. Establish Limited Use Area protocols to continue to avoid,*
- 117 *minimize, and mitigate potential impacts of ground activities on sensitive species*
- 118 *and their associated habitats.*
- 119 ● **VM Goal 2:** Minimize the adverse effects of training activities on vegetation.
- 120 ○ *Objective 2.1. Evaluate training requirements to assess their impacts on sensitive*
- 121 *species and their habitats.*
- 122 ○ *Objective 2.2. Monitor military activities within Limited Use Areas on Fort Bliss,*
- 123 *particularly, within arroyo riparian zones and in grasslands to minimize adverse*
- 124 *impacts of training activities.*
- 125 ● **VM Goal 3:** Maintain the diversity of native vegetative communities.
- 126 ○ *Objective 3.1. Minimize habitat fragmentation and promote the natural*
- 127 *connectivity of habitats.*
- 128 ○ *Objective 3.2. Monitor military training effects to plant and habitat diversity.*
- 129 ○ *Objective 3.3. Determine the indicator species for habitat health and overall*
- 130 *ecosystem sustainability.*
- 131
- 132

### 133 **Migratory Bird Management**

- 134 ● **MB Goal 1:** Within the framework of the Migratory Bird Treaty Act (MBTA), employ
- 135 an adaptive management approach to managing migratory birds using a process that
- 136 includes inventory, monitoring, management, assessment, and evaluation.

- 137 ○ *Objective 1.1. Ensure compliance with the Migratory Bird Treaty Act in all*
- 138 *maintenance operations and landscaping activities at Fort Bliss.*
- 139 ○ *Objective 1.2. Conduct regular surveys of migratory bird populations to assess*
- 140 *diversity and population numbers of migratory birds that might be nesting in*
- 141 *areas proposed for disturbance.*
- 142 ○ *Objective 1.3. Continue to monitor impacts of training activities on migratory*
- 143 *bird populations.*
- 144 ○ *Objective 1.4. Monitor military training activities within Limited Use Areas to*
- 145 *ensure habitat quality and diversity is maintained.*
- 146 ● **MB Goal 2:** Maintain and promote partnerships with agencies and groups involved in
- 147 migratory bird conservation.
- 148 ○ *Objective 2.1. Establish a cooperative agreement with the USFWS, New Mexico*
- 149 *Natural Heritage Program, regional Partners in Flight (PIF) representative, and*
- 150 *other local experts to utilize their help implement the goals established in this*
- 151 *INRMP.*

### 152 Invasive Species Management

- 154 ● **IS Goal 1:** Make the maximum use of native plant species and avoid the introduction of
- 155 invasive species in re-vegetation and landscaping activities.
- 156 ○ *Objective 1.1. Design and maintain new landscaped areas that are low in*
- 157 *maintenance and strictly incorporate native trees, shrubs, and herbaceous plants*
- 158 *where appropriate.*
- 159 ○ *Objective 1.2. Enhance the relative health, structure, and function of existing*
- 160 *native grassland areas.*
- 161 ○ *Objective 1.3. Integrate native plant species into landscaping plans and minimize*
- 162 *impacts to existing native habitats.*
- 163 ● **IS Goal 2:** Ensure compliance with environmental legislation, regulations, and
- 164 guidelines.
- 165 ○ *Objective 2.1. Develop and adopt proactive management measures to control the*
- 166 *proliferation of nuisance and non-native species.*
- 167 ○ *Objective 2.2. Coordinate with State and local regulators to obtain appropriate*
- 168 *permits for non-native and nuisance plant eradication in wetland areas.*
- 169 ● **IS Goal 3:** Control invasive species on Fort Bliss.
- 170 ○ *Objective 3.1. Prioritize areas of invasive species for eradication and subsequent*
- 171 *restoration.*
- 172 ○ *Objective 3.2. Continue the eradication of non-native species, including*
- 173 *saltcedar, utilizing methods that will cause the least disturbance to native species*
- 174 *that might be present.*
- 175 ○ *Objective 3.3. Promote the continued removal of invasive, exotic plant species*
- 176 *and re-vegetate with native plants.*
- 177 ○ *Objective 3.4. Employ an Early Detection, Rapid Response management*
- 178 *approach by promptly containing and eradicating new infestations to reduce*
- 179 *resource damage and costs.*

### 180 Pest Management

- 181 ● **PM Goal 1:** Minimize pest-related impacts and health risks to natural resources and
- 182 people.

- 183 ○ *Objective 1.1. Conduct surveys of pests that pose a potential health risk to*
- 184 *humans or natural resources.*
- 185 ○ *Objective 1.2. Promote management practices to control the damage caused by*
- 186 *feral animals and urban wildlife, both to Fort Bliss facilities and to sensitive*
- 187 *wildlife populations.*
- 188 ● **PM Goal 2:** Ensure compliance with environmental legislation, regulations, and
- 189 guidelines.
- 190 ○ *Objective 2.1. Implement pest management controls from the Integrated Pest*
- 191 *Management Plan (IPMP) and other pest-related guidance and plans.*
- 192 ○ *Objective 2.2. Update the IPMP to ensure that the plan reflects changes in pest*
- 193 *populations and current management issues.*
- 194

### 195 **Land Management**

- 196 ● **LM Goal 1:** Sustain and enhance training lands on Fort Bliss by integrating sustainable
- 197 land and resource management techniques and principles amongst all users of the FBTC.
- 198 ○ *Objective 1.1. Manage for no net loss in Fort Bliss's capacity to support the*
- 199 *military mission.*
- 200 ○ *Objective 1.2. Minimize habitat fragmentation and promote the natural*
- 201 *connectivity of habitats.*
- 202 ○ *Objective 1.3. Maintain or mimic natural processes.*
- 203 ○ *Objective 1.4. Ensure the perpetuation of native habitats and reduce the threat of*
- 204 *severe wildfires on Fort Bliss.*
- 205 ○ *Objective 1.5. Protect soil resources through erosion prevention and erosion*
- 206 *control practices.*
- 207 ○ *Objective 1.6. Maintain access and operation of roads and utilities while*
- 208 *providing environmental stewardship.*
- 209

### 210 **Soil Resource Management**

- 211 ● **SR Goal 1:** Keep soil erosion from water within tolerance limits as defined in soil
- 212 surveys prepared by the U.S. Department of Agriculture (USDA), Natural Resources
- 213 Conservation Service (NRCS).
- 214 ○ *Objective 1.1. Follow the guidelines established in the Soil Erosion and Sediment*
- 215 *Control Component.*
- 216 ○ *Objective 1.2. Prepare site-specific sediment and erosion control plans for all*
- 217 *earth-moving activities.*
- 218 ● **SR Goal 2:** Minimize non-point source pollution of both surface and groundwater.
- 219 ○ *Objective 2.1. Maintain vegetative buffers on waterways/riparian corridors.*
- 220 ○ *Objective 2.2. Ensure that BMPs are developed as part of the water quality*
- 221 *monitoring program.*
- 222 ● **SR Goal 3:** Minimize the impact of land uses on soil erosion and sedimentation when
- 223 and where possible.
- 224 ○ *Objective 3.1. Locate physically intensive land disturbing activities on the least*
- 225 *erodible soils.*
- 226

### 227 **Agricultural Outleasing**

- **AG Goal 1:** Manage grasslands on Fort Bliss for sustainability of ecosystem components and for the economic benefits derived from grazing leases.
  - *Objective 1.1. Manage for no net loss in Fort Bliss’s capability to support the military mission.*
  - *Objective 1.2. Minimize habitat fragmentation and promote the natural connectivity of habitats.*
  - *Objective 1.3. Maintain or mimic natural process.*
  - *Objective 1.4. Protect soil resources from erosion through BMPs.*
  - *Objective 1.5. Manage the grazing leases so that wildlife and livestock habitat continues to improve while providing the opportunity for livestock grazing.*

### **Geographic Information Systems**

- **GIS Goal 1:** Augment management of all natural resources on Fort Bliss through the management of a GIS database.
  - *Objective 1.1. Collect, store, and maintain data about historical conditions, trends, and the present status for critical indicators of ecological integrity and sustainability.*
  - *Objective 1.2. Develop layers for natural resources data not currently in the installation GIS database.*
  - *Objective 1.3. Analyze information from the GIS database to develop additional natural resources management goals and objectives.*
  - *Objective 1.4. Train personnel to ensure the accuracy and relevance of data collection and include the integration for the RTLA database into GIS database. Develop and implement written standards and procedures for GIS administration, including managing metadata. Inventory database layers currently in Fort Bliss’s GIS system and acquire needed core database layers. Develop Fort bliss’s GIS to allow for integrated presentation of management alternatives.*

### **Outdoor Recreation**

- **OR Goal 1:** Provide sustainable natural resources-related outdoor recreation opportunities.
  - *Objective 1.1. Provide quality outdoor recreation experiences while sustaining ecosystem integrity.*
  - *Objective 1.2. Develop and promote additional opportunities/sites for outdoor recreation, including watchable wildlife areas and hiking to include opportunities for handicapped or disabled individuals.*
- **OR Goal 2:** Ensure that outdoor recreation activities are not in conflict with mission priorities.
  - *Objective 2.1. Establish and incorporate a public access protocol.*
  - *Objective 2.2. Monitor the recreation areas to ensure proper and legal use.*

### **Bird/Wildlife Aircraft Strike Hazard (BASH)**

- **BH Goal 1:** Minimize BASH-related health risks, safety risks, and environmental damage.

- *Objective 1.1. Coordinate the current BASH Plan and other BASH reduction guidance with the INRMP for habitat modification, active harassment, and bird awareness education for all personnel.*
- *Objective 1.2. Develop a strategy to minimize BASH threat.*
- **BH Goal 2:** Comply with applicable laws and regulations.
  - *Objective 2.1. The BASH team should review any habitat alternation to ensure that it does not impact the safety of the mission.*
  - *Objective 2.2. Maintain BASH awareness with all proposed land use activities.*

### Wildland Fire Management

- **WM Goal 1:** Maintain the existing vegetative communities and their biodiversity by allowing wildfires to burn as needed to protect or restore at-risk environments.
  - *Objective 1.1. Implement the guidelines within the Integrated Wildland Fire Management Plan and allow wildfires to fulfill their role in the ecosystem where possible.*
  - *Objective 1.2. Allow natural fires to burn under the right prescriptive conditions.*
- **WM Goal 2:** Implement a prescribed fire program that restores native habitats and reduces the effects of destructive wildfires on Fort Bliss.
  - *Objective 2.1. DPW-E should review burn plans for any significant habitat alterations to ensure that the burn does not affect the mission.*
  - *Objective 2.2. Inventory and monitor plant communities prior to and following prescribed fire applications.*
  - *Objective 2.3. Plan and seek funding for long-term monitoring.*
  - *Objective 2.4. Move degraded vegetative communities to a healthier state through a prescribed burn program.*

### Training

- **TR Goal 1:** Provide continual training to DPW-E staff regarding ecosystem-based management principles on military lands.
  - *Objective 1.1. Provide financial support for participation at land management conferences specializing in, or direct application to, military lands and allow continual communication with natural resources staff at other DoD facilities.*

### Outreach and Education

- **OE Goal 1:** Ensure that environmental policy and stewardship principles are implemented, maintained, and communicated to all military, civilian, and contracted employees.
  - *Objective 1.1. Educate Fort Bliss soldiers, employees, tenants, housing residents, and contractors about natural resource issues on Fort Bliss that affect the installation, BMPs, and Fort Bliss's natural resources program and initiatives.*
  - *Objective 1.2. Engage Fort bliss Soldiers, employees, residents, and tenants in natural resources initiatives and conservation projects.*
- **OE Goal 2:** Integrate the Fort Bliss natural resources program with local, state, and regional environmental programs and initiatives to the maximum extent possible.
  - *Objective 2.1. Educate regional stakeholders about the Fort Bliss natural resources program.*

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- *Objective 2.2. Form and maintain partnerships and collaborates to accomplish natural resources initiatives and projects on Fort bliss and within the surrounding region.*

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APPENDIX B  
2015 INRMP EA Distribution List

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2 **2015 INRMP EA Distribution List**  
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4 **LIBRARIES**  
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6 Alamogordo Public Library  
7 920 Oregon Ave  
8 Alamogordo, NM 88310  
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10 El Paso Main Public Library  
11 501 North Oregon Ave  
12 El Paso, TX 79901  
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14 UTEP Library  
15 500 W. University Ave.  
16 El Paso, TX 79968  
17

18 NMSU Zuhl Library  
19 2999 McFie Circle  
20 Las Cruces, NM 88003  
21

22 Thomas Branigan Memorial Library  
23 200 E. Picacho Ave.  
24 Las Cruces, NM 88001  
25

26 **FEDERAL AGENCIES**  
27

28 Jennifer Montoya  
29 NEPA Coordinator  
30 Bureau of Land Management  
31 1800 Marques  
32 Las Cruces, NM 88005-3371  
33

34 Bill Childress  
35 District Manager  
36 Bureau of Land Management  
37 1800 Marques  
38 Las Cruces, NM 88005-3371  
39

40 Dr. Benjamin Tuggle  
41 Regional Director  
42 U.S. Fish and Wildlife Service  
43 P.O. Box 1306  
44 Albuquerque, NM 87103-1306  
45

46 Wally Murphy  
47 Field Supervisor  
48 U.S. Fish and Wildlife Service  
49 NM Ecological Services Field Office  
50 2105 Osuna NE  
51 Albuquerque, NM 87113  
52  
53 Adam Zerrenner  
54 Field Supervisor  
55 U.S. Fish and Wildlife Service  
56 Austin Ecological Services Field Office  
57 10711 Burnet Road, Suite 200  
58 Austin, TX 78758-4460  
59  
60 Stephen R. Spencer  
61 Regional Environmental Officer  
62 U.S. Department of the Interior  
63 Office of Environmental Policy & Compliance  
64 1001 Indian School Road, NW, Suite 348  
65 Albuquerque, NM 87104  
66  
67 Travis Moseley  
68 Supervisor, Lincoln National Forest  
69 3463 Las Palomas Rd  
70 Alamogordo, NM 88310  
71  
72 Sabrina Flores  
73 Planner, Lincoln National Forest  
74 3463 Las Palomas Rd  
75 Alamogordo, NM 88310  
76  
77 Deborah Hartell  
78 DPW-E-C  
79 Environmental Division, Bldg 163  
80 White Sands Missile Range, NM 88002  
81  
82 **NEW MEXICO STATE AGENCIES**  
83  
84 Ray Aaltonen  
85 Chief  
86 New Mexico Department of Game and Fish, SW Area  
87 2715 Northrise Drive  
88 Las Cruces, NM 88011  
89  
90  
91

92 Mark L. Watson  
93 Conservation Services Division  
94 New Mexico Department of Game and Fish  
95 P.O. Box 25112  
96 Santa Fe, NM 87504  
97  
98 Tony Delfin  
99 State Forester  
100 New Mexico Energy, Minerals & Natural Resources  
101 Forestry Division  
102 1220 S. St. Francis Dr.  
103 Santa Fe, New Mexico 87505  
104  
105 Tom Skibitski  
106 New Mexico Environment Department  
107 5500 San Antonio Drive, NE  
108 Albuquerque, NM 87109  
109  
110 Dr. Jeff Pappas  
111 State Historic Preservation Officer  
112 State of New Mexico Office of Cultural Affairs  
113 Historic Preservation Division  
114 Bataan Memorial Building  
115 407 Galisteo Street, Suite 236  
116 Santa Fe, NM 87501  
117  
118 **TEXAS STATE AGENCIES**  
119  
120 Mark Wolf  
121 Executive Director  
122 Texas Historical Commission  
123 P.O. Box 12276  
124 Austin, TX 78711-2276  
125  
126 Lorinda Gardner  
127 Regional Director  
128 Texas Commission of Environmental Quality  
129 401 E. Franklin Ave Ste 560  
130 El Paso, TX 79901-1206  
131  
132 Carter Smith  
133 Executive Director  
134 Texas Parks and Wildlife Department  
135 4200 Smith School Road  
136 Austin, TX 78744  
137

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139 **NATIVE AMERICAN TRIBES**  
140  
141 Comanche Nation  
142 Jimmy Arterberry  
143 Tribal Historic Preservation Officer  
144 Comanche Nation  
145 6 SW D Avenue, Suite A  
146 Lawton, OK 73507  
147  
148 Fort Sill Apache  
149 Jeff Houser, Tribal Chairman  
150 43187 US Highway 281  
151 RR2, Box 121  
152 Apache, OK 73006-9644  
153  
154 Kiowa Tribe of Oklahoma  
155 Ron D. Twohatchet, Chairman  
156 Kiowa Culture Preservation Authority  
157 P.O. Box 885  
158 Carnegie, OK 73015  
159  
160 Mescalero Apache Tribe  
161 Holly Houghten  
162 Tribal Historic Preservation Officer  
163 P.O. Box 227  
164 Mescalero, NM 88340  
165  
166 Pueblo of Isleta  
167 Eddie Paul Torres, Sr., Governor  
168 P.O. Box 1270  
169 Isleta, NM 87022  
170  
171 White Mountain Apache  
172 Mark Altaha  
173 Tribal Historic Preservation Officer  
174 P.O. Box 507  
175 Fort Apache, AZ 85926  
176  
177 Ysleta Del Sur Pueblo  
178 Javier Loera, War Captain  
179 Ysleta Del Sur Pueblo Council  
180 P.O. Box 17579  
181 El Paso, TX 79917-7579

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APPENDIX C  
National Ambient Air Quality Standards

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## National Ambient Air Quality Standards

The [Clean Air Act](#), which was last amended in 1990, requires EPA to set [National Ambient Air Quality Standards](#) (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act identifies two types of national ambient air quality standards. **Primary standards** provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. **Secondary standards** provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

EPA has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants. They are listed below. Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ).

Pollutant [final rule cite]		Primary/ Secondary	Averaging Time	Level	Form
<a href="#">Carbon Monoxide</a> [76 FR 54294, Aug 31, 2011]		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
<a href="#">Lead</a> [73 FR 66964, Nov 12, 2008]		primary and secondary	Rolling 3 month average	0.15 $\mu\text{g}/\text{m}^3$ <sup>(1)</sup>	Not to be exceeded
<a href="#">Nitrogen Dioxide</a> [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	Annual	53 ppb <sup>(2)</sup>	Annual Mean
<a href="#">Ozone</a> [73 FR 16436, Mar 27, 2008]		primary and secondary	8-hour	0.075 ppm <sup>(3)</sup>	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
<a href="#">Particle Pollution</a> Dec 14, 2012	PM <sub>2.5</sub>	primary	Annual	12 $\mu\text{g}/\text{m}^3$	annual mean, averaged over 3 years
		secondary	Annual	15 $\mu\text{g}/\text{m}^3$	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
	PM <sub>10</sub>	primary and secondary	24-hour	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
<a href="#">Sulfur Dioxide</a> [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		primary	1-hour	75 ppb <sup>(4)</sup>	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

as of October 2011

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5  $\mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO<sub>2</sub> standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO<sub>2</sub> standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

**Annual Air Impact Analysis Matrix:**

Vegetative Cover	FLF Fuel Loading Factor (tons/acre) <sup>1</sup>	AB Area of Material Burned (acres)	Material Burned During Year (tons/yr)
Grassland	0.74	500	370
Woodland	1.13	500	565

Emission Factors - Grassland (lb/ton) <sup>2</sup>			
PM-10	CO	NOx	VOC
20	150	8	0

Emission Factors - Wooded Land (lb/ton)			
PM-10	CO	NOx	VOC
40	250	8	8.4

Percent of Ft Bliss areas burned in vegetative types	
Grassland	Wooded
55%	45%

Vegetative Cover	PM-10 (tons/year)	CO (tons/year)	NOx (tons/year)	VOC (tons/year)
Grassland	2	15	1	-
Wooded	5	32	1	1
<b>Total</b>	<b>7</b>	<b>47</b>	<b>2</b>	<b>1</b>

1. Source: Table 1 (Fuel Model 1, 1 Hour Fuel Loading) Hal E. Anderson, 1982. Aids to determining Fuel models for estimating fire behavior. USDA. General Technical Report INT-122.

Equations:

$$E_{pol} = MB \times F \times EF$$

$$MB = AB \times FLF$$

The analysis above indicates that prescribed burns on Fort Bliss would not cause a significant deterioration (in criteria pollutants) of the National Ambient Air Quality Standards.