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

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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

___________________________________   ______________________________
Mike Hester       Date
Colonel, U.S. Army
Commanding
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EXECUTIVE SUMMARY

This Environmental Analysis (EA) analyzes the effects upon the environment from proposed actions described in the United States Department of the Army (U.S. Army) Fort Bliss 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). The purpose of the Fort Bliss INRMP - 2015 is to provide guidance for the implementation and management of natural resources on Fort Bliss during the 5-year period from 2015 through 2019.

The Fort Bliss INRMP 2015 uses an integrated, adaptive, ecosystem management approach for sustainability and consistency with the military missions on Fort Bliss. The U.S. Army with the assistance of the U.S. Fish and Wildlife Service (USFWS) and the states of New Mexico and Texas are responsible under the Sikes Act (16 U.S.C. 670a-670f, as amended) for carrying out programs and implementing management strategies to conserve and protect biological resources on Fort Bliss lands. Implementation of this INRMP is imperative for increasing mission capabilities, minimizing military training constraints and maintaining maximum flexibility. Implementation of this 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, § 651.33 (h).

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

The 2015 Fort Bliss INRMP as proposed 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 1st 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 Structure Realignment Final Environmental Impact Statement (GFS EIS), for which a ROD was signed on 08 June 2010 (U.S. Army 2010). This EA incorporates these documents by reference.
• Introduction of Program Element Goals and Objectives and specific projects for the management of individual resources.

• New goals, objectives, and management actions based on the new Fort Bliss Integrated Wildland Fire Management Plan (IWFMP).

• Introduction of Adaptive Management for Climate Change. The INRMP addresses potential impacts of climate change on natural resources and the training mission within the goals and objectives. Forecasted trends of climate change for the southwest U.S. include an increase in summer temperatures, an increase in winter temperatures, decrease in annual precipitation, an increase in frequency and duration of drought events, extended fire seasons with more frequent and intense wildfires, and an increase in the susceptibility of ecosystems to invasion from non-native species.

• Introduction of a Soil Erosion and Sediment Control Component (SESCC). The INRMP introduces a policy for the management of soil resources for the entire installation. The policies are designed to keep soil erosion within tolerance limits as specified in soil surveys and reduce sedimentation in wetlands and waterways. Minimizing soil erosion would help maintain the sustainability of Fort Bliss’s primary land use which is military training.

The Proposed Action of this EA is to implement the Fort Bliss 2015 INRMP which will guide environmental management on the installation through 2018. 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.

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

The Army invites public participation in the NEPA process to promote open communication and enable better decision making. Input and comments will be solicited from the public in accordance with NEPA. The EA and draft FNSI will be made available to the public with a Notice of Availability (NOA) published in the El Paso Times, Las Cruces Sun-News, and the Alamogordo Daily News, and the drafts will be distributed to local libraries, agencies, and organizations who have expressed interest in the INRMP. The EA will also be posted to the Fort Bliss website at www.bliss.army.mil. The EA and draft FNSI (if applicable) will be made available to the public for a 30-day comment period. During this time the Army will consider any comments submitted on the Proposed Action, the EA, or the draft FNSI. At the conclusion of the comment period, the Army may, if appropriate, execute the FNSI and proceed with the 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 1st 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
Structure Realignment Final Environmental Impact Statement (GFS EIS), for which a ROD was signed on 08 June 2010 (U.S. Army 2010). This EA incorporates these documents by reference.

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

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

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.

1.3 SCOPE

This EA identifies, documents, and evaluates the potential environmental effects of the implementation of the INRMP at Fort Bliss, and has been prepared by Fort Bliss Directorate of Public Works – Environmental Division (DPW-E) to comply with the National Environmental Policy Act (NEPA) of 1969 (Public Law [PL] 91-190;42 U.S. Code [USC] 4321-4347, as amended. NEPA is a Federal environmental law establishing procedural requirements for all Federal agency actions, and directs the Army to disclose the environmental effects of its proposed activities to the public and officials who must make decisions regarding a proposed action. Preparation of this EA followed instructions established in 32 CFR 651, Environmental Analysis of Army Actions; 40 CFR 15000-1508, Council on Environmental Quality (CEQ)
regulations; and Army Regulation 200-1, *Environmental Protection and Enhancement* (U.S. Army 2007b).

### 1.4 DECISION(S) TO BE MADE

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

### 1.5 PUBLIC AND AGENCY PARTICIPATION

#### 1.5.1 Public Participation

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

#### 1.5.2 Agency Participation

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

- **United States Fish and Wildlife Service (USFWS).** The USFWS was a signatory cooperating agency for the INRMP. The USFWS is responsible for coordinating and enforcing the regulations promulgated by the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act, among others.

- **New Mexico Department of Game and Fish (NMDGF).** The NMDGF was a signatory cooperating agency for the INRMP. They are the primary state agency regarding fish and wildlife management and enforcement of hunting regulations, including on Fort Bliss lands located in New Mexico. The NMDGF also publishes the state listing for threatened and endangered species in New Mexico.

- **Texas Parks and Wildlife Department (TPWD).** The TPWD was a signatory cooperating agency for the INRMP. They are the primary state agency regarding fish and wildlife management and enforcement of hunting regulations, including on Fort Bliss lands located in Texas. The TPWD also publishes the state listing for threatened and endangered species in Texas.
• **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).

• **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.
Figure 1-1. Fort Bliss and Region

Source: U.S. Army 2014
2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 NO ACTION ALTERNATIVE

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 SEIS and the GFS EIS. The No Action Alternative would not comply with the Sikes Act Improvement Act (SAIA) which requires a formal INRMP revision every five years. The No Action Alternative serves as the baseline against which federal actions can be evaluated, and as such, inclusion of the No Action Alternative is prescribed by CEQ regulations.

2.2 PROPOSED ACTION ALTERNATIVE

Fort Bliss proposes to implement the 2015 INRMP, which supports the management of natural resources on the installation and is a revision of the 2001 INRMP. The purpose of the Proposed Action is to continue the management programs currently in place and to carry out revisions to improve these programs. The 2015 INRMP 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. The goals and objectives of the INRMP can be found in Appendix A. The complete Draft 2015 INRMP can be found at www.bliss.army.mil, click on the Environmental Documents button.
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 detailed 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.
The VECs that could be affected by the Proposed Action are Land Use, Soils and Ecosystems, the Biotic Environment, Cultural Resources, Surface Water, Air Quality and Green House Gas (GHG) emissions, and Health and Safety.

3.1 LAND USE

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

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

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

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

The BLM utilizes four categories for rating visual aesthetics of landscapes. They are Class I and II, the most aesthetically valued; Class III moderate value; and Class IV the least aesthetically valued. A corridor along US 54 and NM 506 on McGregor Range has been designated as a Class III. The objective of the Class III designation is to partially retain the existing character of
the landscape. The BLM has ranked Culp Canyon WSA on McGregor Range as Class II. A Class II designation indicates that changes to the characteristic landscape should be low impacts. The BLM objective is to retain the existing character of the landscape. The USFS also assigns visual classifications to its co-managed-areas, ranging from Preservation to Maximum Modification. The Lincoln National Forest adjacent to McGregor Range is classified as a Modification Area due to its relatively low visual quality; its alterations, such as roads, signage; and evidence of productive uses (U.S. Army 2010) (Figure 3-2).

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

<table>
<thead>
<tr>
<th>FBTC Land Use Category</th>
<th>Military Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
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</tr>
<tr>
<td>B</td>
<td>●</td>
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<td>●</td>
</tr>
<tr>
<td>F</td>
<td>●</td>
</tr>
<tr>
<td>G</td>
<td>●</td>
</tr>
<tr>
<td>WSA/ACEC*</td>
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</tr>
<tr>
<td>Impact Areas</td>
<td>●</td>
</tr>
<tr>
<td>Range Camps</td>
<td>●</td>
</tr>
</tbody>
</table>

Source: U.S. Army 2010

* WSA = Wilderness Study Area
* ACEC = Area of Critical Environmental Concern
Figure 3-1. Land Use Categories

Source: U.S. Army 2010
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).
• **Basin Alluvial:** The Basin Alluvial is the landform intermediate between Basin Aeolian and the Foothill-Bajada Complex EMUs. Water-mediated erosion and deposition are the major terrain-forming processes as indicated by intermontane valleys, arroyos, alluvial fans, alluvial plains, and playas. Soils are mainly Entisols and Aridisols, and are predominantly alluvial (derived from water-deposited sediments). Elevation ranges from 3,900 to 5,200 feet, with upper elevations composed of mainly gravelly soils. At lower elevations loamy and silty soils occupy depressions adjacent to Basin Aeolian sandsheets and dunes. Silt and clay soils are found in low-lying playas and other depressions that are subject to occasional flooding (USAEC 2013).

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

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

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

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

• **Hueco Mountains:** The Hueco Mountains EMU is at the southeastern border of Fort Bliss. Elevation ranges from 4,500 to 6,000 feet. Steep, limestone mountain and hill slopes with shallow soils alternate with narrow to broad mountain valleys that drain northwest through alluvial piedments to the basin floor. Water erosion is a potential hazard if plant cover is disturbed (USAEC 2013).
Succulent communities with agave, sotol, yucca, beargrass, and cacti populate the lower elevations; juniper (*Juniperus* spp.) grows sparsely on the higher slopes and in canyons. Although there are mesic canyons, there is no montane riparian vegetation or perennial water. In addition, lechuguilla (*Agave lechuguilla*), creosotebush, and mariola dominate the shallow soils on the steep, rocky limestone slopes. Sideats grama (*Bouteloua curtipendula*) and occasionally black grama (*Bouteloua eriopoda*) desert grasslands occupy gentler slopes, as well as gravelly, somewhat deeper soils on the upper piedmont. The lower piedmont often supports creosotebush communities (U.S. Army 1996).

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

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

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

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

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

Fort Bliss occupies only a small portion of the Sacramento Mountains range which primarily consists of pinyon-juniper and mountain mahogany (*Cercocarpus montanus*) at higher elevations, and sandscrub and Chihuahuan Desert scrub at lower elevations. There
is no montane riparian vegetation and very little ponderosa pine forest on the McGregor
Range portion.

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

3.3 BIOTIC ENVIRONMENT

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

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

3.3.2 Fauna
The borderlands region of New Mexico/Texas is a center of biodiversity in temperate North America for birds, mammals, amphibians, and reptiles. Likewise, Fort Bliss supports a relatively high faunal diversity. Approximately 335 species of birds, 58 species of mammals, 39 species of reptiles, and eight species of amphibians are known to occur on Fort Bliss lands. In addition, many more species have the potential to occur on Fort Bliss due to the presence of suitable habitat, but have not been documented thus far. More detailed information regarding the wildlife species found on Fort Bliss and their habitats can be found in the SEIS, the GFS EIS, and the INRMP.
Figure 3-3. Regional and Fort Bliss Ecological Management Units

Source: U.S. Army 2014
Figure 3-4. Fort Bliss Plant Communities

Legend

Vegetation Classes
- Basin Desert Lowland Shrubland
- Basin Desert Shrubland (Coppice Dunes)
- Basin Lowland Grassland
- Basin Sandshrub
- Coastwise Pavement Shrublands
- Foothill Desert Shrublands
- Foothills Desert Grassland

Source: U.S. Army 2014
3.3.3 Invasive Species

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

3.3.4 Threatened and Endangered Species

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

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

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

3.4 CULTURAL RESOURCES

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

3.6 AIR QUALITY

3.6.1 National Air Quality Standards
The USEPA established National Ambient Air Quality Standards (NAAQS) for specific
pollutants determined to be out of concern with respect to the health and welfare of the general
public (Appendix C). NAAQS represent the maximum levels of background pollution that are
considered safe, with an adequate margin of safety, to protect the public health and welfare. The
TCEQ and NMED have adopted NAAQS for criteria pollutants. The major pollutants of
concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO2), nitrogen dioxide
(NO2), ozone (O3), particulate matter less than 10 microns (PM-10), particulate matter less than
2.5 microns (PM-2.5), and lead (Pb).

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

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

3.6.2 Greenhouse Gases and Climate Change
Climate change is presently occurring and is primarily due to heat-trapping gases from human
activities including emissions from burning coal, oil, and gas (Melillo et al. 2014). Greenhouse
gases (GHGs) include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O),
fluorinated gases including chlorofluorocarbons (CFC) and hydrofluorocarbons (HFC), and
halons, as well as ground-level O3 (California Energy Commission 2007). Under Executive
Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, Fort
Bliss is mandated to reduce its overall GHG production.
Federal, state, and Fort Bliss guidelines, rules, and regulations are in place to protect personnel throughout and nearby the Installation. Safety information and analysis is found in literature published by Fort Bliss, such as Fort Bliss Regulation 385-63 and AR 385-10, *Army Safety Program* (U.S. Army 2011). Health programs are promoted through the U.S. Army Public Health Command and Medical Command. Fort Bliss has also established various procedures to meet health and safety requirements of the Installation. Health hazards throughout the Installation include exposure to UXO; dehydration and heat illness; venomous wildlife; exposure to smoke; bird/wildlife aircraft strike hazardous (BASH); vehicle accidents; and exposure to pests. Major pests include mice, gophers, skunks, termites, mosquitoes, flies, cockroaches, crickets, ants, spiders, and ticks (U.S. Army 2001). Such pests are managed under the *Integrated Pest Management Plan, Fort Bliss, Texas and New Mexico* (IPMP) (Fort Bliss DPW-E 2012).
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 prospective, 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.
### Table 4-1. Summary Matrix of Environmental Impacts

<table>
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<tr>
<th>Resource*</th>
<th>No Action Alternative</th>
<th>Proposed Action Alternative</th>
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<tbody>
<tr>
<td>Land Use</td>
<td>Negligible. 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 SEIS and the GFS EIS.</td>
<td><strong>Moderate, beneficial.</strong> 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.</td>
</tr>
<tr>
<td>Soils and Ecosystems</td>
<td>Negligible. 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 SEIS and the GFS EIS.</td>
<td><strong>Moderate, beneficial.</strong> 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.</td>
</tr>
<tr>
<td>Biotic Environment</td>
<td>Negligible. 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 SEIS and the GFS EIS.</td>
<td><strong>Moderate, beneficial.</strong> 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.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Negligible. Cultural resources would continue to be managed through the ICRMP and the PA.</td>
<td><strong>Minor, beneficial.</strong> 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.</td>
</tr>
<tr>
<td>Surface Water</td>
<td>Negligible. 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 SEIS and the GFS EIS.</td>
<td><strong>Moderate, beneficial.</strong> 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.</td>
</tr>
<tr>
<td>Air Quality &amp; GHGs</td>
<td>Negligible. Air quality and GHGs would continue to be managed in accordance with the 2001 INRMP, the SEIS and GFS EIS, the various Federal, State, and U.S. Army laws and regulations governing air emissions.</td>
<td>Negligible. Air emissions from the proposed projects in the INRMP would not exceed de minimis thresholds for any of the NAAQS or GHGs.</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>Negligible. Health and safety would continue to be managed under current guidelines, rules, and regulations currently in place and as analyzed in the SEIS and the GFS EIS.</td>
<td><strong>Minor, beneficial.</strong> 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.</td>
</tr>
</tbody>
</table>

* Source: USAEC 2007

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

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

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

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

4.2.3 Biotic Environment
Mission changes at Fort Bliss have also resulted in an increased demand and pressure on the biological resources of the Installation. The Proposed Action Alternative establishes goals, objectives, and projects that would have a long-term beneficial impact on these resources. Projects include plant and wildlife habitat surveys, rehabilitation and enhancement of riparian vegetation and corridors, construction of additional wildlife water sources, modification of fences, rehabilitation and realignment of roads, and the installation of nest boxes and perches. In
addition, the Proposed Action Alternative presents various updated management practices
designed to mitigate negative impacts of the Installation’s mission on the biotic environment.

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

4.2.4  Cultural Resources

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

4.2.5  Surface Water Resources

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

4.2.6  Air Quality and Greenhouse Gases

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

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

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

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

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACEC</td>
<td>Areas of Critical Environmental Concern</td>
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<tr>
<td>ACHP</td>
<td>Advisory Council on Historic Preservation</td>
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<tr>
<td>AIRFA</td>
<td>American Indian Religious Freedom Act</td>
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<tr>
<td>ARPA</td>
<td>Archaeological Resources Protection Act</td>
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<td>BASH</td>
<td>Bird/Wildlife Aircraft Strike Hazard</td>
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<td>BLM</td>
<td>Bureau of Land Management</td>
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<td>BMPs</td>
<td>Best Management Practices</td>
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<td>BRAC</td>
<td>Base Realignment and Closure</td>
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<td>CEQ</td>
<td>Council on Environmental Quality</td>
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<td>CFC</td>
<td>Chlorofluorocarbons</td>
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<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>CH₄</td>
<td>Methane</td>
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<td>CO</td>
<td>Carbon Monoxide</td>
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<tr>
<td>CO₂</td>
<td>Carbon Dioxide</td>
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<td>CWA</td>
<td>Clean Water Act</td>
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<td>DoD</td>
<td>Department of Defense</td>
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<td>DOI</td>
<td>Department of Interior</td>
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<td>DPW-E</td>
<td>Directorate of Public Works – Environmental Division</td>
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<td>EA</td>
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<td>EIS</td>
<td>Environmental Impact Statement</td>
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<td>EMU</td>
<td>Ecological Management Unit</td>
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<td>ESA</td>
<td>Endangered Species Act</td>
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<td>Fort Bliss Training Center</td>
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<td>FNSI</td>
<td>Finding of No Significant Impact</td>
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<td>FTXs</td>
<td>Field Training Exercise Sites</td>
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<td>GFS EIS</td>
<td>Growth and Force Structure EIS</td>
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<td>ICRMP</td>
<td>Integrated Cultural Resources Management Plan</td>
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<td>INRMP</td>
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<td>ITAM</td>
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<td>IWFMP</td>
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<td>LINRs</td>
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<td>LUA</td>
<td>Limited Use Area</td>
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<td>MBTA</td>
<td>Migratory Bird Treaty Act</td>
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<td>MLWA</td>
<td>Military Land Withdrawal Act</td>
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<td>MOA</td>
<td>Memorandum of Agreement</td>
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<td>NMDGF</td>
<td>New Mexico Department of Game and Fish</td>
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<td>NMED</td>
<td>New Mexico Environment Department</td>
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<tr>
<td>Code</td>
<td>Abbreviation</td>
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<td>N2O</td>
<td>Nitrous Oxide</td>
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<td>NO2</td>
<td>Nitrogen Dioxide</td>
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<td>Particulate Matter measuring less than 2.5 microns</td>
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<td>PM-10</td>
<td>Particulate Matter measuring less than 10 microns</td>
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<td>RCMP</td>
<td>Range Complex Master Plan</td>
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<td>ROD</td>
<td>Record of Decision</td>
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<td>RPMP</td>
<td>Real Property Master Plan</td>
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<td>Supplemental EIS</td>
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<td>Soil Erosion and Sediment Control Component</td>
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<td>State Historic Preservation Office</td>
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<td>Stormwater Pollution Prevention Plan</td>
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<td>TCEQ</td>
<td>Texas Commission on Environmental Quality</td>
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<td>TPWD</td>
<td>Texas Parks and Wildlife Department</td>
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<td>USACE</td>
<td>United States Army Corps of Engineers</td>
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<td>USC</td>
<td>United States Code</td>
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<td>USDA</td>
<td>United States Department of Agriculture</td>
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<td>USEPA</td>
<td>United States Environmental Protection Agency</td>
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<td>USFWS</td>
<td>United State Fish and Wildlife Service</td>
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<tr>
<td>USFS</td>
<td>United States Forest Service</td>
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<tr>
<td>UXO</td>
<td>Unexploded Ordnance</td>
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<tr>
<td>VEC</td>
<td>Valued Environmental Component</td>
</tr>
<tr>
<td>WSA</td>
<td>Wilderness Study Area</td>
</tr>
</tbody>
</table>

30
7.0 REFERENCES


Fort Bliss DPW-E. 2014. *Fort Bliss Integrated Wildland Fire Management Plan*


8.0 PREPARERS

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APPENDIX A
2015 INRMP GOALS AND OBJECTIVES
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.
Objective 2.5. Prevent spills of oil and other hazardous substances, and ensure the effectiveness of prevention and response planning.

Objective 2.6. Incorporate BMPs into necessary military operations in and around wetlands.

**WD Goal 3:** Enhance wetland functionality.
- Objective 3.1. Minimize habitat fragmentation and promote the natural connectivity of wetlands and water resources to other important habitats.
- Objective 3.2. Maintain or mimic natural processes.
- Objective 3.3. Sustain and enhance healthy arroyo riparian buffers along waterways.

**WD Goal 4:** Manage for no net loss of wetland and floodplain acreage, functions, and values.
- Objective 4.1. Characterize baseline wetland conditions as needed and ensure the GIS database reflects Fort Bliss wetland acreage.
- Objective 4.2. Enhance the function(s) and value(s) of Fort Bliss wetlands.

**Fish and Wildlife Management**
- **FW Goal 1:** Manage with an ecosystem-based approach, rather than single-species management.
  - Objective 1.1. Establish and conduct planning-level surveys on the installation as deemed necessary.
  - Objective 1.2. Employee an adaptive management approach to manage wildlife resources, using a continuous loop process that includes inventory, monitoring, modeling, management, assessment, and evaluation.

- **FW Goal 2:** Minimize wildlife-related health risks and safety risks to humans.
  - Objective 2.1. Coordinate with Preventative Medicine and Animal Control personnel and provide expertise as needed to minimize health and safety risks to Soldiers and other Fort Bliss personnel.
  - Objective 2.2. Monitor for Chronic Wasting Disease (CWD) by sampling brain stem or lymphatic tissue from every mule deer and elk harvested on Fort Bliss.

- **FW Goal 3:** Maintain diversity and integrity of wildlife within Ecosystem Management Units (UMUs) on Fort Bliss.
  - Objective 2.1. Protect, restore, and maintain viable populations of native species found in the ecosystem.

- **FW Goal 4:** Maintain and promote partnerships with agencies and groups involved in wildlife conservation.
  - Objective 4.1. Fort bliss establishes a cooperative agreement with the USFWS, TPWD, and NMDGF to utilize the expertise of these agencies to implement the goals established in this INRMP.
  - Objective 4.2. Develop a Fish and Wildlife Management Plan in coordination with State and Federal agencies identifying wildlife/mission constraints.

**Forestry Management**
- **FM Goal 1:** Maintain a diverse system of forest stands for the benefits of ecosystem health and wildlife habitat.
Objective 1.1. Minimize habitat fragmentation and promote the natural connectivity of habitats.

Objective 1.2. Design and maintain new landscaped areas that are low maintenance and strictly incorporate native trees, shrubs, and herbaceous plants where appropriate.

Objective 1.3. Integrate native plant species into landscaping plans and minimize impacts to existing native habitats.

Objective 1.4. Implement objectives from the Fire Management Plan (FMP) to maintain 90 percent of the Coniferous Woodland/Mixed Woodland forest in the heads of canyons.

Objective 1.5. Implement objectives from the FMP to maintain 96 percent composition of young and mature mountain-mahogany plants.

Objective 1.6. Implement objective from the FMP to maintain the mountain-mahogany from class at 85 percent all available and 15 percent partially available; with 25 percent little hedging, 50 percent moderate hedging, and 25 percent severe hedging.

FM Goal 2: Manage forest stands to be resilient against destructive wildfires and to improve watershed capacity.

Objective 2.1. Manage forest stands to minimize chances of catastrophic fire events.

Objective 2.2. Ensure the perpetuation of native habitats and reduce the threat of wildlife on Fort Bliss by reducing fuel loads in dense stands.

Vegetative Management

VM Goal 1: Maintain the integrity and abundance of sensitive plant species.

Objective 1.1. Establish Limited Use Area protocols to continue to avoid, minimize, and mitigate potential impacts of ground activities on sensitive species and their associated habitats.

VM Goal 2: Minimize the adverse effects of training activities on vegetation.

Objective 2.1. Evaluate training requirements to assess their impacts on sensitive species and their habitats.

Objective 2.2. Monitor military activities within Limited Use Areas on Fort Bliss, particularly, within arroyo riparian zones and in grasslands to minimize adverse impacts of training activities.

VM Goal 3: Maintain the diversity of native vegetative communities.

Objective 3.1. Minimize habitat fragmentation and promote the natural connectivity of habitats.

Objective 3.2. Monitor military training effects to plant and habitat diversity.

Objective 3.3. Determine the indicator species for habitat health and overall ecosystem sustainability.

Migratory Bird Management

MB Goal 1: Within the framework of the Migratory Bird Treaty Act (MBTA), employ an adaptive management approach to managing migratory birds using a process that includes inventory, monitoring, management, assessment, and evaluation.
**Objective 1.1.** Ensure compliance with the Migratory Bird Treaty Act in all maintenance operations and landscaping activities at Fort Bliss.

**Objective 1.2.** Conduct regular surveys of migratory bird populations to assess diversity and population numbers of migratory birds that might be nesting in areas proposed for disturbance.

**Objective 1.3.** Continue to monitor impacts of training activities on migratory bird populations.

**Objective 1.4.** Monitor military training activities within Limited Use Areas to ensure habitat quality and diversity is maintained.

- **MB Goal 2:** Maintain and promote partnerships with agencies and groups involved in migratory bird conservation.
  - **Objective 2.1.** Establish a cooperative agreement with the USFWS, New Mexico Natural Heritage Program, regional Partners in Flight (PIF) representative, and other local experts to utilize their help implement the goals established in this INRMP.

**Invasive Species Management**

- **IS Goal 1:** Make the maximum use of native plant species and avoid the introduction of invasive species in re-vegetation and landscaping activities.
  - **Objective 1.1.** Design and maintain new landscaped areas that are low in maintenance and strictly incorporate native trees, shrubs, and herbaceous plants where appropriate.
  - **Objective 1.2.** Enhance the relative health, structure, and function of existing native grassland areas.
  - **Objective 1.3.** Integrate native plant species into landscaping plans and minimize impacts to existing native habitats.

- **IS Goal 2:** Ensure compliance with environmental legislation, regulations, and guidelines.
  - **Objective 2.1.** Develop and adopt proactive management measures to control the proliferation of nuisance and non-native species.
  - **Objective 2.2.** Coordinate with State and local regulators to obtain appropriate permits for non-native and nuisance plant eradication in wetland areas.

- **IS Goal 3:** Control invasive species on Fort Bliss.
  - **Objective 3.1.** Prioritize areas of invasive species for eradication and subsequent restoration.
  - **Objective 3.2.** Continue the eradication of non-native species, including saltcedar, utilizing methods that will cause the least disturbance to native species that might be present.
  - **Objective 3.3.** Promote the continued removal of invasive, exotic plant species and re-vegetate with native plants.
  - **Objective 3.4.** Employ an Early Detection, Rapid Response management approach by promptly containing and eradicating new infestations to reduce resource damage and costs.

**Pest Management**

- **PM Goal 1:** Minimize pest-related impacts and health risks to natural resources and people.
Objective 1.1. Conduct surveys of pests that pose a potential health risk to humans or natural resources.

Objective 1.2. Promote management practices to control the damage caused by feral animals and urban wildlife, both to Fort Bliss facilities and to sensitive wildlife populations.

**PM Goal 2:** Ensure compliance with environmental legislation, regulations, and guidelines.

Objective 2.1. Implement pest management controls from the Integrated Pest Management Plan (IPMP) and other pest-related guidance and plans.

Objective 2.2. Update the IPMP to ensure that the plan reflects changes in pest populations and current management issues.

**Land Management**

**LM Goal 1:** Sustain and enhance training lands on Fort Bliss by integrating sustainable land and resource management techniques and principles amongst all users of the FBTC.

Objective 1.1. Manage for no net loss in Fort Bliss’s capacity 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 processes.

Objective 1.4. Ensure the perpetuation of native habitats and reduce the threat of severe wildfires on Fort Bliss.

Objective 1.5. Protect soil resources through erosion prevention and erosion control practices.

Objective 1.6. Maintain access and operation or roads and utilities while providing environmental stewardship.

**Soil Resource Management**

**SR Goal 1:** Keep soil erosion from water within tolerance limits as defined in soil surveys prepared by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS).

Objective 1.1. Follow the guidelines established in the Soil Erosion and Sediment Control Component.

Objective 1.2. Prepare site-specific sediment and erosion control plans for all earth-moving activities.

**SR Goal 2:** Minimize non-point source pollution of both surface and groundwater.

Objective 2.1. Maintain vegetative buffers on waterways/riprarian corridors.

Objective 2.2. Ensure that BMPs are developed as part of the water quality monitoring program.

**SR Goal 3:** Minimize the impact of land uses on soil erosion and sedimentation when and where possible.

Objective 3.1. Locate physically intensive land disturbing activities on the least erodible soils.

**Agricultural Outleasing**
• **AG Goal 1:** Manage grasslands on Fort Bliss for sustainability of ecosystem components and for the economic benefits derived from grazing leases.
  o **Objective 1.1.** Manage for no net loss in Fort Bliss’s capability to support the military mission.
  o **Objective 1.2.** Minimize habitat fragmentation and promote the natural connectivity of habitats.
  o **Objective 1.3.** Maintain or mimic natural process.
  o **Objective 1.4.** Protect soil resources from erosion through BMPs.
  o **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.
  o **Objective 1.1.** Collect, store, and maintain data about historical conditions, trends, and the present status for critical indicators of ecological integrity and sustainability.
  o **Objective 1.2.** Develop layers for natural resources data not currently in the installation GIS database.
  o **Objective 1.3.** Analyze information from the GIS database to develop additional natural resources management goals and objectives.
  o **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.
  o **Objective 1.1.** Provide quality outdoor recreation experiences while sustaining ecosystem integrity.
  o **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.
  o **Objective 2.1.** Establish and incorporate a public access protocol.
  o **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.
Objective 2.2. Form and maintain partnerships and collaborates to accomplish natural resources initiatives and projects on Fort Bliss and within the surrounding region.
APPENDIX B

2015 INRMP EA Distribution List
2015 INRMP EA Distribution List

LIBRARIES

Alamogordo Public Library
920 Oregon Ave
Alamogordo, NM 88310

El Paso Main Public Library
501 North Oregon Ave
El Paso, TX 79901

UTEP Library
500 W. University Ave.
El Paso, TX 79968

NMSU Zuhl Library
2999 McFie Circle
Las Cruces, NM 88003

Thomas Branigan Memorial Library
200 E. Picacho Ave.
Las Cruces, NM 88001

FEDERAL AGENCIES

Jennifer Montoya
NEPA Coordinator
Bureau of Land Management
1800 Marques
Las Cruces, NM 88005-3371

Bill Childress
District Manager
Bureau of Land Management
1800 Marques
Las Cruces, NM 88005-3371

Dr. Benjamin Tuggle
Regional Director
U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, NM 87103-1306
NATIVE AMERICAN TRIBES

Comanche Nation
Jimmy Arterberry
Tribal Historic Preservation Officer
Comanche Nation
6 SW D Avenue, Suite A
Lawton, OK 73507

Fort Sill Apache
Jeff Houser, Tribal Chairman
43187 US Highway 281
RR2, Box 121
Apache, OK 73006-9644

Kiowa Tribe of Oklahoma
Ron D. Twohatchet, Chairman
Kiowa Culture Preservation Authority
P.O. Box 885
Carnegie, OK 73015

Mescalero Apache Tribe
Holly Houghten
Tribal Historic Preservation Officer
P.O. Box 227
Mescalero, NM 88340

Pueblo of Isleta
Eddie Paul Torres, Sr., Governor
P.O. Box 1270
Isleta, NM 87022

White Mountain Apache
Mark Altaha
Tribal Historic Preservation Officer
P.O. Box 507
Fort Apache, AZ 85926

Ysleta Del Sur Pueblo
Javier Loera, War Captain
Ysleta Del Sur Pueblo Council
P.O. Box 17579
El Paso, TX 79917-7579
APPENDIX C
National Ambient Air Quality Standards
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 (µg/m³).

<table>
<thead>
<tr>
<th>Pollutant [final rule cite]</th>
<th>Primary/Secondary</th>
<th>Averaging Time</th>
<th>Level</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Monoxide [76 FR 54294, Aug 31, 2011]</td>
<td>primary</td>
<td>8-hour</td>
<td>9 ppm</td>
<td>Not to be exceeded more than once per year</td>
</tr>
<tr>
<td></td>
<td>1-hour</td>
<td>35 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead [73 FR 66964, Nov 12, 2008]</td>
<td>primary and secondary</td>
<td>Rolling 3 month average</td>
<td>0.15 µg/m³ (1)</td>
<td>Not to be exceeded</td>
</tr>
<tr>
<td>Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]</td>
<td>primary</td>
<td>1-hour</td>
<td>100 ppb</td>
<td>98th percentile of 1-hour daily maximum concentrations, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>primary and secondary</td>
<td>Annual</td>
<td>53 ppb (2)</td>
<td>Annual Mean</td>
</tr>
<tr>
<td>Ozone [73 FR 15436, Mar 27, 2008]</td>
<td>primary and secondary</td>
<td>8-hour</td>
<td>0.075 ppm (3)</td>
<td>Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years</td>
</tr>
<tr>
<td>Particle Pollution Dec 14, 2012 PM&lt;sub&gt;2.5&lt;/sub&gt;</td>
<td>primary</td>
<td>Annual</td>
<td>12 µg/m³</td>
<td>Annual mean, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>secondary</td>
<td>Annual</td>
<td>15 µg/m³</td>
<td>Annual mean, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>primary and secondary</td>
<td>24-hour</td>
<td>35 µg/m³</td>
<td>98th percentile, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>primary and secondary</td>
<td>24-hour</td>
<td>150 µg/m³</td>
</tr>
<tr>
<td>Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]</td>
<td>primary</td>
<td>1-hour</td>
<td>75 ppb (4)</td>
<td>98th percentile of 1-hour daily maximum concentrations, averaged over 3 years</td>
</tr>
<tr>
<td></td>
<td>secondary</td>
<td>3-hour</td>
<td>0.5 ppm</td>
<td>Not to be exceeded more than once per year</td>
</tr>
</tbody>
</table>

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ 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 NO2 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 SO2 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:

<table>
<thead>
<tr>
<th>Vegetative Cover</th>
<th>FLF Fuel Loading Factor (tons/acre)</th>
<th>AB Area of Material Burned (acres)</th>
<th>Material Burned During Year (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grassland</td>
<td>0.74</td>
<td>500</td>
<td>370</td>
</tr>
<tr>
<td>Woodland</td>
<td>1.13</td>
<td>500</td>
<td>565</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emission Factors - Grassland (lb/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-10</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emission Factors - Wooded Land (lb/ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-10</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>40</td>
</tr>
</tbody>
</table>

Percent of Ft Bliss areas burned in vegetative types

<table>
<thead>
<tr>
<th>Vegetative cover</th>
<th>PM-10 (tons/year)</th>
<th>CO (tons/year)</th>
<th>NOx (tons/year)</th>
<th>VOC (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grassland</td>
<td>2</td>
<td>15</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Wooded</td>
<td>5</td>
<td>32</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>47</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>


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.