PROGRAMMATIC ENVIRONMENTAL ASSESSMENT FOR THE WYOMING ARMY NATIONAL GUARD CAMP GUERNSEY TRAINING SITE INTEGRATED WILDLAND FIRE MANAGEMENT PLAN

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JANUARY 2018
This Programmatic Environmental Assessment (EA) addresses the Wyoming Army National Guard’s (WYARNG) proposal to approve and to implement an Integrated Wildland Fire Management Plan (IWFMP) at Camp Guernsey. The IWFMP has been prepared to meet the 1995 Federal Wildland Fire Management Policy, the 2001 Federal Wildland Fire Management Policy Update, and the Department of Defense and Department of Army requirement that “every installation with burnable vegetation must have an approved Wildland Fire Management Plan”.

As required by the National Environmental Policy Act of 1969 (NEPA; 42 USC 4321 et seq.), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508), and 32 CFR Part 651 (Environmental Analysis of Army Actions, Final Rule), the potential effects of the Proposed Action are analyzed. This EA will facilitate the decision-making process by the WYARNG and the National Guard Bureau (NGB) regarding the Proposed Action and its considered alternatives, and is organized as follows:

**EXECUTIVE SUMMARY**: Summarizes the Proposed Action, alternatives, and environmental consequences.

**SECTION 1 - PURPOSE OF AND NEED FOR THE PROPOSED ACTION**: Summarizes the purpose of and need for the Proposed Action and describes the scope of the EA.

**SECTION 2 - DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES**: Describes the Proposed Action and alternatives including screening criteria, alternatives retained for further analysis, and alternatives eliminated.

**SECTION 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**: Describes relevant components of the existing environment and identifies direct, indirect, and cumulative environmental effects of implementing the alternatives.

**SECTION 4 - COMPARISON OF ALTERNATIVES AND CONCLUSIONS**: Compares the environmental effects of the alternatives and summarizes the significance of effects.

**SECTION 5 - REFERENCES**: Provides bibliographical information for cited sources.

**SECTION 6 - LIST OF PREPARERS**: Identifies the document preparers.

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*Proponent*: Wyoming Army National Guard, Camp Guernsey Training Site

*Fiscal Year*: FY 2016
Environmental Assessment Signature Page

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COOPERATING AGENCIES: None

TITLE OF PROPOSED ACTION: Integrated Wildland Fire Management Plan

AFFECTED JURISDICTION: Camp Guernsey, Platte County, Wyoming

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DOCUMENT DESIGNATION: Final Programmatic Environmental Assessment

ABSTRACT: This Programmatic Environmental Assessment (EA) addresses the Wyoming Army National Guard’s (WYARNG) proposal to approve and to implement an Integrated Wildland Fire Management Plan at Camp Guernsey. The IWFMP has been prepared to meet the 1995 Federal Wildland Fire Management Policy, the 2001 Federal Wildland Fire Management Policy Update, and the Department of Defense and Department of Army requirement that “every installation with burnable vegetation must have an approved Wildland Fire Management Plan”.

This Programmatic Environmental Assessment evaluates the environmental effects of implementing the proposed IWFMP (Proposed Action), the No Action alternative, and various fire management options and strategies. The evaluation performed in this Environmental Assessment concludes that the Proposed Action would not result in significant adverse environmental effects and mitigation measures would not be required. The Proposed Action is the WYARNG’s Preferred Alternative. A Finding of No Significant Impact (FNSI) is appropriate.
EXECUTIVE SUMMARY
This Programmatic Environmental Assessment (EA) addresses the Wyoming Army National Guard’s (WYARNG) proposal to approve and to implement an Integrated Wildland Fire Management Plan at Camp Guernsey. Per amendments to 10 United States Code (USC) 10501, described in Department of Defense (DoD) Directive 5105.77 (30 October 2015), the National Guard Bureau (NGB) is a joint activity of the DoD. NGB serves as a channel of communication and funding between the US Army and state Guard organizations in the 54 US states and territories. The Army National Guard (ARNG) is a Directorate within NGB. ARNG-I&E (Installations and Environmental) is the directorate within ARNG that is responsible for ARNG environmental matters, including the ARNG’s compliance with the National Environmental Policy Act (NEPA). As ARNG-I&E is the federal decision-maker concerning this Proposed Action and controls the federal funds that would be used for its implementation, this is a federal Proposed Action.

PROPOSED ACTION (PREFERRED ALTERNATIVE)
The Proposed Action is to approve and to implement an Integrated Wildland Fire Management Plan (IWFMP) at Camp Guernsey. The Proposed Action would integrate all wildland fire management and prescribed fire management tools as well as fire prevention activities within the context of an approved comprehensive plan. It would ensure that all fire management goals and affected resources are considered and coordinated before actions are taken. The Proposed Action includes fifteen elements that are common to all analyzed alternatives:

1) safety;
2) fire operations command philosophy;
3) fire leadership;
4) prevention and education;
5) fire preparedness;
6) mechanical fuel reduction treatments;
7) firebreaks;
8) wildfire suppression;
9) prescribed fire in the Impact Area, Range Row, and designated artillery firing points;
10) wildland fire use in the Impact Area and Range Row;
11) minimal impact suppression techniques;
12) cost effective fire operations;
13) burned area stabilization and rehabilitation;
14) reviews, investigations, data and records management; and
15) wildland fire annual operating plan.

In addition, the Proposed Action includes:

- Preparing and implementing and Annual Fire Mitigation Work Plan that details all fire management projects for the coming year.
- Using prescribed fire to manage fuel loads outside the Impact Area;
• Allowing some naturally-ignited wildland fires to burn to accomplish specific resource management objectives (*wildland fire use*); and
• Using prescribed fire to manage natural resources.

**Purpose of and Need for the Proposed Action**
The purpose of the Proposed Action is to reduce the potential for large uncontrolled wildfires (e.g., a Type 3 Wildfire requiring extended attack response) at Camp Guernsey; integrate applicable regulatory requirements; and integrate natural and cultural resource management goals and objectives into the management of wildfires at Camp Guernsey.

The Proposed Action is needed because military training and natural causes (primarily lightning) have, and will continue to, start wildland fires at Camp Guernsey. Fire prevention and the ability to control the spread of wildfires are critical for the military’s use of the area as a training range. There is also a need to restore, or manage, the natural role fire plays in the ecosystem and the sustainability of desirable plant communities at Camp Guernsey.

**Alternatives**
The following eight criteria were used to screen potential alternatives and determine if they were reasonable and appropriate in meeting the purpose of and need for detailed analysis in this EA.

1. Protection of human life is the first priority in wildland fire management. Once firefighters are committed to an incident, their well-being is the number one priority. Property and resource values are the second priority, with management decisions based on values to be protected.

2. Firefighting strategies must protect, with manageable risk, facilities at Camp Guernsey and adjacent properties during fire activities.

3. Adjacent private properties need protection from unwanted, high intensity wildland fires originating on Camp Guernsey. Fire treatments and pre-treatments are needed that will reduce the risk of catastrophic fire and property loss and begin to reverse the fuel accumulation and ecosystem changes that have created these risks.

4. The Fire Management Plan must be “integrated” with natural resource, cultural resource, and adjacent agency and private fire management plans.

5. The Fire Management Plan must recognize the historical role fire played in shaping the natural vegetation communities at Camp Guernsey and it must promote ecosystem sustainability.

6. Fire can help restore and maintain cultural and traditional landscapes valued by descendants of culturally associated American Indians and society as a whole.

7. Fire management activities must be agreeable to, and will require collaboration with, Federal, state, county, and local agencies.

8. Camp Guernsey will comply with the 2001 Federal Fire Policy and ensure that no prescribed burns will be conducted without approved burn plans and that only trained and qualified personnel will conduct fire management activities.
After applying these criteria, only one action alternative (Alternative B) was identified as reasonable and carried forward for detailed analysis, in addition to the Proposed Action and No Action Alternative. The No Action Alternative, continue current wildland fire management without the benefit of a comprehensive written plan that integrates natural and cultural resource management, has also been analyzed. Alternatives that were considered but did not satisfy the screening criteria included: do not allow prescribed fire and immediate suppression of natural ignitions; incorporate current management with expanded use of prescribed fire outside the Impact Area to reduce fuel loads and allow wildland fire use; and allow all natural ignitions to burn with no suppression response.

**PUBLIC AND AGENCY INVOLVEMENT**
The preparation of this Programmatic EA was coordinated with various federal, state, and local agencies, Native American tribes, and the public. A scoping letter was sent to the agencies describing the Proposed Action and requesting the identification of environmental issues and areas of concern. All comments received during this public involvement and interagency coordination process have been addressed in this Programmatic EA.

The Final Programmatic EA and a Draft Finding of No Significant Impact (FNSI) will also be available to the agencies, Native American tribes, and the public for a 30-day comment period following publication of a Notice of Availability in the *Guernsey Gazette* newspaper. All substantive comments received during this comment period will subsequently be addressed in the Final FNSI or a revised Programmatic EA.

**KEY ENVIRONMENTAL RESOURCE ISSUES**
The following resources are analyzed in detail because it was determined that they may have potential for significant adverse effects:

- Land Use
- Air Quality
- Soils
- Biological Resources - Vegetation
- Biological Resources - Wildlife
- Threatened, Endangered, and Candidate Species
- Cultural Resources
- Native American Resources
- Socioeconomics
- Infrastructure

**SUMMARY OF ENVIRONMENTAL EFFECTS**
The Proposed Action would result in more frequent, but smaller and less severe fires. Many of these small fires would be prescribed burns purposefully ignited to reduce fuel loads or to manage natural resources. In addition, a few naturally ignited wildfires could be allowed to burn under a set of prescribed conditions (wildland fire use), again to achieve specific management objectives. The coordinated fire suppression activities, the reduction of fuels, and a return to a more natural fire return interval will reduce the likelihood of high-severity fires resulting in long-term benefits to the environment. The Proposed Action would not result in significant adverse environmental effects on the human environment.
Alternative B is similar to the Proposed Action with the exception that wildland fire use and utilizing prescribed fire to manage natural resources would not be allowed. Therefore, the natural fire return interval would continue to lengthen and natural resources would continue to evolve to this new fire interval. The coordinated fire suppression activities, the reduction of fuels, and a return to a more natural fire return interval will reduce the likelihood of high-severity fires resulting in long-term benefits to the environment. Alternative B would not result in significant adverse environmental effects on the human environment.

The No Action Alternative is a continuation of current wildland fire management without the benefit of a comprehensive integrated written plan. Most of the general components of a wildland fire management plan are currently being implemented, but many of these components have never been formally agreed upon. Recent history has demonstrated that under current fire management, large high-severity wildland fires will occur. Many fire ecologists have identified that immediate fire suppression policies have resulted in an unnatural buildup of fuel loads which have increased the frequency of severe wildfires.

Table ES-1 summarizes by resource area the projected significance of adverse effects for each analyzed alternative.

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<table>
<thead>
<tr>
<th>Resource</th>
<th>Proposed Action</th>
<th>No Action Alternative</th>
<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use</td>
<td>Less than significant direct, indirect, short-term adverse effects. Beneficial long-term indirect effect.</td>
<td>Significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
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<tr>
<td>Air Quality</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
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<tr>
<td>Soils</td>
<td>Less than significant direct, indirect, short-term adverse effects. Beneficial long-term indirect effect.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
</tr>
<tr>
<td>Vegetation</td>
<td>Less than significant direct, indirect, short-term adverse effects. Beneficial long-term indirect effect.</td>
<td>Significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
</tr>
<tr>
<td>Wildlife</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
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<tr>
<td>Threatened &amp; Endangered Species</td>
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<td>No direct, indirect, short-term or long-term adverse effects.</td>
<td>No direct, indirect, short-term or long-term adverse effects.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Less than significant direct, indirect, short-term adverse effects. Beneficial long-term indirect effect.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
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</tr>
<tr>
<td>Native American Resources</td>
<td>Less than significant direct, indirect, short-term adverse effects. Beneficial long-term indirect effect.</td>
<td>Significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
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<tr>
<td>Socio-economics</td>
<td>Less than significant direct, indirect, short-term adverse effects. Beneficial long-term indirect effect.</td>
<td>Significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
<td>Less than significant direct, indirect, short-term and long-term adverse effects.</td>
</tr>
</tbody>
</table>

**MITIGATION MEASURES**

Measures to mitigate effects to below the significance threshold would not be required for the Proposed Action because no significant impacts are projected. This EA is a programmatic assessment of implementing an IWFMP at Camp Guernsey. The IWFMP is thus the Best Management Practices (BMP) manual that identifies and describes the various management practices and standard operating procedures that will be utilized in wildland fire management by the WYARNG. Included in the Proposed Action of this IWFMP is preparation of an Annual Fire Mitigation Work Plan. Camp Guernsey Range Operations staff, Camp Guernsey Department of Public Works, Camp Guernsey Fire Department staff, and the Construction & Facilities Management Office (CFMO) Environmental Management Division will meet quarterly to plan and then implement detailed site specific fire mitigation projects for the coming year (e.g., prescribed burn plans, mechanical fuel reductions, new fire breaks, wildland fire use areas, etc.). The projects detailed within this Annual Fire Mitigation Work Plan will then be subject to further NEPA Analysis (a REC for activities adequately assessed as part of this Programmatic EA or for those activities covered by a categorical exclusion; or an EA which tiers off of this Programmatic EA for activities not adequately assessed in the programmatic analysis). The timing of future project-specific environmental analyses will be conducted as close as possible to the point of making real and irrevocable commitments to a project.

**CONCLUSIONS**

The Proposed Action would integrate wildland fire suppression and prescribed fire management as well as fire prevention within the context of an approved comprehensive plan. It would assure that all fire management goals and affected resources are considered and coordinated before actions are taken. The Proposed Action would not result in significant adverse environmental effects, and mitigation measures would not be required. The Proposed Action is the WYARNG’s preferred alternative. A Finding of No Significant Impact is appropriate.
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1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

Wildland fire management plans are fundamental strategic documents to proactively guide the full range of fire management related activities in a specified area. Fire management plans are supplemented by various operational plans such as preparedness plans, dispatch plans, prescribed fire plans, implementation plans, and suppression plans. Fire management plans include discussion of resource management objectives and activities, such as restoring and sustaining ecosystems and protecting neighboring communities and public safety. Fire management plans also address public health and environmental issues such as air and water quality and endangered species. Wildland fire management plans must be based on underlying land management plans to integrate fire management with natural resource objectives and acceptable levels of risk if the desired future conditions identified in these plans are to be achieved. For military installations, integrating the training requirements and the mission of the installation into fire management activities is critical. Thus, Integrated Wildland Fire Management Plans (IWFMP) incorporate these various elements into a comprehensive strategy.

A primary goal of all federal wildland fire management plans is to:

- Provide for firefighter and public safety while managing wildland fires; and
- Protect human life and property both within and adjacent to property boundaries.

This Programmatic Environmental Assessment (EA) addresses the Wyoming Army National Guard’s (WYARNG) proposal to implement an IWFMP at Camp Guernsey. The proposed IWFMP would integrate wildland fire and prescribed fire management as well as fire prevention within the context of an approved comprehensive plan. It would assure that all fire management goals and affected resources are considered and coordinated before actions are taken.

This Programmatic EA complies with the requirements of the National Environmental Policy Act of 1969 (NEPA), as amended (42 United States Code Section 4321–4347); the Council on Environmental Quality’s Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations Parts 1500–1508); the Department of Army’s Environmental Analysis of Army Actions (AR 200-2) regulations (32 Code of Federal Regulations Part 651); and the Army National Guard Manual for Compliance with the National Environmental Policy Act of 1969 (2011 edition).

1.1.1 IWFMP Requirements

The WYARNG approved the Camp Guernsey IWFMP in early 2016 (WYARNG 2016) to meet the 1995 Federal Wildland Fire Management Policy (USDI 1995), the 2001 Federal Wildland Fire Management Policy Update (USDA and USDI 2001), and the Department of Defense and Department of Army requirement that “every installation with burnable vegetation must have an approved Wildland Fire Management Plan” (DoD Instruction Number 6055.06 and DoA DAIM-ZA [200-3]). These policies also require that the wildland fire management plans be integrated and compliant with the installations Integrated Natural Resource Management Plan (INRMP), the Integrated Cultural Resource Management Plan (ICRMP), and the installation’s existing fire and emergency services programs and plans. The proposed Camp Guernsey IWFMP fulfills this requirement and provides the direction and guidance necessary to manage wildland fire in a safe manner.
and cost effective manner to achieve various management objectives at Camp Guernsey. The proposed Camp Guernsey IWFMP will also follow an interagency template that ensures that fire management plans have consistent content and format.

As individual site-specific actions are proposed the WYARNG will complete the appropriate level of NEPA analyses before the action takes place in accordance with 32 CFR 651.12. All public involvement will follow the procedures in 32 CFR 651.47. In summary, if the action qualifies for a CX, no additional public involvement (beyond that conducted for the EA) would normally be conducted. If the proposed action is adequately covered within this IWFMP EA a REC would be prepared and no additional public involvement (beyond that conducted for the EA) would normally be conducted. If the proposed action is within the general scope of the IWFMP EA, but requires additional information, a supplemental EA would be prepared and additional public involvement would occur. 5) If the proposed action is not covered adequately in this EA, or is of a significantly larger scope than that described in this existing EA, a new EA would be prepared with additional public involvement.

1.1.2 Background – Fire, A Natural Cycle
Natural wildfires have burned throughout the world for thousands of years. The primary cause of wildfire is lightning. Not every lightning strike will cause a fire, but given the right conditions of heat, wind, and low humidity, a fire can easily ignite and spread. Cross-sections of cut trees (or dendrochronology) reveal a long history of fire in the Northern Great Plains region. Fire scars are visible in tree growth rings, and can tell ecologists how often fires occurred on the same tree. In the Black Hills area, wildfires historically occurred in the same location about every 5 to 30 years. These fires were not usually catastrophic, because they occurred so frequently. Frequent fires leave little fuel behind on the forest floor, and the result is a cooler-burning fire that thins the forest without destroying everything in its path.

The Result of Suppression. The fear of fire has led to decades of successful fire prevention programs. The result has been a build-up of fuels. "Fuels" are anything that can catch on fire, such as dry pine needles on the forest floor, dead trees, small trees, and dry grasses. This means that when a wildfire does start, it now burns with great intensity and is more difficult to stop.

The Benefits of Fire. The fuels consumed by fire don't just vaporize. They add nutrients to the soil that keep plants and animals healthy. Shortly after a fire, bright green grass can be seen poking through the ashes. Deer and elk are attracted to recently burned areas by the nutritious plants found there. In forest or woodland habitats most fires kill only small trees. The rest of the forest is left unharmed, and is actually benefited. When the forest is thinned by fire, trees are not packed tightly together and do not have to compete with each other for available nutrients. Fire also opens up the canopy, allowing more sunlight to reach the forest floor and stimulate the growth of grasses and wildflowers. Fire has various effects on shrublands with some being fire tolerant while others are killed by fire.

1.1.3 Background - Fire History Camp Guernsey
Around 1992, a Camp Guernsey Range Operations officer implemented a prescribed burning program to reduce fuel loads within the Impact Area. Between 1992 and 2002, Camp Guernsey burned portions of the Impact Area annually. After 2002, the annual burning in the Impact Area ceased and the focus was directed towards creating fuel breaks and burning buffers along those fuel breaks. Recently (2014-2015), Camp Guernsey has again begun burning small areas (approximately 200-500 acres) of the 2,500 acre Impact Area annually in conjunction with
maintaining several fuel breaks. The use of prescribed fire for ecological benefit has not yet occurred at Camp Guernsey.

The Camp Guernsey region has a natural fire return interval of approximately 5-30 years, meaning that the exact same acres normally burn every 5-30 years. A summary of the recent recorded “large” fire history (1985-2012) provided by the Wyoming State Forestry Division, Bureau of Land Management (BLM), and local Fire Districts, documents 22 wildland fires in the region with 8 of those occurring on Camp Guernsey in the past 27 years (see Figure 1-1). As illustrated by this Figure, most areas on Camp Guernsey have not burned in over 27 years.

Historic wildland fire policy at Camp Guernsey has been to immediately suppress all wildfires due to the potential for damage, the protection of property, and to avoid liability from property loss. However, as evidenced by three recent large fires at Camp Guernsey (Tracer Fire [2006], Old Chicago Fire [2006], and the Sawmill Canyon Fire [2012]), this strategy needs to be re-evaluated (see Figure 1-1).

During the summer of 2006 two fires burned a total of 17,000 acres at Camp Guernsey and nearly 4,000 acres of neighboring properties including Federal, State, and private lands. The Tracer Fire began around midday on June 13, 2006 under hot, dry, and windy conditions. The fire was started as a result of an errant tracer round in the Impact Area. Response was immediate, but because of the strong south wind, the fire spread quickly and soon exceeded initial attack capabilities. A Northern Great Plain’s Type II Incident Management Team was then assigned. When the fire set off unexploded ordnance, the suppression efforts were cut back significantly. As the Tracer Fire spread, it jumped firebreaks and burned about 14,000 acres before it was brought under control. The fire was reported 100% contained on June 18, 2006.

The second fire in 2006, the Old Chicago Fire, was sparked by lightning the evening of July 26, 2006 on private land 3 miles to the east of Camp Guernsey. High wind and dry conditions again contributed to the rapid spread of this fire. A locally assembled Type III team managed the incident, as no Type II teams were available. The fire burned about 3,000 acres before it was contained on August 1, 2006. This fire burned up to the edge of the Tracer Fire, which burned a few weeks earlier. Although this fire burned less area than the Tracer Fire, it was more intense. The fire was fought by approximately 200 firefighters. The crews had to deal with difficult conditions including daytime temperatures above 100°F, erratic winds, and rough terrain.

The Sawmill Canyon Fire is believed to have originated on the Light Demo Range in the Impact Area on Saturday July 14, 2012. The summer of 2012 was hot and dry during the time this fire was ignited which created extreme fire behavior. The Sawmill Canyon Fire burned in rough terrain which limited suppression efforts because of the lack of access. Crews worked for several days to contain this fire. Extensive burn out operations were conducted to contain the south and west perimeters. The Sawmill Canyon Fire burned 14,185 acres (22 mi²) over the course of about 7 days in the North Training Area.
Figure 1-1. Large Wildland Fire History at Camp Guernsey (1985-2012).
Camp Guernsey also has numerous fires every year that do not require multi-agency response. Camp Guernsey averages approximately 12 “small” wildland fires each year that are controlled by Camp Guernsey personnel. In 2013, approximately 27 fires were started in the Impact Area and managed according to wildland fire use. In 2014, only 4 fires were started in the Impact Area. Many of these fires are the result of weapons training in the North Training Area.

Experience elsewhere in the Great Plains suggests that the occurrence of large fires can be delayed, but not eliminated through a policy of prevention, detection, and suppression. Wildland fires may take place at longer intervals as a result of complete suppression, but they may then burn at a greater intensity because of the increased fuel load.

1.2 Federal and Army Wildland Fire Policies
The 2001 Updated Federal Wildland Fire Management Policy (USDA and USDI 2001), to which the Defense Department was a signatory, directs all Federal agencies to achieve a balance between fire suppression to protect life, property, and resources, and fire use to regulate fuels and assure ecosystem sustainability. The following federal guidelines provide consistent implementation for all federal agencies:

1. Wildland fire management agencies will use common standards for all aspects of their fire management programs to facilitate effective collaboration among cooperating agencies.
2. Agencies and bureaus will review, update, and develop agreements that clarify the jurisdictional inter-relationships and define the roles and responsibilities among local, state, tribal and federal fire protection entities.

3. Responses to wildland fire will be coordinated across levels of government regardless of the jurisdiction at the ignition source.

4. Fire management planning will be intergovernmental in scope and developed on a landscape scale.

5. Wildland fire or wildfire is a general term describing any non-structure fire that occurs in the wildland. **Wildland fires** are categorized into three distinct types:
   a) *Wildfires* - Unplanned ignitions or prescribed fires that are declared wildfires
   b) *Prescribed Fires* - Planned ignitions.
   c) *Wildland Fire Use* - Unplanned ignitions which are allowed to burn under a set of predefined conditions.

6. A wildland fire may be concurrently managed for one or more objectives and objectives can change as the fire spreads across the landscape. Objectives are affected by changes in fuels, weather, topography; varying social understanding and tolerance; and involvement of other governmental jurisdictions having different missions and objectives.

7. Management response to a wildland fire on federal land is based on objectives established in the applicable Land/Resource Management Plan and/or the Fire Management Plan.

8. Initial action on human-caused wildfire will be to suppress the fire at the lowest cost with the fewest negative consequences with respect to firefighter and public safety.

9. Managers will use a decision support process to guide and document wildfire management decisions. The process will provide situational assessment, analyze hazards and risk, define implementation actions, and document decisions and rationale for those decisions.

The **Army Wildland Fire Policy Guidance** (Memorandum dated September 4, 2002) requires that all "installations with unimproved grounds that present a wildfire hazard and/or installations that utilize prescribed burns as a land management tool will develop and implement an Integrated Wildland Fire Management Plan (IWFMP) that is integrated with the Integrated Natural Resource Management Plan (INRMP), the installation’s existing fire and emergency service program plan(s), and the Integrated Cultural Resources Management Plan (ICRMP)." The stated purpose of the IWFMP “is to reduce wildfire potential, effectively protect and enhance valuable natural resources, integrate applicable state and local permit and
reporting requirements, and implement ecosystem management goals and objectives on Army installations.” This policy requires that the IWFMP be reviewed and updated annually and revised at a minimum of once every five years or whenever significant land use changes occur or are proposed. This guidance outlines fifteen (15) components of IWFMPs and describes program authority for fire management. The guidance also includes certification, training, and fitness standards for wildland fire management personnel.

1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to reduce the potential for large uncontrolled wildfires (e.g., a Type 3 Wildfire requiring extended attack response) at Camp Guernsey; integrate applicable regulatory requirements; and integrate natural and cultural resource management goals and objectives into the management of wildfires at Camp Guernsey.

The primary goal of the Proposed Action is to minimize the risk of wildfires originating on Camp Guernsey from burning adjacent private land. The primary strategies to fulfill this goal include:

- Improve prevention of wildland fires by reducing hazardous fuel loads;
- Prevent wildland fires from spreading by creating and maintaining fuel breaks;
- Improve the initial attack and immediate suppression of wildland fires; and
- Implement a planned and pre-approved multi-agency response to wildland fire suppression.

Supplementary goals of the Proposed Action are to:

- Provide consistent operational guidance.
- Provide stakeholders with a concise description of why and how fire will be managed at Camp Guernsey.
- Provide WYARNG staff a concise communications tool for understanding actions, roles, and responsibilities.
- Demonstrate the connection of natural and cultural resource goals and objectives to fire management actions.
- Proactively coordinate WYARNG fire suppression activities with the various other local, state, and federal wildland fire response agencies.
- Document the integrated wildland fire program goals and objectives.
- Provide a framework for making fire-related decisions and include a concise Annual Fire Mitigation Work Plan that details all fire management projects for the coming year.

Large uncontrolled wildland fires on military installations can pose a significant adverse threat to a variety of resources and infrastructure. Fires may endanger the lives of firefighters, soldiers, and the public; damage private property; restrict access to ranges and training areas; damage infrastructure; disrupt training schedules; and remove vegetation necessary for realistic training scenarios. The complete removal of all wildfires from Camp Guernsey lands is simply not possible.
However, fires can be managed and controlled. The Proposed Action is **needed** because military training and natural causes (primarily lightning) have, and will continue to, start wildland fires on Camp Guernsey. Fire prevention and the ability to control the spread of wildfires are critical for the military’s use of the area as a training range. There is also a **need** to restore, or manage, the natural role fire plays in the ecosystem and the sustainability of desirable plant communities on Camp Guernsey.

### 1.3.1 Scope of the Programmatic Environmental Assessment

This Programmatic EA examines the effects of the Proposed Action, Alternatives B, and the No Action Alternative on the following resource areas:

- Land Use
- Air Quality
- Soils
- Biological Resources
- Threatened and Endangered Species
- Cultural Resources
- Native American Resources
- Socioeconomics
- Infrastructure

The following resources were not analyzed in detail, per 40 CFR §1501.7(a)(3), because the Proposed Action, Alternative B, and the No Action Alternative would result in no or negligible effects:

- Noise
- Geology and Topography
- Prime and Unique Farmland
- Water Resources
- Wetlands
- Floodplains
- Environmental Justice
- Hazardous and Toxic Materials and Wastes.

Appendix A contains the WYARNG checklist used to help determine those key resource areas needing detailed consideration.

### 1.3.2 Programmatic NEPA Analysis and Tiering

For purposes of this Programmatic EA, a programmatic action means an action that provides a framework for the development of future, site-specific actions occurring in the area of the programmatic action, that are authorized, funded, or implemented at a later time and subject to further NEPA analysis, as appropriate, and for which site-specific information regarding where, when, and how environmental resources will be affected will become available at the time of the subsequent NEPA analysis. Following the NEPA procedures for tiering (32 CFR §651.14[c]) - collecting reconnaissance level data for conceptual decisions and site-specific information for implementation decisions - will help alleviate this problem. This level of analysis will eliminate repetitive discussions of the same issues and focus on the key issues at each appropriate level of project review. When a broad programmatic EA has been prepared, any subsequent NEPA analysis
on an action included within the entire program or policy (particularly a site-specific action) need only summarize issues discussed in the broader statement and concentrate on the issues specific to the subsequent action. In cases where such activities are adequately assessed as part of the Programmatic EA, an ARNG Record of Environmental Consideration (REC) can be prepared which cites the Programmatic EA in which the activities were previously assessed. Care must be taken to ensure that site-specific or case-specific conditions are adequately addressed in the programmatic document before a REC can be used, and the REC must reflect this consideration. If additional analyses are required (i.e., project specific EA), it can “tier” off the original analyses, eliminating duplication.

Included in the Proposed Action of this IWFMP is preparation of an **Annual Fire Mitigation Work Plan** (see section 2.1). Camp Guernsey Range Operations staff, Camp Guernsey Department of Public Works, Camp Guernsey Fire Department staff, and the Construction & Facilities Management Office (CFMO) Environmental Management Division will meet quarterly to plan and then implement detailed site specific fire mitigation projects for the coming year (e.g., prescribed burn plans, mechanical fuel reductions, new fire breaks, wildland fire use areas, etc…). The projects detailed within this **Annual Fire Mitigation Work Plan** will then be subject to further NEPA Analysis (a REC for activities adequately assessed as part of this Programmatic EA or for those activities covered by a categorical exclusion; or an EA which tiers off of this Programmatic EA for activities not adequately assessed in the programmatic analysis). The timing of future project-specific environmental analyses will be conducted as close as possible to the point of making real and irrevocable commitments to a project.

### 1.4 Decision-making

Camp Guernsey is a state-owned, federally supported Army National Guard training facility. The proponent for this action is the WYARNG. The WYARNG has prepared this Programmatic EA. The WYARNG has selected the Preferred Alternative. However, much of the funding to implement the Proposed Action will require a Federal decision.

An over-riding purpose of a Programmatic EA is to inform federal (National Guard Bureau [NGB]) decision-makers, other agencies, and the public of the potential environmental consequences of management plans, and allow for public and other agency input into the decision-making process.

Per amendments to 10 United States Code (USC) 10501, described in Department of Defense (DoD) Directive 5105.77 (21 May 2008), the National Guard Bureau (NGB) is a joint activity of the DoD. NGB serves as a channel of communication and funding between the US Army and state Guard organizations in the 54 US states and territories. The Army National Guard (ARNG) is a Directorate within NGB. ARNG-I&E (Installations and Environmental) is the directorate within ARNG that is responsible for ARNG environmental matters, including the ARNG's compliance with the National Environmental Policy Act (NEPA). As ARNG-I&E is the federal decision-maker concerning this Proposed Action and controls the federal funds that would be used for its implementation, this is a federal Proposed Action. The ARNG - Environmental Programs Division Chief is the federal decision-maker who will decide whether the Proposed Action will result in significant adverse effects. If no significant adverse effects are anticipated, the Chief signs the Finding of No Significant Impact (FNSI).
1.5 Public and Agency Involvement

The WYARNG conducted scoping per 40 CFR §1501.732 - Scoping, 32 CFR §651.48 – Scoping Process, and the ARNG NEPA Handbook – Volume I, section 3.10 - The Scoping Process. A scoping letter was mailed to various federal, state, and local agencies, Native American Tribes, and the adjacent landowners describing the Proposed Action and requesting the identification of environmental issues and areas of concern. In addition, the WYARNG conducted public involvement per 32 CFR §651.47 – Public Involvement. Two public meetings were held in the Town of Guernsey to inform interested parties of the Proposed Action and solicit comments and concerns. The only substantive comments received involved:

- Impacts to terrestrial wildlife (Wyoming Game & Fish Department [WGFD]);
- Impacts to aquatic wildlife (Wyoming Game & Fish Department [WGFD]);
- Impacts to local fire districts (Kelly Roediger);
- Impacts to heavily timbered areas in the northern half of the North Training Area (Kelly Roediger);

This scoping process assisted in determining that the following resource areas did not need to be analyzed in detail because the Proposed Action, the No Action Alternative, and Alternative B would all result in no effects or negligible effects: Noise; Geology and Topography; Prime and Unique Farmland; Water Resources; Wetlands; Floodplains; Environmental Justice; and Hazardous and Toxic Materials and Wastes. All comments received during this public involvement, interagency coordination, and scoping process have been used to focus the analysis on relevant issues in this EA. All issues or areas of controversy identified during this public involvement and project scoping have been addressed in this EA.

Interagency and Intergovernmental NEPA Coordination. Appendix B presents the list of federal, state, and local agencies that were determined to have special expertise, specific interests, or legal jurisdiction with respect to the Proposed Action. These agencies were notified by letter on November 8, 2013 requesting the identification of environmental issues and areas of controversy that needed to be addressed in this EA. Appendix B also contains a sample copy of the interagency coordination letter that was mailed and copies of all comments received by these agencies. Several interagency coordination meetings were also conducted for this project at Camp Guernsey. The BLM and Wyoming State Forestry were active participants in these planning meetings. Input received from these agencies helped to focus the analysis on relevant issues, and all concerns that were identified have been addressed in this EA.

Written responses were received from seven agencies (see Appendix B) and all comments have been addressed in this EA.

The WYARNG also mailed NEPA scoping letters on November 8, 2013 to the Wyoming State Historic Preservation Office (SHPO) and on November 4, 2013 to the 18 federally recognized Native American Tribes and Tribal Historic Preservation Offices (THPO) that have a cultural affiliation with Wyoming (Appendix C contains the list of Native American Tribes that were mailed scoping letters). No Tribes responded by e-mail, written letter, or by telephone. SHPO responded by written letter indicating that they did not have any specific concerns (see Appendix B).
The WYARNG presented this Proposed Action to both the Platte County Commissioners and the Guernsey Town Council at public meetings. No comments or issues were identified during those public meetings.

**Section 106 and Tribal Consultation.** Section 106 of the National Historic Preservation Act (NHPA) is a consultative process that “seeks to accommodate historic preservation concerns with the needs of the federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties.” Consulting parties include other federal, state, and local agencies, Indian tribes, Native Hawaiian organizations, applicants, and the interested public. In addition, Department of Defense Instruction Memorandum 4710.02 - Interactions with Federally-Recognized Tribes (September 14, 2006), Department of Defense American Indian and Alaska Native Policy (October 20, 1998), and Executive Order 13175 - Consultation and Coordination with Indian Tribal Governments (November 6, 2000) detail the policy and process for interaction with federally recognized tribes. These policies require consultation with Tribes on projects that have the “potential to significantly affect protected tribal resources, tribal rights, or Indian lands.”

Approval of this Programmatic EA has no potential to cause effects on historic properties and therefore the WYARNG has no consultation obligations under section 106 as per 40 CFR 800.3(1). Approval of this Programmatic EA also has no potential to significantly affect protected tribal resources, tribal rights, or Indian lands and therefore the WYARNG has no tribal consultation obligations under DoD policy or E.O.s. The WYARNG will complete Section 106 and Tribal consultation in the future as site-specific projects detailed within the Annual Fire Mitigation Work Plan (see section 2.1) are proposed.

**Coordination with Organizations and Individuals.** Two public (open house) scoping meeting were held in the Town of Guernsey (April 16, 2013 and October 16, 2013) to inform the public of the proposed project and solicit the identification of issues and concerns. No comments were received during the April 2013 meeting. One written comment was received during the October, 2013 from the President of the Glendo Rural Fire District (see Appendix B), this comment has been addressed in this EA.

**Tribal Review and Comment.** A Notice of Availability letter will be mailed to the federally recognized Native American Tribes that have a cultural affiliation with Wyoming (Appendix C) informing them that the Final Programmatic EA and a Draft FNSI is available to review on the WYARNG public website or a copy may be requested from the WYARNG. The transmittal letter will provide notice of a 30-day comment period. All substantive comments received will be addressed prior to making a final decision.

**Public Review and Comment.** The Final Programmatic EA and a Draft FNSI will be available to review for a 30-day comment period following publication of a Notice of Availability in the Guernsey Gazette newspaper. These documents will be available for review at the Guernsey Branch Public Library, the WYARNG public website, or a copy may be requested from the WYARNG.

Comments regarding these documents should be directed to:

Scott Benson, NEPA Program Manager  
WYARNG, Construction & Facilities Management Office
All substantive comments received during this comment period will subsequently be addressed in the Final FNSI or a revised EA.

1.6 Related NEPA, Environmental, and Other Documents and Processes
Numerous planning and NEPA documents, integrated management plans, and other relevant environmental studies and reports related to this Proposed Action have been reviewed and/or referenced in the preparation of this EA. These various reports and documents are listed in Appendix D.

1.7 Regulatory Framework
Specific Federal, State, and local regulations, policies and guidance documents that are applicable to this Proposed Action include:

- National Wildfire Coordinating Group, Glossary of Wildland Fire Terminology PMS 205.
- DoD Instruction 6055.6, Department of Defense Fire and Emergency Service Program, December 2006.
- Army Regulation 200-1 Environmental Protection and Enhancement, December 2007.
- 32 CFR 651.18 Environmental Analysis of Army Actions (a.k.a. AR 200-2)
2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Proposed Action is to approve and implement an *Integrated Wildland Fire Management Plan* (IWFMP) at Camp Guernsey. The Proposed Action would integrate all wildland fire management and prescribed fire management tools as well as fire prevention activities within the context of an approved comprehensive plan. It would ensure that all fire management goals and affected resources are considered and coordinated before actions are taken. The Proposed Action includes fifteen elements that are common to all analyzed alternatives:

1) safety;
2) fire operations command philosophy;
3) fire leadership;
4) prevention and education;
5) fire preparedness;
6) mechanical fuel reduction treatments;
7) firebreaks;
8) wildfire suppression;
9) prescribed fire in the Impact Area, Range Row, and designated artillery firing points;
10) wildland fire use in the Impact Area and Range Row;
11) minimal impact suppression techniques;
12) cost effective fire operations;
13) burned area stabilization and rehabilitation;
14) reviews, investigations, data and records management; and
15) wildland fire annual operating plan.

Under the No Action Alternative, these elements are included but there is a lack of planning, coordination, and continuity from year to year that the Proposed Action and alternative actions would provide through the development and implementation of a written IWFMP.
2.1 Additional Components Included in the Proposed Action

The Proposed Action is to implement an IWFMP at Camp Guernsey. The proposed action would integrate all wildland fire suppression and prescribed fire management tools as well as fire prevention activities within the context of an approved comprehensive plan. It would ensure that all fire management goals and affected resources are considered and coordinated before actions are taken. Beyond the general components listed above, the Proposed Action includes:

- Preparing and implementing and Annual Fire Mitigation Work Plan that details all fire management projects for the coming year.
- Using prescribed fire to manage fuel loads outside the Impact Area;
- Managing naturally ignited wildland fires to accomplish specific resource management objectives (wildland fire use); and
- Using prescribed fire to manage natural resources.

Annual Fire Mitigation Work Plan: Camp Guernsey Range Operations staff, Camp Guernsey Department of Public Works, Camp Guernsey Fire Department, and the CFMO Environmental Management Division will meet quarterly to plan and then implement detailed site specific fire mitigation projects for the coming year (e.g., prescribed burn plans, mechanical fuel reductions, new fire breaks, etc…). The projects detailed within this Annual Fire Mitigation Work Plan will then be subject to further NEPA Analysis (a REC for activities adequately assessed as part of this Programmatic EA or for those activities covered by a categorical exclusion; or an EA which tiers off of this Programmatic EA for activities not adequately assessed in the programmatic analysis). The timing of future project-specific environmental analyses will be conducted as close as possible to the point of making real and irrevocable commitments to a project (see section 1.3.2 for additional detail on Programmatic NEPA Analysis and Tiering).

The projects in this Annual Fire Mitigation Work Plan will also be considered a “federal undertaking” and those projects which have potential to cause effects to cultural resources will undergo SHPO consultation and Tribal consultation, when applicable.

Prescribed Fire for Fuel Reduction Outside Impact Area: Fire is both beneficial and inevitable. Prescribed fire is used as a tool to reduce fuel loads, manage vegetation, and mimic natural
processes. Writing a fire prescription is complex, and takes into account weather, fuel type, fuel moisture, the objectives of land managers, and feasibility. Since fires will happen whether we light them or not, it is best to plan them ourselves, under the right conditions, rather than be surprised by a costly and catastrophic wildfire. Under predetermined conditions or prescriptions and with the required Burn Plan and smoke management permit, the WYARNG would intentionally ignite fires to reduce fuel loads outside of the Impact Area in areas that are at high risk for wildland fire. All prescribed fire plans will be detailed in the Annual Fire Mitigation Work Plan described above.

**Wildland Fire Use**: Beyond the wildland fire use described in the previous section for the Impact Area, natural fires are ignited by lightning and are most common during late summer when fuels have dried out. In most cases, resource managers prefer natural fire as a tool as it is more cost effective than prescribed burning of a similar area and it occurs during seasons when fires historically occurred. Wildfires not threatening communities, adjacent properties, or other values may be managed under a wildland fire use (confine and contain) strategy if they continue to meet management objectives. Wildland use fires would be continuously monitored. Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders. All wildland fire use plans will be detailed in the Annual Fire Mitigation Work Plan described above.

**Prescribed Fire for Natural Resource Management**: Prescribed fire can also be used to maintain desired vegetation communities or aid in the control of invasive species. Application of prescribed fire can promote a healthy ecosystem and reduce the unnatural buildup of hazardous fuels. All prescribed fire plans will be detailed in the Annual Fire Mitigation Work Plan described above.

### 2.2 Design Features and Best Management Practices

#### 2.2.1 Introduction

There are four contexts to describe mitigation in a NEPA document:

1) **Design features** identified in the Proposed Action section, that are specific methods, procedures, or practices included as part of the Proposed Action to reduce or eliminate adverse effects. Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) are also typically considered design features, not mitigation. For example, if the proposed action specifies that “standard BMPs include watering dirt roads to control dust will be followed”, this is a design feature, not a mitigation measure.

2) **Mitigation Alternatives** considered in the alternatives section of NEPA document that if selected as the Preferred Alternative would reduce or eliminate adverse effects. Using the previous example, if the proposed action did not include using standard BMPs such as watering roads. A reasonable alternative could be analyzed that included changes to the proposed action which did include these specific BMPs.

3) **Optional mitigation measures** identified in the environmental consequences section of an EA, not currently identified as design features, and that could be used to reduce or eliminate adverse effects to a given resource, regardless of whether or not the effects are significant in nature. Using the previous example, if watering roads to control dust is not identified as
a design feature (BMP) as part of the Proposed Action. The impact analysis needs to identify it as an optional mitigation measure that could be used to mitigate air quality impacts, if voluntarily incorporated by the proponent or if incorporated into a future enabling Army legal document such as a contract, permit, lease, grant, etc...

4) **Required mitigation measures** specifically identified in the environmental consequences section of an EA that are necessary to reduce the effects of an action to below the threshold of significance, thereby avoiding the need to prepare an EIS. These type of mitigation measures must be specifically identified and incorporated into the FNSI and monitoring is required to ensure the implementation of these mitigation measures (e.g., **Mitigated FNSI**). These required mitigation measures should be carefully specified in terms of measurable performance standards, responsible parties, expected results, and timeframe (intended start date and duration). The State ARNG must have the authority to enforce that the mitigation measure be carried out and there must be a reasonable expectation of having the human and capital resources needed to perform the mitigation and monitoring to ensure the mitigation is effective. These required mitigation measures must be reasonable, effective, and feasible. Using the previous example again, if watering roads to control dust is determined to be a requirement to reduce a significant air quality impact, then it must be specifically stated in the EA and in the FNSI (e.g., Mitigated FNSI). This holds true even if the measure has already been identified as a design feature.

The NEPA analysis of the Proposed Action should analyze the beneficial effects of the design features, BMPs, or mitigation measures only when they are specifically mandated as part of a specific State ARNG or Army authorization. If the practice is simply encouraged or only voluntary and the State ARNG lacks the jurisdictional authority to require its implementation, then the project should be analyzed as if the practice will not occur.

As an example, there may be a BMP that says all new buildings will be painted brown to match surrounding buildings, or the Proposed Action may have a design feature that says the new building will be painted brown to match surrounding buildings. This is fine but, it is not a “binding State ARNG requirement” that mandates that the building must be painted brown. Because, the State ARNG lacks the jurisdictional authority to require its implementation, then the proposed action should be analyzed as if the BMP or design feature will not occur (i.e., the building could be any color). The Mitigation Measures subsection of that resource impact analysis then needs to identify the color of the building as an optional mitigation measure that could be implemented to reduce adverse effects. This measure could then be specified in a future specific authorization, such as a State ARNG construction contract.

If on the other hand, the State ARNG has already prepared and approved a contract to construct the new building and the contract specifies that the building must be painted brown to match surrounding buildings, then the impact analysis in the EA would include the beneficial effects of this required design feature.

The third situation could be that the analysis determines that unless the new building is painted brown to match surrounding buildings, the proposed action will result in significant impacts. This determination would then require that the FNSI include the paint color as a required mitigation measure to reduce the effects to below the threshold of significance, thereby avoiding preparation of an EIS. This is known as a Mitigated FNSI.
If there are no required mitigation measures to reduce impacts below a significance threshold, the FNSI will must clearly state that.

The Proposed Action section should also identify all relevant Federal, State and local permits, licenses, and other authorizations that would likely be necessary to implement the proposed action, such as air permits, NPDES construction permit, Section 404 permit, etc.. But again, because the State ARNG lacks the jurisdictional authority to require their implementation and has no control over the conditions imposed, then the project should be analyzed as if the permit will not be acquired. These permits, licenses, and other authorizations should then be listed in the Mitigation Section for each resource area. They may be identified as either required or optional mitigation - depending upon the significance of the permit and its effect.

Another common mitigation context involves compliance with the National Historic Preservation Act. The Affected Environment and Environmental Consequences sections will identify the status of Historic Properties in the area and whether the type of activity has potential to cause effects. Section 106 consultation would then occur if historic properties are present. If during this consultation the State ARNG determines, and SHPO concurs, that there would be an adverse effect, a Memorandum of Agreement (MOA) or Programmatic Agreement (PA) would have to be negotiated. This constitutes “mitigation” under NEPA and again must be listed in the Mitigation Section for Cultural Resources. Depending on the “significance criteria”, this mitigation measure may be either required or optional under NEPA (i.e., an “adverse effect” under NHPA does not necessarily equal a “significant effect” under NEPA.). And again, the impact analysis should be analyzed as if the practice will not occur, since the State ARNG lacks authority.

2.2.2 Design Features

The Proposed Action is to approve and implement a plan. As such, there are no design features to reduce or eliminate adverse effects from implementing the plan. The plan is a BMP manual that will be utilized in wildland fire management by the WYARNG. As individual site-specific wildland fire management projects are identified and proposed they will be subject to further NEPA Analysis which will likely include specific design features.

2.2.3 Best Management Practices (BMPs) and Standard Operating Procedures (SOPs)

BMPs and SOPs are day-to-day management activities that are carried out to reduce impacts. BMPs often originate in various federal and state guidelines and are thus often voluntary. BMPs are typically written in such a way that they offer substantial latitude for incorporation, interpretation, and site-specific applicability. The Integrated Wildland Fire Management Plan is in itself a BMP manual that will be utilized in wildland fire management by the WYARNG. As individual site-specific wildland fire management projects are identified and proposed they will be subject to further NEPA Analysis which may prescribe specific BMPs and SOPs to minimize adverse effects.

In addition to the wildland fire BMPs detailed in the IWFMP, various WYARNG environmental documents, including but not limited to the WYARNG’s Integrated Cultural Resource Management Plan, Integrated Natural Resource Management Plan, Integrated Pest Management Plan, Integrated Training Area Management Plan, Hazardous Waste Management Plan, Asbestos Management Plan, Stormwater Pollution Prevention Plans, and Spill Prevention Control and Countermeasure Plans, also identify programmatic best management practices (BMPs) that would be implemented as part of site-specific wildland fire management projects.
In addition, the WYARNG prepares, updates, and utilizes **Environmental Constraints Maps** in planning and conducting work plans. These constraints maps are created using the most recent environmental data and continuously updated by the WYARNG environmental staff to identify the location of all environmentally sensitive resources to be avoided.

Various Department of Army and Army National Guard rules, pamphlets, training circulars, field manuals, and policy memos also detail BMPs and SOPs to minimize environmental damage. The Department of Army has compiled various BMPs in the following documents:


- The Army’s Sustainable Range Program website under the Land Rehabilitation and Maintenance (LRAM) page at [https://srp2.army.mil/ITAM/Pages/LRAM.aspx](https://srp2.army.mil/ITAM/Pages/LRAM.aspx) identifies BMPs used to control the adverse effects resulting from maneuver damage and LRAM activities. These BMPs are specifically described at [https://srp2.army.mil/ITAM/LRAM%20TRL/Forms/AllItems.aspx](https://srp2.army.mil/ITAM/LRAM%20TRL/Forms/AllItems.aspx).

Various other agencies have compiled management plans and BMP’s that address specific management practices that may be applicable to the Proposed Action:


- United States Forest Service and BLM. **Interagency Policy for Aerial and Ground Delivery of Wildland Fire Chemicals Near Waterways and Other Avoidance Areas** ([http://www.fs.fed.us/fire/retardant/interagency_policy_aerial_delivery.pdf](http://www.fs.fed.us/fire/retardant/interagency_policy_aerial_delivery.pdf))


EPA *Healthy Watersheds*: This website provides example approaches to watershed management and developing local conservation strategies. http://www.epa.gov/owow/nps/
EPA Storm Water BMPs: This online menu provides BMPs designed to meet the minimum requirements EPA’s Phase II Stormwater Program.
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm

EPA Pasture, Rangeland, and Grazing Operations BMPs: The website provides BMPs compiled by the EPA to prevent or reduce pollution associated with livestock grazing.
http://www.epa.gov/oecaagct/anprgbmp.html

Natural Resources Conservation Service (NRCS) National Conservation Practice Standards: This website provides links for national conservation practices developed by the NRCS on topics such as herbaceous wind barriers, feed management, forest stand improvement, and irrigation management.

NRCS National Range and Pasture Handbook: This handbook provides a source of expertise to guide solutions to resource problems and in sustaining or improving grazing lands resources and operations.

Wyoming Game and Fish Department (WGFD) Aquatic Invasive Species: This website provides information about how to recognize aquatic invasive species and how to avoid introducing them or spreading them through Wyoming’s waters. The website also contains information about how to decontaminate equipment and watercraft suspected of harboring aquatic invasive species.
http://gf.state.wy.us/fish/AIS/index.asp

Bureau of Land Management (BLM) BMPs: This website provides an introduction to BLM BMPs with links to BLM contacts, specific resources, and other BMP links, and other resources related to BLM BMPs.
http://www.blm.gov/bmp/


BLM Oil and Gas Exploration – The Gold Book: This publication provides numerous BMPs for the construction of temporary and permanent access roads.

2.3 Alternatives

32 CFR 651.34(d) Environmental Analysis of Army Actions defines the requirements for considering alternatives: “The alternatives considered, including appropriate consideration of the ‘No Action’ alternative, the ‘Proposed Action,’ and all other appropriate and reasonable alternatives that can be realistically accomplished. In the discussion of alternatives, any criteria for screening alternatives from full consideration should be presented, and the final disposition of any alternatives that were initially identified should be discussed.”

NEPA, CEQ regulations, and 32 CFR 651 require all reasonable alternatives to be explored and objectively evaluated. Alternatives that are eliminated from detailed study must be identified along
with a brief discussion of the reasons for eliminating them. For purposes of analysis, an alternative was considered "reasonable" only if it would enable the WYARNG to meet the purpose of and need for the Proposed Action. 'Unreasonable' alternatives would not enable the WYARNG to meet the purpose of and need for the Proposed Action.

Four alternatives, along with the Proposed Action and No Action alternative, were initially identified involving various fire management activities (see Table 2-1). Each alternative includes the "Elements Common to All Alternatives" (see section 2.1) in conjunction with the fire management activities that are specific to each alternative. Only three of these alternatives have been carried forward for detailed analysis.

**Table 2-1. Alternative Fire Management Activities.**

<table>
<thead>
<tr>
<th>Fire Management Activities</th>
<th>Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allow no fires. Full and immediate suppression of all fires.</td>
<td>A: No Action*</td>
</tr>
<tr>
<td>Allow the use of prescribed fire in the Impact Area, Range Row, and at designated firing points.</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Allow wildland fire use in the Impact Area.</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Prepare and implement an Annual Fire Mitigation Work Plan that details all fire management projects for the coming year.</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Allow the use of prescribed fire to manage fuels outside of Impact Area.</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Allow some wildland fires to burn outside the Impact Area if conditions are such that the likelihood of an uncontrollable fire is negligible (wildland fire use).</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Allow the use of prescribed fire to manage natural resources.</td>
<td>X X X X X</td>
</tr>
<tr>
<td>Allow all wildland fires to burn naturally.</td>
<td>X X X X X</td>
</tr>
</tbody>
</table>

*Alternatives analyzed in detail in this EA.

2.3.1 Alternative Development (Screening Criteria)

Alternatives (i.e., actions and/or locations) were explored and considered early in the planning stages of this project. The following criteria were used to screen potential alternatives and determine if they were reasonable in fulfilling the purpose and need and appropriate for detailed analysis in this Programmatic EA:

1. Protection of human life is the first priority in wildland fire management. Once firefighters are committed to an incident, their well-being is the number one priority. Property and resource values are the second priority, with management decisions based on values to be protected.

2. Firefighting strategies must protect, with manageable risk, facilities at Camp Guernsey and adjacent properties during fire activities.

3. Adjacent private properties need protection from unwanted, high intensity wildland fires originating on Camp Guernsey. Fire treatments and pre-treatments are needed that will reduce the risk of catastrophic fire and property loss and begin to reverse the fuel accumulation and ecosystem changes that have created these risks.
4. The Fire Management Plan must be “integrated” with natural resource, cultural resource, and adjacent agency and private fire management plans.

5. The Fire Management Plan must recognize the historical role fire played in shaping the natural vegetation communities at Camp Guernsey and it must promote ecosystem sustainability.

6. Fire can help restore and maintain cultural and traditional landscapes valued by descendants of culturally associated American Indians and society as a whole.

7. Fire management activities must be agreeable to, and will require collaboration with, Federal, state, county, and local agencies.

8. Camp Guernsey will comply with the 2001 Federal Fire Policy and ensure that no prescribed burns will be conducted without approved burn plans and that only trained and qualified personnel will conduct fire management activities.

2.3.1.1 Alternatives and Screening Criteria

Five alternatives were evaluated with the screening criteria to determine if they were reasonable for detailed analysis in this EA (see Table 2-2).

Table 2-2. Alternatives and Screening Criteria.

<table>
<thead>
<tr>
<th>Alternative Screening Criteria</th>
<th>A</th>
<th>B*</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria No. 1</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Criteria No. 2</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Criteria No. 3</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Criteria No. 4</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Criteria No. 5</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Criteria No. 6</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Criteria No. 7</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Criteria No. 8</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X = Yes (meets screening criteria)

* Alternatives analyzed in detail in this EA.

Alternative A - Prepare an IWFMP, immediate suppression of all ignitions and do not allow prescribed fires anywhere. Use full and immediate suppression of all wildland fires in any area under any condition. There will be no use of prescribed fire for any reason in any area. This alternative was eliminated from consideration because it does not pass screening criteria 3, 4, 5, 6, and 8. Continuing to allow fuel loads to increase means large catastrophic wildland fires will continue to be a threat to Camp Guernsey, adjacent landowners, and to the firefighters that will control these fires.

Alternative B - Prepare an IWFMP incorporating current management (No Action) with expanded use of prescribed fire outside the Impact Area to reduce fuel loads. Alternative B would allow the use of prescribed fire in the Impact Area and firing points as well as to manage fuel loads outside these specific areas. Wildland fire use, allowing naturally ignited fires to burn
under set prescribed conditions and locations, **would not** be allowed. The use of prescribed fires to manage natural resources **would not** be allowed. Unplanned human caused fires, such as from live-fire training, pyrotechnics, unattended camp fires, or discarded cigarettes, would be immediately suppressed using tactics that cause the least amount of damage to resources, people and property (except in the Impact Area where they would be allowed to burn). Firebreaks would be developed and maintained using road graders and/or dozers in strategic locations. Mechanical treatments in timbered stands would be employed to mimic the effects of wildland fire by thinning trees/shrubs and burning/mulching the slash. The preparation and implementation of an Annual Fire Mitigation Work Plan is included in this alternative. While this alternative does not pass screening criteria 4 of incorporating natural resource management, the decision was made to analyze it in detail in order to provide a “reasonable” alternative to the decision maker.

**Alternative C - Prepare an IWFMP incorporating current management with expanded use of prescribed fire outside the Impact Area to reduce fuel loads and allow wildland fire use where naturally ignited fires will be allowed to burn within prescriptions at low to moderate intensities.** Alternative C would allow the use of prescribed fire in the Impact Area and firing points as well as to manage fuel loads outside of these specific areas. Wildland fire use, allowing naturally ignited fires to burn within prescriptions at low to moderate intensities under set prescribed conditions and locations, **would** be allowed. The use of prescribed fires to manage natural resources **would not** be allowed. Alternative C is very similar to the Proposed Action, but **does not** allow the use of prescribed burning for natural resource benefits. This alternative was eliminated from consideration because it does not meet screening criteria 4 of incorporating natural resource management.

**Alternative D - Prepare an IWFMP, allow all natural ignitions to burn with no suppression response.** Alternative D would allow the use of prescribed fire in the Impact Area and firing points as well as to manage fuel loads outside these specific areas. Wildland fire use, allowing unplanned fires that stay within a “prescription” to burn, **would** be allowed. The use of prescribed fires to manage natural resources **would** be allowed. This alternative was eliminated from consideration because it does not pass screening criteria 2, 3, 4, and 7. Allowing wildland fires (regardless of cause or location) to burn under all conditions increases the risk of injury (or death), loss of infrastructure, and it would negatively affect natural and cultural resources.

**No Action Alternative - Do not prepare an IWFMP, do not allow prescribed fires except within the Impact Area and designated firing points, and immediate suppression of all ignitions (except those within the Impact Area).** The No Action Alternative is a continuation of current wildland fire management without the benefit of a written plan. Most of the general components of a wildland fire management plan are currently being implemented, but many of these components have never been formally agreed upon. These management activities would continue without the benefit of an IWFMP to standardize and formalize operating procedures.

Under the No Action Alternative, Naturally occurring wildland fires would continue to be fully suppressed and would not be utilized to meet fire management objectives (wildland fire use). However, all fires (natural or man caused) within the Impact Area would normally be allowed to burn. The Impact Area, Range Row, and designated firing points would continue to be prescribed burned each winter/spring. Additional prescribed fires **would not** be used to manage fuel loads outside the Impact Area. Prescribed fire **would not** be used to manage natural resources. Annual maintenance of existing firebreaks around the Impact Area and firing points would continue to be accomplished by blading roads or diskig to remove vegetation.
Camp Guernsey would also continue to conduct spot treatments of manual thinning and pruning to reduce heavy fuel loads in select forested areas. Previous thinning projects have mostly been limited to minor thinning along the east side of Range Road. The preparation and implementation of an Annual Fire Mitigation Work Plan would not be implemented under this alternative.

While the No Action Alternative would not satisfy the purpose of or need for the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under the CEQ Regulations (40 CFR Part 1502.14). The No Action Alternative reflects the status quo and serves as a benchmark against which the effects of the Proposed Action can be evaluated.

2.3.2 Evaluated Alternatives

Applying the screening criteria, one reasonable alternative (Alternative B) to the Proposed Action was identified for detailed analysis in this Programmatic EA. The No Action Alternative, continue with current management without a written IWFMP, has also been analyzed. The Preferred Alternative is the Proposed Action.

2.3.3 Alternatives Eliminated from Detailed Consideration

Alternatives that were considered but did not pass one or more of the screening criteria and have therefore not been carried forward for detailed analysis include Alternative A, Alternative C, and Alternative D.

2.3.4 Comparison of Potential Effects of the Evaluated Alternatives

Table 2.3 provides a Comparison of Potential Effects of the Evaluated Alternatives.
Table 2-3. Alternatives Impacts Comparison Matrix

<table>
<thead>
<tr>
<th>Technical Resource Area</th>
<th>Proposed Action</th>
<th>No Action Alternative</th>
<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use</td>
<td>Implementation of the Proposed Action would result in less than significant adverse effects to land use. More frequent, smaller, less intense burns conducted during inactive training seasons in close coordination with neighbors would create beneficial long-term effects on land use. The use of prescribed burns to improve natural resources would also provide long-term beneficial effects. Allowing lightning-ignited wildland fires to burn under unfavorable environmental conditions would reduce accumulations of fuels that could lead to high-intensity catastrophic fires. The preparation of an Annual Fire Mitigation Work Plan that details all fire management projects including the timing of prescribed burns and wildland fire use could be used to inform other land users ahead of time and solicit their input to lessen effects.</td>
<td>Continued implementation of current wildland fire management would result in significant short-term and long-term adverse effects to land use. Large high-intensity wildland fires of long duration would continue to occur as fuel loads build to unnatural conditions. These large “catastrophic” fires are much more likely to cross our installation boundary and affect adjacent landowners, recreationists, grazing lessees, and the public. Military training will be restricted while fire is burning.</td>
<td>Implementation of Alternative B would result in less than significant adverse effects to land use. The beneficial effects of using prescribed burns to improve natural resource habitat would not occur. The cost-effective beneficial effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Implementation of the Proposed Action would result in less than significant adverse effects to air quality. Under the Proposed Action, the potential for long duration air quality concerns would be reduced because the likelihood of large high-intensity wildland fires would be reduced through proactive fuels management. Because prescribed burns can be scheduled, this alternative would provide flexibility in taking advantage of favorable climatic conditions to coordinate with other regional smoke producers to disperse smoke and avoid effecting sensitive areas. This would allow the distribution of emissions over time and space to avoid exceeding air quality standards. All prescribed burns would have a WDEQ air quality permit which specifies BMPs to minimize adverse effects to air quality. Fires burning under the wildland fire use provision may burn for several days, which could result in less than significant short-term effects. However, wildland fire use operations would be conducted following predetermined prescriptions, including favorable conditions that would limit the effects of smoke.</td>
<td>Continued implementation of current wildland fire management would result in significant short-term adverse effects to air quality. Wildland fires that occur in areas with heavy accumulations of fuel can have the most adverse effect on air quality. The absence of smaller fires and the limited use of other fuel management techniques would result in heavy accumulations of fuels that would be difficult to suppress and would lead to larger high-intensity fires of longer duration. Fires of this type would affect air quality for extended periods of time. Both human health and air quality standards would likely be exceeded in the vicinity of the fire.</td>
<td>Implementation of Alternative B would result in less than significant adverse effects to air quality. Similar to the Proposed Action, this alternative would allow the use of prescribed fire outside the Impact Area to manage fuel loads and the preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. All prescribed burns would have a WDEQ air quality permit which specifies BMPs to minimize adverse effects to air quality.</td>
</tr>
<tr>
<td>Noise</td>
<td>Dismissed from detailed analysis because wildland fire management activities have a negligible noise impact.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geology and Topography</td>
<td>Dismissed from detailed analysis because wildland fire management activities have a negligible impact on geology and topography.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soils</td>
<td>Implementation of the Proposed Action would result in less than significant adverse short-term effects to soils. More frequent, smaller, cooler burns conducted during inactive seasons have much less chance of damaging the soil or creating large erosion and sedimentation issues.</td>
<td>Continued implementation of current wildland fire management would result in less than significant adverse effects to soils. Large high-intensity long duration wildland fires would continue to occur. These types of fire have much greater potential to</td>
<td>Implementation of Alternative B would result in less than significant adverse effects to soils. Similar to the Proposed Action, this alternative would allow the use of prescribed fire</td>
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<td></td>
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</tbody>
</table>
Soils would be better protected from the adverse effects of high-intensity fires through the fuel management techniques proposed in this alternative. Prescribed fires would be conducted under predetermined conditions that would insure that the protective layer of duff and litter was not completely removed, exposing mineral soil to the effects of erosion.

Low intensity surface fires under a timber overstory conducted under prescriptive parameters would not cause changes in the structure of mineral soil or kill soil microbes because the elevated temperatures are of brief duration and the burns would be conducted under controlled conditions. Under normal circumstances, sufficient moisture would be present during prescribed burns to prevent complete combustion of the duff and forest litter, providing a protective layer for the soil. The smaller, cooler, less-intense fires would cause little or no detectable change in the amount of organic matter in surface soils.

A long-term beneficial effect would be the acceleration of the natural decomposition and nutrient recycling process, which would increase nitrogen available to stimulate growth and restore surface herbaceous vegetation, perpetuating organic soil layers and increasing site productivity.

<table>
<thead>
<tr>
<th>Prime and Unique Farmland</th>
<th>Dismissed from detailed analysis because there are no prime and unique farmlands on Camp Guernsey.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Resources</td>
<td>Water resources were dismissed from detailed analysis because the effects of planned wildfire management activities would be negligible.</td>
</tr>
<tr>
<td>Wetlands</td>
<td>Dismissed from detailed analysis because effects of planned wildland fire management activities on wetlands would be negligible.</td>
</tr>
<tr>
<td>Floodplains</td>
<td>Dismissed from detailed analysis because effects of planned wildland fire management activities on floodplains would be negligible.</td>
</tr>
</tbody>
</table>

**Vegetation**

Less than significant adverse effect. A low severity fire will generally restore and maintain desirable ecosystem attributes while a high severity fire may cause entire plant communities to change. In the short-term, plants may be injured or killed. In the long-term, a mosaic of vegetation would be maintained. Stands of pine would be less susceptible to infestations of insects. All alternatives may lead to the establishment of cheatgrass in highly disturbed areas and forested areas.

Implementation of the No Action Alternative would have a significant adverse effect on vegetation. The active fire suppression occurring at Camp Guernsey and surrounding areas has reduced the frequency and size of wildfires in this area. This has allowed plant community succession to continue which has resulted in the propagation of very dense woodlands.

Implementation of Alternative B would result in less than significant adverse effects to vegetation. Similar to the Proposed Action, this alternative would allow the use of prescribed fire outside the Impact Area to manage fuel loads and the preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. The beneficial soil effects of using prescribed burns to improve natural resource habitat would not occur. The cost-effective beneficial soil effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.
and the invasion of ponderosa pine and juniper into adjacent communities, most noticeably mountain-mahogany shrublands. These aggressive fire suppression actions have also allowed the buildup of fuel loads within the woodland community and when extreme fire conditions (extended drought, dry weather, and windy conditions) occur large high intensity wildfires have burned much of the North Training Area at Camp Guernsey. These large high intensity wildfires have removed almost all of the pines and junipers over vast areas. Natural successions to replace these woodlands will take many decades as the seed source is far removed from the interior of these areas.

Mitigation Work Plan would detail the time and extent of these burns. The beneficial vegetation effects of using prescribed burns to improve natural resource habitat would not occur. The cost-effective beneficial vegetation effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.

Wildlife

Implementation of the Proposed Action would have a less than significant adverse effects on wildlife resources. Short term displacement of wildlife will occur under any fire management action that is implemented on the Installation. Some limited wildlife mortality will also occur. Displacement and loss of a few localized individuals or groups of animals would not jeopardize populations on and adjacent to the Installation. Habitat conditions for many wildlife species that inhabit the Installation would improve with the restoration of the historic high frequency, low intensity fire regime characteristics. Such a fire regime would help restore and enhance the variety and diversity of native plant and wildlife habitats. Dead standing trees (snags) would be left to provide important habitat for a variety of wildlife species.

Ultimately, incorporating the proposed wildland fire management techniques on the Installation would benefit wildlife by reducing the risk of large scale habitat loss due to intense wildland fires by restoring a more natural fire return interval to the landscape. Implementation of the Proposed Action would not result in changes in the abundance or distribution of a local or regional wildlife population to the extent that the population would be unlikely to recover or return to a sustainable level. The Proposed Action would not result in the irreplaceable loss, or abandonment of high value habitats for migratory bird populations, raptors, or other special status species. The Proposed Action would not result in the direct or indirect loss of viability of any population of migratory birds, raptors, or special status species.

Implementation of the No Action Alternative would result in less than significant adverse effects to wildlife. Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to wildlife would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. Which will lead to a decline in habitat diversity would limit the number and type of species. Wildfires occur primarily during the summer months and will affect nesting birds. Generally, wildlife species are expected to be more effected over the long-term as a result of a full suppression policy. Full suppression would result in a decline in habitat diversity and an increase in the probability of high-intensity, stand altering fire, which, by extension, would limit the numbers and types of species that would frequent the training site.

Implementation of Alternative B would result in less than significant adverse effects to wildlife. Similar to the Proposed Action, this alternative would allow the use of prescribed fire outside the Impact Area to manage fuel loads and the preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. The beneficial effects of using prescribed burns to improve wildlife habitat would not occur. The cost-effective beneficial effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads and improve habitat would also not be realized.
The use of prescribed burns to improve wildlife habitat would provide long-term beneficial effects. The habitat mosaic created by prescribed burning would benefit a wide range of wildlife.

<table>
<thead>
<tr>
<th>Threatened &amp; Endangered Species</th>
<th>Implementation of the Proposed Action would result in no adverse effects on threatened and endangered species.</th>
<th>Implementation of the No Action Alternative would result in no adverse effects on threatened and endangered species.</th>
<th>Implementation of Alternative B would result in no adverse effects on threatened and endangered species.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Resources</td>
<td>Implementation of the Proposed Action would result in less than significant adverse effects to cultural resources. The greatest threat to cultural resources is a large-scale, high intensity wildland fire that could lead to the loss of historic structures, destruction of rock art sites, or the disturbance of archeological sites by heavy equipment. Under the Proposed Action wildland fire may adversely affect some archeological sites. Under the Proposed Action cultural sites would be less effected by removing accumulations of fuel from the vicinity, thereby reducing the threat of catastrophic wildland fire. Adverse effects on cultural resources from prescribed fire management actions would be avoided through identifying the resources prior to disturbance and protecting the resources. Under the Proposed Action, the planning process would be more coordinated and efficient. All non-emergency projects (prescribed fire, fuel reduction) would be planned collaboratively, resulting in benefits to archeological resources as all efforts would be made to avoid or protect known archeological sites.</td>
<td>Implementation of the No Action alternative would result in less than significant adverse effects to cultural resources. The greatest threat to cultural resources is a large-scale, high intensity wildland fire that could lead to the loss of historic structures, destruction of rock art sites, or the disturbance of archeological sites by heavy equipment. Under the No Action Alternative wildland fire may adversely affect some archeological sites. Under the No Action Alternative, archeological sites scattered throughout the training area would be placed at greater risk as heavy accumulations of fuels continue to increase and encroach on a historic site or structure. Large high-intensity fires would increase the need for the use of heavy equipment to halt the spread of fire. The use of such equipment could damage previously unknown archeological resources located below the surface. In addition, under this alternative, the cultural landscape would slowly disappear as open woodlands, fields and parks, were taken over by trees. Then after a large-scale, high intensity wildland fire burned through these woodlands, a large barren treeless landscape would persist for centuries. This ecological succession has already occurred throughout much of the North Training Area.</td>
<td>Implementation of Alternative B would result in less than significant adverse effects to cultural resources. Similar to the Proposed Action, this alternative would allow the use of prescribed fire outside the Impact Area to manage fuel loads and the preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. The cost-effective beneficial effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.</td>
</tr>
<tr>
<td>Native American Resources</td>
<td>Implementation of the Proposed Action would result in less than significant adverse effects to cultural resources. The greatest threat to cultural resources is a large-scale, high intensity wildland fire that could lead to the loss of protected tribal resources. Under the Proposed Action wildland fire may adversely affect some tribal sites. Under the Proposed Action tribal sites would be less effected by</td>
<td>Implementation of the No Action alternative would result in less than significant adverse effects to cultural resources. Under the No Action Alternative, tribal sites scattered throughout the training area would be placed at greater risk as heavy</td>
<td>Implementation of Alternative B would result in less than significant adverse effects to tribal resources. Similar to the Proposed Action, this alternative would allow the use of prescribed</td>
</tr>
<tr>
<td>Socio-economics</td>
<td>Environmental Justice</td>
<td>Infrastructure</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>removing accumulations of fuel from the vicinity, thereby reducing the threat of catastrophic wildland fire. Adverse effects on tribal resources from prescribed fire management actions would be avoided through identifying the resources prior to disturbance and protecting the resources. Under the Proposed Action, the planning process would be more coordinated and efficient. All non-emergency projects (prescribed fire, fuel reduction) would be planned collaboratively, resulting in benefits to tribal resources as all efforts would be made to avoid or protect known tribal sites. Adverse effects on tribal resources from prescribed fire management actions would be avoided through identifying the resources prior to disturbance and protecting the resources. Implementation of the activities under the Proposed Action would, over the long-term, decrease the probability of large wildland fires on Camp Guernsey. The Proposed Action would not alter Native American access to any identified “sacred site”.</td>
<td>Dismissed from detailed analysis because effects of planned wildland fire management activities would be negligible.</td>
<td>Implementation of the Proposed Action would result in less than significant adverse effects to infrastructure. The greatest threat to infrastructure is a large-scale, high intensity wildland fire that could lead to the loss of buildings, training ranges, and communication systems. Under the Proposed Action wildland fire may adversely affect some infrastructure. Under the Proposed Action infrastructure would be less effected by removing accumulations of fuel from the vicinity, thereby reducing the threat of catastrophic wildland fire.</td>
<td></td>
</tr>
<tr>
<td>accumulations of fuels continue to increase and encroach on these sites. Large high-intensity fires would increase the need for the use of heavy equipment to halt the spread of fire. The use of such equipment could damage previously unknown tribal resources. In addition, under this alternative, the tribal landscape would slowly disappear as open woodlands, fields and parks, were taken over by trees. Then after a large-scale, high intensity wildland fire burned through these woodlands, a large barren treeless landscape would persist for centuries. This ecological succession has already occurred throughout much of the North Training Area.</td>
<td>Implementation of the No Action Alternative could result in significant adverse effects to socio-economics. Large-scale, high intensity wildland fires that leave WYARNG property could adversely affect livelihoods on adjacent private lands. These fires could also disrupt the operations of the adjacent Guernsey State Park, Glendo State Park, Register Cliff, and Oregon Trail Ruts National Historic Site. This may result in adjacent areas being closed to the public and evacuation of livestock grazing allotments. Large wildfires may also require the possible evacuation of citizens located in the communities of Guernsey, Hartville, and surrounding rural areas.</td>
<td>Implementation of Alternative B would result in less than significant adverse effects to infrastructure. Similar to the Proposed Action, this alternative would allow the use of prescribed fire outside the Impact Area to manage fuel loads and the preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. The cost-effective beneficial effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.</td>
<td></td>
</tr>
<tr>
<td>fire outside the Impact Area to manage fuel loads and the preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. The cost-effective beneficial effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.</td>
<td>Implementation of Alternative B would result in less than significant adverse effects to socio-economics. Similar to the Proposed Action, this alternative would allow the use of prescribed fire outside the Impact Area to manage fuel loads and the preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. The cost-effective beneficial effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.</td>
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<td></td>
</tr>
<tr>
<td>Hazardous and Toxic Materials and Wastes</td>
<td>Adverse effects on infrastructure from prescribed fire management actions would be avoided through identifying the infrastructure prior to disturbance and protecting it. Under the Proposed Action, the planning process would be more coordinated and efficient. All non-emergency projects (prescribed fire, fuel reduction) would be planned collaboratively, resulting in benefits to infrastructure as all efforts would be made to avoid or protect these areas. Implementation of the activities under the Proposed Action would, over the long-term, decrease the probability of large wildland fires on Camp Guernsey.</td>
<td>Large-scale, high intensity wildland fires that leave WYARNG property as a result of implementing the No Action Alternative, could adversely affect infrastructure on adjacent lands.</td>
<td>Preparation of an Annual Fire Mitigation Work Plan would detail the time and extent of these burns. The cost-effective beneficial effects of allowing wildland fires to burn under prescribed conditions to reduce fuel loads would also not be realized.</td>
</tr>
</tbody>
</table>
3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The direct, indirect, and cumulative effects resulting from the Proposed Action, the No Action Alternative, and Alternative B on each of the identified relevant resources are described in this section. The environmental resources that could be negatively affected by the Proposed Action or alternatives, or are of public concern include: Land Use; Air Quality; Soils; Vegetation; Wildlife; Threatened, Endangered, and Candidate Species; Cultural Resources; Native American Resources (Tribal Resources); Socioeconomics (including Health & Safety); and Infrastructure.

The following resources were not analyzed in detail because the Proposed Action, the No Action Alternative, and Alternative B would result in no effects or negligible effects: Noise; Geology and Topography; Prime and Unique Farmland; Water Resources; Wetlands; Floodplains; Environmental Justice; and Hazardous and Toxic Materials and Wastes. Appendix A contains the WYARNG checklist used to help determine those key resource areas needing detailed consideration.

Effects have been identified as being: significantly adverse, less than significantly adverse, or negligible/none. The criteria used to determine significance is stated for each resource category.

3.1 General Characteristics of the Proposed Action Site and Vicinity

Camp Guernsey is located in southeastern Wyoming approximately 80 miles north of Cheyenne, 90 miles southeast of Casper, and 15 miles east of Interstate 25 (I-25). Camp Guernsey partially surrounds the towns of Guernsey and Hartville and is located between the towns of Wheatland, Fort Laramie, and Glendo in Platte County (see Figure 1-2). Camp Guernsey encompasses approximately 80,000 acres and 64 square miles of air space. The Camp Guernsey Cantonment Area (the permanent residential section of a military installation) is adjacent to the Town of Guernsey, which has a population of approximately 1,200. The main access route for Camp Guernsey is I-25 and U.S. Highway 26.

3.1.1 Ongoing Mission and Primary Activities

Camp Guernsey is a state-owned, federally-supported National Guard installation where the land is primarily owned by the State of Wyoming Military Department; managed and operated by the Wyoming Army National Guard; and is primarily used for training the Wyoming Army National Guard, with funds provided by the Department of Defense National Guard Bureau for many of the facilities that support the military mission, even though the land is not under the jurisdiction of the Department of Defense. Camp Guernsey is identified by the U.S. military as both a U.S. Air Force and a National Guard “Regional Training Center” and it is thus designated as a “Joint Training Center”. The Army National Guard, Air Force National Guard, U.S. Army Reserve, U.S. Navy, Naval Reserve, Army, and the U.S. Air Force all routinely utilize Camp Guernsey. Non-military customers that utilize the facilities at Camp Guernsey include police departments, the Wyoming Highway Patrol, the Civil Air Patrol, and the Boy Scouts of America. Tenant facilities include the: Combined State Maintenance Shop (CSMS), Unit Training Equipment Site (UTES), Field Maintenance Support #5 (FMS-5), United States Property and Fiscal Office (USPFO), Air Force 620th Ground Combat Training Squadron (GCTS), the Joint Training and Experimentation Center (JTEC Department of Defense), Regional Training Institute (RTI), and Wyoming Cowboy ChalleNGe Academy. Camp Guernsey is designated as a Maneuver Training Center- Heavy (MTC-H) installation by the National Guard Bureau. NGR 5-3, Army National Guard Garrison Training Centers (ARNG, 2015) established a new naming convention (Levels) for the classification of ARNG Garrison Training Centers. Under this new naming convention Camp
Figure 1-2. Camp Guernsey Location Map.
Guernsey is classified as **Level II Garrison Training Center**, which is a training installation that supports individual and collective training for a brigade. Full-time support is authorized, and cantonment facilities are authorized. Level II installations have their own “installation code” and are required to have their own installation real property master plan.

**Mission.** The primary mission of Camp Guernsey is to focus on training WYARNG Soldiers on mission critical tasks to prepare them for deployment. Additionally, Camp Guernsey serves as a realistic military maneuver/training area for field exercises and classroom training for the Wyoming Air National Guard. The secondary mission is to provide training and logistical support to other military and non-military customers. Typical field training activities include heavy and light maneuver exercise; live-fire weapons training ranging from small to large caliber munitions, demolitions, artillery, rockets, and mortars; tactical and administrative bivouacs; engineer schools; bridging and river-crossing operations; and various specialty training such as military operations in urban terrain; war game simulations; and helicopter gunnery operations. In addition, a variety of military aircraft use Camp Guernsey’s restricted airspace and ordinance Impact Area. Additional information is available at [https://wyo.gov/wyomingmilitarydepartment/camp-guernsey](https://wyo.gov/wyomingmilitarydepartment/camp-guernsey) and [http://gismo.ngb.army.mil/Guernsey/Camp_Guernsey.html](http://gismo.ngb.army.mil/Guernsey/Camp_Guernsey.html).

To meet these training requirements, Camp Guernsey provides support facilities for personnel training on the Installation including billeting, dining facilities, health care, administration, procurement, supplies, maintenance, fire-fighting, and an airfield. Camp Guernsey currently employs a full-time staff of about 130 employees and it can accommodate up to 1,500 soldiers at any one time. Camp Guernsey staff do not live on the Installation they live in surrounding communities and commute to the Installation daily.

### 3.1.2 Ecoregion

Ecological regions (ecoregions) are geographically defined areas with unifying characteristics including geology, climate and vegetation. Numerous federal agencies and conservation organizations have developed ecoregional interpretations of the United States over the past two decades. A few of the more commonly cited ecoregions follow.

Camp Guernsey is located in the **High Plains** Level 3 Ecoregion, which is a subset of the **South Central Semiarid Prairies** Level 2 Ecoregion, which is a subset of the **Great Plains** Level 1 Ecoregion as described by Commission for Environmental Cooperation and distributed by the U.S. EPA (see [http://www.epa.gov/wed/pages/ecoregions/na_eco.htm](http://www.epa.gov/wed/pages/ecoregions/na_eco.htm)). The North Training Area is located in the **Pine Bluffs and Hills** Level 4 Ecoregion and the South Training Area is located in the **Moderate Relief Plains** Level 4 Ecoregion (see [http://www.epa.gov/wed/pages/ecoregions/wy_eco.htm](http://www.epa.gov/wed/pages/ecoregions/wy_eco.htm)).

Using The Nature Conservancy Ecoregion classification, Camp Guernsey is located in the **Northern Great Plains Steppe** ecoregion of the **Western Great Plains** Ecological Division (see [http://maps.tnc.org/gis_data.html](http://maps.tnc.org/gis_data.html)).

Using the Natural Resource Conservation Service (NRCS) Major Land Resource Area classification, the North Training Area is located in Major Land Resource Area 64, **Mixed Sandy and Silty Tableland and Badland** while the South Training Area is located in Major Land Resource Area 67A, **Central High Plains, Northern Part** (see [http://soils.usda.gov/survey/geography/mlra/](http://soils.usda.gov/survey/geography/mlra/)). Both of these Major Land Resource Areas are in Land Resource Region G, the **Western Great Plains Range and Irrigated Region**.
Regardless of the ecological region classification system used, Camp Guernsey occupies an area where various ecoregions meet. The boundaries of these regions blend into one another making the Guernsey area very transitional, with characteristics of several ecoregions.

3.1.3 Climate
The climate in Platte County is semiarid with a total annual precipitation of approximately 13 inches. About 10 inches, or 77 percent, of the precipitation commonly falls during the growing season of April through September. Thunderstorms in July and August are common and often intense. The average seasonal snowfall is 41 inches. The average winter temperature is 31 degrees Fahrenheit (°F) and the average summer temperature is 70 °F. Due to low moisture and high elevation, the High Plains commonly experiences wide ranges and extremes in temperature. The region is known for the steady, and sometimes intense, winds that prevail from the west. The winds add a considerable wind chill factor in the winter. The winds combined with high temperatures during late summer create a high risk for wildfire.

3.2 Resources Analyzed In Detail
The following resources are analyzed in detail because it was determined that they may have potential for significant adverse effects (see Appendix A):

- Land Use
- Air Quality
- Soils
- Biological Resources - Vegetation
- Biological Resources - Wildlife
- Threatened, Endangered, and Candidate Species
- Cultural Resources
- Native American Resources
- Socioeconomics
- Infrastructure

North Training Area, Common winter conditions after storm.
3.2.1 Land Use

3.2.1.1 Affected Environment
There are three distinct training areas within Camp Guernsey; the Cantonment Area and maneuver/training lands making up the North Training Area (lands north of Highway 26) and the South Training Area (lands south of the North Platte River). See Figure 1-1 for overview and Figures 3-1, 3-2, and 3-3 for detail.

The Cantonment Area covers approximately 500 acres and contains facilities primarily for classroom training, simulation ranges, lodging, dining, administrative use, supply, and maintenance in support of training activities on Camp Guernsey. Facilities include barracks, classrooms, warehouses, motor pools and maintenance facilities, a wastewater treatment plant, fuel storage, and a paved airstrip/airfield. Service facilities include a dining hall, store, and recreational areas. The Camp Guernsey Joint-Use Airfield, located in the eastern portion of the Cantonment Area. The airfield also includes taxiways, safety areas, and aircraft hangars. The Airfield is one of the approximately 20 “joint-use airports” in the United States. A joint-use airport is defined by the Federal Aviation Administration as an installation where a written agreement between the military and a local government agency authorizes use of a military runway for a public airport. The National Guard is the owner of the airfield, the Town of Guernsey entered into a 99 year license and joint-use agreement in 1986 with the National Guard to allow civilian general aviation operations on the airfield. There is no commercial air service to the airfield.

The North Training Area covers 52,000 acres and consists of heavy maneuver operation areas, an ammunition supply point, a field artillery Impact Area, numerous firing ranges, ten drop zone sites, engineering/demolition ranges, a range control office, target storage facilities, a solid waste accumulation point and two shower points. A road designated as the “Tank Trail” connects the Cantonment Area to the North Training Area. A county road (Emigrant Hill) runs north to south through the middle of the North Training Area.

The South Training Area covers 25,000 acres and consists of three live fire ranges, light maneuver areas, an obstacle course, a floating bridge training site, an improvised explosive device course, a land navigation course, a rappelling site, aircraft practice ranges, a drop zone, and two guest houses.

The WYARNG allows multiple uses of Camp Guernsey lands, including grazing, hunting, fishing, firewood gathering, and other recreational activities. Many of the facilities in the Cantonment Area are open to the public on week nights and others can be rented. Livestock grazing is a primary non-military use of Camp Guernsey rangelands. Camp Guernsey also participates in the WGFD’s Private Lands/Public Wildlife Hunter Access program. The Broom Creek Hunter Management Area traverses most of Camp Guernsey and is open to public hunting. A public river access parking lot is located on military department lands at Wendover Bend on the North Platte River.

Surface Ownership. Camp Guernsey’s Installation boundary encompasses approximately 80,000 acres that provides realistic, combat-based field training opportunities and support facilities. Since its establishment, the borders of Camp Guernsey have been in constant change with numerous land acquisitions, trades, and sales including several federal land patents. The majority of the land within the Installation boundary is owned and managed by the Wyoming Military Department. Other landowners within the Installation boundary include the State of Wyoming School Trust, Bureau of Land Management, and the Bureau of Reclamation (see Figures 3-4 and 3-5). There is a Federal action pending to withdraw the remaining BLM lands from public domain. The
WYARNG has grazing leases on the State of Wyoming School Trust Lands within the Installation boundary. The Bureau of Reclamation has issued a special use permit to the WYARNG to use their lands within the Installation boundary for military training.

There are three areas of private inholdings within the Installation boundary. There is a 161 acre and a 313 acre parcel in the South Training Area and in the North Training Area there is a 200ft wide strip of land overlying the Burlington-Northern rail line along the southwest bank of the Platte River. Platte County has a road easement (Emigrant Hill Road) that crosses through the North Training Area. A paved public road (Old Guernsey Highway) travels along the northern boundary of the South Training Area. There are also several facilities (cell towers, pipelines, roads, and power lines) that have easements or right-of-ways that cross the Installation area.

**Camp Guernsey Land Use Planning.** A Joint-Use Airfield Master Plan was prepared for Camp Guernsey in 2007, followed by the Camp Guernsey Cantonment Master Plan in 2008 (WYARNG 2008a). In 2010, a Parade Ground Realignment Preliminary Infrastructure Study was prepared. The Camp Guernsey Range Complex Master Plan (RCMP) is updated annually. The Master Plan Update for Camp Guernsey was completed in August 2012. A Range Complex Master Plan is prepared an updated annually.

**Wilderness Areas/National Parks/Wildlife Refuges/Wild & Scenic Rivers.** There are no Federal Wilderness Areas, National Parks, Wildlife Refuges, or Wild & Scenic Rivers on, adjacent to, or in close proximity to Camp Guernsey. The State of Wyoming has no State-designated wilderness areas or wild and scenic rivers on, adjacent to, or in close proximity to Camp Guernsey.

**Grazing Program.** Camp Guernsey has issued 12 grazing leases (Forage Utilization Contracts) in the North Training Area (see Figure 3-6) and one grazing lease in the South Training Area (see Figure 3-7). The Impact Area and several areas surrounding the Impact Area are not leased for grazing (labeled as Exclusion, Excl, or vacant on the map). Boundaries of the leased areas are, in many cases, not fenced. These Forage Utilization Contracts expressly state the purpose of the contract is to “support the primary objective of the Wyoming Military Department, which is military training. Military training shall take precedence over any other activity, including the Forage Utilization Program.” These Forage Utilization Contracts are issued for a 7 year term with the ability to renew for an additional 7 year term. These Forage Utilization Contracts specify a Base Stocking Rate for each lease. An annual Forage Utilization Program planning meeting is then conducted over the winter to establish a written plan for stocking the upcoming year. An annual Forage Utilization Evaluation meeting is then conducted in the fall to review the grazers written Utilization Evaluation Report.

**Land Use Surrounding Camp Guernsey.** The majority of the lands adjacent to Camp Guernsey are privately owned. Adjacent land is primarily undeveloped rangeland utilized to graze cattle. A few small areas have been dry-land farmed in the past and several ranch residences are located in close proximity to the Installation boundary. Federally owned lands (Bureau of Land Management and Bureau of Reclamation) and State School Trust lands make up a small portion of the surface estate neighboring Camp Guernsey. State owned or managed lands, including both Guernsey State Park and Glendo State Park (managed by the Wyoming State Parks & Cultural Resources but surface estate owned by Bureau of Reclamation), Guernsey Reservoir and Glendo Reservoir (managed by the Bureau of Reclamation), Grayrocks Reservoir Wildlife Habitat Management Area (managed by the WGFD, owned by Basin Electric), and various Wyoming State School Trust lands adjoin Camp Guernsey.
Figure 3-1. Cantonment Area Land Use.
Figure 3-2. North Training Area Land Use.
Figure 3-3. South Training Area Land Use.
Figure 3-4. North Training Area Surface Ownership.
Figure 3-5. South Training Area Surface Ownership.
Figure 3.6. North Training Area Grazing Leases.
Figure 3.7. South Training Area Grazing Allotments.
The town of Guernsey, which has a population of approximately 1,200, is located directly adjacent to the west side of the Cantonment Area and the town of Hartville (population 76) is immediately southeast of the North Training Area. The closed Sunrise Mine is located due east of Hartville. Recreational hunting and fishing also occurs on the surrounding properties.

**Local Zoning and Building Codes.** Camp Guernsey is located within Platte County, Wyoming. The *Platte County Development Plan* (Platte County 2008) illustrates a portion of the northwestern side of the Cantonment Area to be located within the incorporated area of the Town of Guernsey. The Guernsey Community Development Coordinator stated that these “corporate limits” were established by the original 1902 Town Plat, which occurred prior to Camp Guernsey’s development. The Town has had five annexations since 1902, all occurring on the west side of Town and south of the Platte River. The Town of Guernsey and the WYARNG have executed several land trades in the past.

The Town of Guernsey has an approved *Town Code* (Town of Guernsey, 2012) which contains the compilation of all ordinances under the direction of the governing body of the town and which is applicable to “any territory within the corporate limits of the town”. Title 8, Chapter 1 of the *Town Code* provides the town with the exclusive power and authority to provide, furnish, and distribute various utilities within the corporate limits of the town.

The town of Guernsey has never asserted jurisdiction over development, or activities, occurring on the military installation within the Town limits (Bruce Heimbuck - Community Development Coordinator, 2013). The Town has adopted a *Community Development Plan* (2007) in which strong coordination and cooperation between the Town and Camp Guernsey is emphasized. This plan states that Camp Guernsey is going to grow and that the Town and the WYARNG must cooperate and jointly work on community development projects and share facilities where possible, cooperate on providing new housing, and cooperate on lands to be made available to the Town for residential and commercial growth. One of the Town’s listed goals is to “coordinate with Camp Guernsey on growing their operation”.

The remainder of the Cantonment Area and both the North and South Training Areas are located in the unincorporated area of Platte County. The *Platte County Development Plan* establishes land use designations to guide development in the County. Platte County has zoned all rural unincorporated portions of the County as a *Class V - Agricultural District*. This zoning classification allows for a variety of agricultural uses, including farming, hunting camps, dude ranches, game refuges, agricultural research and development, sawmills, dairies, non-commercial gravel pits, and single-family residences. The *Platte County Zoning Rules and Regulations* (Platte County, 2012) require a Special Use Permit for deviations from established zoning and a Building Certificate for the erection of certain structures. These zoning regulations also allow for the granting of variances. The Platte County Zoning Rules do not appear to have any district compatible with the operations of a military training installation. No comments were received regarding zoning from the Town of Guernsey or Platte County.

There are several public roads that cross the installation boundary. The most notable being the graveled Emigrant Hill Road which runs through the middle of the North Training Area from north to south. The paved old Guernsey Highway runs through the northeast corner of the South Training Area.
3.2.1.2 Environmental Consequences

Impact Significance Threshold. An alternative could have a significant adverse effect on land use if actions were not in compliance with approved land uses specified in applicable WYARNG planning documents (e.g., Real Property Development Plan, Integrated Natural Resource Management Plan, Integrated Cultural Resource Management Plan, Camp Guernsey Master Plan, Range Complex Master Plan); county and city comprehensive plans, land use plans, and local zoning and subdivision ordinances (if applicable); or other applicable land use regulation, plan, or policy adopted by agencies with jurisdiction over the project or project area. An alternative that resulted in a net-loss of military training lands would constitute a significant adverse effect on land use. A significant adverse effect could result on airspace if implementation of an alternative led to a violation of Federal Aviation Administration regulations that undermines aviation safety or results in substantial infringement of private or commercial flight activity. Adverse effects to designated Federal Wilderness Areas, National Parks, Wildlife Refuges, or Wild & Scenic Rivers could cause a significant adverse effect.

3.2.1.2.1 Effects of the Proposed Action

Large fires that threaten to leave WYARNG property could disrupt recreational opportunities on the adjacent Guernsey State Park, Glendo State Park, Register Cliff, Oregon Trail Ruts National Historic Site, and livelihoods on private lands. This may result in adjacent areas being closed to the public, evacuation of livestock grazing allotments, and recreational activities (such as boating, fishing, wildlife viewing or hiking) being disrupted by the wildfire, smoke, or associated management activities. Fires may also require notification and possible evacuation of citizens located in the communities of Guernsey, Hartville, and surrounding rural areas. The proposed action would manage the risk of large wildfires through mechanisms such as increased prescribed burning and improvements to firebreaks as described below, and would therefore manage the risks of conflicts with surrounding land uses.

Effects of elements common to all analyzed alternatives (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and wildland fire use/prescribed fire in Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce fine fuel loads.

Additional coordination with other land management and fire management agencies would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would occur.
Prescribed fires would be conducted on days when low pressure systems dominate the region. Low pressure or “unstable” air masses allow smoke to disperse more readily when compared to high pressure or “stable” air masses. Wildland fires tend to be more of a risk with regard to smoke because of the unpredictability of which type of air mass or wind direction they will occur. Wildland fires can also burn for several days before being contained while prescribed fires typically last for a few hours. More details regarding smoke can be found at: http://www.extension.iastate.edu/forestry/publications/PDF_files/PM2088D.pdf.

Blackened areas or landscapes could affect visual quality in the short-term following a fire. However, in the long-term effects would be beneficial as ultimately the burned area would be more natural in setting and viewscape.

Effects of these common elements on land use would be less than significant. The proposed action is consistent with the objectives of other applicable planning documents or presents no conflict. There would be no loss of military training lands or negative effects on aviation safety, and in fact the proposed action would have a positive effect through the reduction of wildfire risk and associated smoke. There would be no adverse effects to protected areas; none exist in close enough proximity to affected by smoke from fire management on Camp Guernsey.

Effects of prescribed fire to manage fuel loads outside Impact Area – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the Annual Fire Mitigation Work Plan (see section 2.2). NEPA analysis and documentation for proposed projects in these annual work plans will be conducted annually. Using prescribed fire to manage fuel loads in the wooded habitat would reduce the density of pine and juniper, which would result in increased grass (forage) production for livestock and wildlife, while at the same time opening up dense stands for better training maneuver access. Livestock grazing would typically be curtailed for one growing season following a prescribed burn.

Effects of prescribed fire on land use would be less than significant. Camp Guernsey would ensure that land use conflicts were avoided through the Annual Fire Mitigation Work Plan that details all fire management projects for the coming year.

Effects of wildland fire use – Allowing naturally-ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the Annual Fire Mitigation Work Plan could occur under the Proposed Action. NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. A confine and contain strategy would be implemented if the fire continued to meet management objectives. Wildland fires would be continuously monitored and Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders. Wildland fire use would not occur if the training area was being heavily used by soldiers. Livestock grazing would typically be curtailed for one growing season in a burned area.

Effects of wildland fire use on land use would be less than significant. Camp Guernsey would consider training requirements, aviation safety, and objectives of other applicable Plans when deciding whether to let wildland fires continue to burn.
Effects of prescribed fire to manage natural resources - Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the Annual Fire Mitigation Work Plan. Additional NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. Prescribed fire is a useful tool for rangeland management that could benefit livestock, wildlife, and training. Planned prescribed burn areas may need to have no or limited grazing for a period of time before a prescribed burn so fine fuels that carry the fire can be increased. Livestock grazing would typically be curtailed for two years following a prescribed burn. However, range management and grazing lessees should benefit in the long term from increased forage production and accessibility for livestock. Properly planned and executed prescribed fires would also benefit big game and game birds, which in turn would benefit recreational hunting on Camp Guernsey.

Effects of prescribed fire to manage natural resources on land use would be less than significant. The use of prescribed fire would facilitate achieving the goals of the installation INRMP and would present no conflicts with other applicable plans. Military training would continue to take priority and would be accommodated through planning process and coordination with Range Operations.

There were no comments received from Camp Guernsey grazing lessees or other recreational users. No adjacent landowners submitted comments. The BLM was actively involved in the fire management planning process and no formal comments were received from this overlying and adjoining landowner. The Wyoming State Forestry Division was actively involved in the fire management planning process and no formal comments were received from the WY Office of State Lands. Wyoming State Parks submitted a comment letter stating that they had no comments or concerns at this time (see Appendix B). The Bureau of Reclamation provided no comments. No comments were received from Platte County, the Town of Guernsey, or other adjacent communities. There were no comments received from the public or surrounding landowners in relation to land use.

Measures to mitigate land use effects to below the significance threshold would not be required for the Proposed Action or Alternative B. The No Action alternative, continue with current wildland fire management activities, could result in significant adverse effects to land use as large wildfires leave the Installation and burn onto neighboring property.

Standard best management practices for wildland fire management would be implemented to minimize adverse effects. The WYARNG would manage smoke from each wildland fire and each prescribed burn under all three alternatives in compliance with WDEQ air quality requirements.

Specific fire management projects will be identified in an Annual Fire Mitigation Work Plan. NEPA analysis and documentation for proposed projects in these annual work plans will be conducted annually.

Implementation of the activities under the Proposed Action would, over the long-term, decrease the probability of large wildland fires leaving Camp Guernsey property. The Proposed Action would be in compliance with both the Federal and the Army Wildland Fire Policies. The Proposed Action would be in compliance with approved land uses specified in applicable WYARNG planning documents; county and city comprehensive plans, land use plans, and local zoning and subdivision ordinances. The Proposed Action would not result in a net-loss of military training.
lands or airspace violations. The Proposed Action would not result in effects to designated Federal Wilderness Areas, National Parks, Wildlife Refuges, or Wild & Scenic Rivers.

Implementation of the Proposed Action would result in less than significant adverse effects to land use.

3.2.1.2.2 Effects of the No Action Alternative
Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to land use would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires.

During large uncontrolled wildland fires, which have occurred three times over the past decade, the Cantonment Area is turned into a staging area. Both fixed wing and helicopter use increases substantially. Firefighting personnel and equipment congregate and are mobilized out of the Cantonment Area. Military training at these times comes to a standstill. Under the No Action Alternative these large uncontrolled wildland fires and the associated effects in the Cantonment Area will reoccur. Determining how often Camp Guernsey could expect large wildland fires to reoccur under the No Action Alternative is very speculative. However, Camp Guernsey could expect to have large wildland fires every ten to twenty years, with the timing correlated to extended drought conditions. These large wildland fires are more likely to leave the Installation boundary.

Continuation of current policy limits the ability to reduce the fuel hazard on Camp Guernsey with all wildfires being aggressively suppressed and limited vegetation treatments being prescribed. Coordination between Camp Guernsey and other public agencies that own land within the Installation would not occur via a written plan. The lack of planned fire management across ownerships would result in more frequent and larger fires.

The No Action alternative is not in compliance with Federal and Army Wildland Fire Policies. Implementation of the No Action Alternative could result in significant adverse effects to land use.

3.2.1.2.3 Effects of Alternative B
Effects on land use under Alternative B would be the same for the common elements (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]) as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Alternative B is in compliance with Federal and Army Wildland Fire Policies. Implementation of Alternative B would result in less than significant adverse effects to land use.
3.2.2 Air Quality

Clean air is an important natural resource value at Camp Guernsey. Smoke emissions from a healthy and naturally functioning fire-adapted ecosystem are an inevitable and a necessary occurrence. The objective is not to eliminate or reduce these emissions, but rather to manage them in frequency, duration, and size so that emissions do not significantly affect air quality.

The following section summarizes the various regulatory requirements under the Clean Air Act and WDEQ Air Quality Rules and Regulations pertaining to permitting, management, and reporting of wildland fires, wildland fire use, and prescribed burning. The WYARNG will comply with all of the WDEQ-AQD requirements applicable to the Proposed Action, the No Action alternative, and Alternative B.

3.2.2.1 Affected Environment

Air quality is determined by the type and concentration of pollutants in the atmosphere, the size and topography of the air basin, and the local and regional meteorological influences. Under the authority of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) has established nationwide air quality standards to protect public health and welfare. These federal standards, known as the National Ambient Air Quality Standards (NAAQS), represent the maximum allowable atmospheric concentrations and were developed for "criteria" pollutants. Criteria pollutants include carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter 2.5 microns or less in diameter (PM₂.₅), particulate matter 10 microns or less in diameter (PM₁₀), sulfur dioxide (SO₂), and lead (Pb). Air pollutant concentrations greater than the NAAQS would represent a risk to human health.

The Clean Air Act is a federal law covering the entire country. However, States may assume primacy (take over responsibility) for portions of, or all of, this federal law by implementing State Rules and Regulations that meet, or exceed, the minimum federal requirements. States then develop State Implementation Plans (SIPs) that outline how the state will regulate air pollution under the Clean Air Act. The EPA has delegated regulation of air quality to the State of Wyoming and it is administered by the WDEQ/Air Quality Division (AQD). WDEQ/AQD manages air quality through state regulations promulgated in the Wyoming Air Quality Standards and Regulations (WAQSR) and through the Wyoming SIP. WDEQ/AQD has also been delegated authority by the Environmental Protection Agency (EPA) to implement federal programs of the Clean Air Act Amendment (CAAA) of 1990.

WAAQS and NAAQS identify maximum limits for concentrations of criteria air pollutants at all locations to which the public has access. The WAAQS and NAAQS are legally enforceable standards. Concentrations above the WAAQS and NAAQS represent a risk to human health that, by law, require public safeguards be implemented. State standards must be at least as protective of human health as Federal standards, and they may be more restrictive than Federal standards, as allowed by the Clean Air Act.

The State of Wyoming WDEQ has primacy over air quality standards in Wyoming and they have established Wyoming Ambient Air Quality Standards in Chapter 2 of the Wyoming Air Quality Standards and Regulations (WAQSR). The State’s criteria pollutants and action levels are the same as the federal NAAQS; however, the State has not removed Total Suspended Particulates (TSP) as a criteria pollutant. With respect to NAAQS, the EPA classifies all locations in the United
States as either “attainment” (including “unclassified”), “non-attainment,” or “maintenance” areas. These classifications are determined by comparing actual monitored air pollutant concentrations with their applicable Federal standards. When an area’s monitored air pollution exceeds the NAAQS a certain number of times, EPA designates it as a “nonattainment area”. A “maintenance area” is an area that was designated nonattainment, but later met the standard and was redesignated to “attainment”. Platte County and Camp Guernsey are in the Metropolitan Cheyenne Intrastate Air Quality Control Region (AQCR) (40 CFR 81.89). This AQCR is in full attainment of both the NAAQS and Wyoming Ambient Air Quality Standards for all criteria pollutants (http://www.epa.gov/oar/oaqps/greenbk/ancl3.html).

The General Conformity Rule ensures that Federal actions comply with the national ambient air quality standards. In order to meet this Clean Air Act requirement, a Federal agency must demonstrate that every action that it undertakes, approves, permits or supports will conform to the appropriate State Implementation Plan (SIP). The General Conformity Rule applies to all Federal actions that are taken in designated nonattainment or maintenance areas. Camp Guernsey is in an attainment area for all criteria pollutants.

3.2.2.1.1 Air Permits
The WDEQ/AQD implements WAQSR and CAAA requirements through various air permitting programs (see WAQSR Chapter 6). A proponent initiating a project must undergo new source review and obtain a pre-construction permit or a permit waiver authorizing construction of the project. This process ensures that the project will comply with the air quality requirements at the time of construction. To ensure on-going compliance, WDEQ/AQD also implements an operating permit program that can require on-going monitoring of emissions sources and/or source control systems.

The three major permit programs required by the WAQSR’s are:

a) Acid rain permits (called Title IV permits);
   b) Pre-construction permits (a.k.a. New Source Review permits); and
   c) Title V Operating permits.

a) The acid rain program is a market-based system designed to lower sulfur dioxide (SO₂) and nitrogen dioxide (NO₂) pollution levels from electrical generating units in the power sector. Reductions in emissions are obtained through a program of emission allowances. The allowance that each facility owns must be reflected in its acid rain permit, which also includes emissions monitoring and other requirements. Camp Guernsey is not in the power sector and is therefore not included in this permit program.

b) The New Source Review (NSR) program (WAQSRs Chapter 6, Section 2(a)(i) requires that “Any person who plans to construct any new facility or source, modify any existing facility or source, or to engage in the use of which may cause the issuance of or an increase in the issuance of air contaminants into the air of this state shall obtain a construction permit from the State of Wyoming, Department of Environmental Quality before any actual work is begun on the facility.” These permits are commonly called Construction Permits in Wyoming. The three types of NSR permits are:
1. **Prevention of Significant Deterioration (PSD) permits** which are required for new “major sources” or a major source making a “major modification” in an “attainment area”;

2. **Non-attainment NSR permits** which are required for new major sources or major sources making a major modification in a non-attainment area; and

3. **Minor source permits.**

Camp Guernsey does not emit the quantity of pollutants to be classified as a “major source” and therefore PSD permitting is not applicable. Camp Guernsey is in an attainment area for all criteria pollutants and therefore Non-attainment NSR permits are not applicable.

**Minor source permitting** requirements are applicable to Camp Guernsey. Camp Guernsey currently has several minor source permit **waivers** for diesel powered electrical generators and paint booths. Wyoming Air Quality Standards and Regulations (WAQSR) at Chapter 6, Section 2 detail the pre-construction permitting and waiver program for new construction projects, or construction projects modifying existing facilities or sources, that may cause air contaminants to be issued or increase from their current levels.

c) **The Title V Operating Permit program** requires that major industrial sources and certain other sources obtain a permit that consolidates all of the applicable requirements for the facility into one document. Wyoming’s Operating Permit program is codified in Chapter 6 Section 3 of the Wyoming Air Quality Standards and Regulations (WAQSR). Again, Camp Guernsey does not emit the quantity of pollutants to be classified as a “major source” and therefore the operating permit program is not applicable.

The EPA’s **Regional Haze Rule** is designed to improve visibility in 156 national parks and wilderness areas across the country. The Regional Haze Rule outlines the requirements for states and tribes to address regional haze in Class I areas. Wyoming’s mandatory federal Class I areas are Grand Teton and Yellowstone National Parks, and the Bridger, Fitzpatrick, North Absaroka, Teton, and Washakie Wilderness Areas. The Savage Run Wilderness Area in Carbon County, is a state classified Class I area. The nearest Class I area to Camp Guernsey is Wind Cave National Park which is 144 miles to the northeast in South Dakota. Wyoming has an approved State Implementation Plan (SIP) to reduce air pollutants that affect visibility in Class I areas.

### 3.2.2.1.2 Emissions from Wildfires and Prescribed Fires

Emissions from wildfires do not fall under Clean Air Act (CAA’s) National Ambient Air Quality Standards to protect public health, as they are considered an emergency situation. However, all fire management actions are subject to the CAA’s regulations. In addition to public health and the National Ambient Air Quality Standards, fire emissions also contribute to visibility impairment, which is included in the Regional Haze protections under the Clean Air Act. The State of Wyoming has primacy for air quality permitting.

**WDEQ Air Quality Regulations** pertinent to vegetation burning and smoke management are codified in the Wyoming Air Quality Standards and Regulations (WAQSRs) at Chapter 10, Section 4 (Smoke Management Program) and Chapter 10, Section 2 (Open Burning Restrictions). The WDEQ-AQD Division website (see [http://deq.wyoming.gov/aqd/smoke-management-and-open-burning/](http://deq.wyoming.gov/aqd/smoke-management-and-open-burning/)) has a section devoted to “Open Burning and Smoke Management” that contains the regulations, guidance document, and various supporting materials. These state regulatory
requirements address emissions from all sources of vegetative material burning. The Smoke Management Program applies to burning of vegetative material that produces more than 0.25 tons of \( \text{PM}_{10} \) per day of the burn. The Open Burning Restrictions apply to burning of vegetative material that produces less than 0.25 tons of \( \text{PM}_{10} \) per day of the burn. Therefore, all burners of vegetative material will fall either under Chapter 10, Section 2 or under Chapter 10, Section 4.

3.2.2.1.3 **WDEQ Smoke Management Program**  
Wyoming’s Smoke Management Program (Chapter 10, Section 4) applies to wildland, rangeland, and agricultural lands regardless of ownership, purpose of the fire, or vegetation type. The Smoke Management Program applies to burning of vegetative material that produces more than 0.25 tons of \( \text{PM}_{10} \) per day of the burn. For example, 0.25 tons \( \text{PM}_{10} \) per day is equivalent to burning 6 acres of woodland; or 8 acres of shrubland; or 1,250 ft\(^3\) of slash piles; or 34 miles of weeds in an irrigation ditch that is three feet wide.

This regulation is a “permit-by-rule”, which specifies the circumstances under which a burn project is approved and if the burner complies with these circumstances, the permit is thereby assumed. The purpose of the Smoke Management Program is to minimize emissions from fire to the maximum extent feasible. The focus of the smoke management rule applies to the majority of situations, rather than extreme and/or isolated circumstances. Wyoming’s Smoke Management Program outlines a variety of practices and techniques to minimize and/or reduce smoke emissions or impacts from fire for the purpose of protecting the health and welfare of the public. Chapter 10, Section 4 provides the enforcement mechanism for Wyoming’s Smoke Management Program, and it succinctly lists the specific requirements of burners under a range of circumstances. **The Smoke Management Program applies to both planned fire events (prescribed fire) and unplanned fire events (wildland fire).**

In making the distinction between planned and unplanned fire events, the WDEQ-AQD recognizes that the responsible party for these types of fire will be different. For planned fire events, the responsible party is the **burner**, which generically refers to the individual, agency, organization, land manager or landowner who is responsible for conducting a planned burn project. For unplanned fire events, the party responsible for compliance is the **jurisdictional fire authority** that is responsible for the unplanned fire event, as there is no burner in these situations. Unplanned fire events fall into two categories: those that are under active suppression and those that are being managed to accomplish specific pre-stated management objectives in a pre-defined geographic area (i.e., wildland fire use). The type of unplanned fire event (i.e., suppressed or managed) will directly affect the ability of the responsible jurisdictional fire authority to comply with requirements to protect public health and visibility. The WDEQ-AQD recognizes that where fires are of an emergency nature or incendiary, it is likely that the primary goal is to extinguish the fire (i.e., unplanned fire under suppression), and public and fire fighter safety will override air quality considerations. As a result, the requirements for unplanned fire that is under suppression
will differ from those requirements for unplanned fires that are managed to accomplish specific pre-stated management objectives (unplanned fire under management).

WDEQ has published a *Smoke Management Program Guidance Document* to assist burners and responsible jurisdictional fire authorities in the implementation of this regulation (http://sgirt.webfactional.com/filesearch/content/Air%20Quality%20Division/Programs/Smoke%20Management%20and%20Open%20Burning/sub/Smoke%20Management/Guidance/AQD_Smoke-Management-and-Open-Burning_Smoke-Management_WY-Smoke-Management-Program-Guidance-Document_2004.pdf). The WDEQ-AQD’s Smoke Management Program and Guidance Document details the following nine elements which have specific smoke management requirements for both “burners” and “responsible jurisdictional fire authorities”:

1. **Registration and Notification** - The “burner” must provide specific information to the WDEQ-AQD prior to ignition of the planned burn project in the registration and notification process. This pre-burn information is submitted on specified Forms provided by the WDEQ-AQD. Registration is only required for larger planned burn projects (SMP-II burns) and Notification is required for both small (SMP-I burns) and large (SMP-II burns) burn projects. Notification is required for each day of burning. This information provides the WDEQ-AQD advance notice of the intent to burn, and enables the WDEQ-AQD to conduct a daily airshed capacity assessment to determine if the airshed can accommodate the amount of planned emissions without substantial effects.

2. **Smoke Management Education** is part of the process used to ensure that burns occur in such a way as to minimize smoke impacts on air quality. The purpose of requiring some form of smoke management education is to make the responsible jurisdictional fire authority aware of air quality and visibility issues related to emissions from vegetative material burning. The WDEQ-AQD has developed smoke management education materials, which include information on topics such as effects of fire emissions, emissions factors, fuel loading and calculation methods as well as emission reduction techniques and how to implement them. Familiarity with this material will enable burners and responsible jurisdictional fire authorities to be more aware of emissions produced from their planned burn projects and unplanned fire events, how these impact air quality, as well as what can be done to reduce both emissions and effects. This material is available from the WDEQ-AQD and can be found on the WDEQ-AQD website.

3. **Public Information** - The general public can take precautions against smoke exposure if they are aware of when and where burning will take place. Since the burner is intentionally compromising air quality, the burden is on the burner to make a good faith effort to inform the public so that smoke exposure can be avoided if desired. Public notification can take many forms including: phone calls, mass mailings, newspaper ads or articles, radio or television spots, media releases, door to door visits, posting flyers at prominent locations (e.g., post office, supermarket, police department, etc.), certified letters or even public open houses. A good faith effort means that the burner and responsible jurisdictional fire authority should identify the affected population and select at minimum one public notification method that is appropriate to that population.
4. **Alternatives to Burning** - While it is recognized that fire plays a natural role in the ecosystem and is used as a land management tool, alternatives to burning are encouraged wherever feasible to minimize overall emissions from burning. The consideration of alternatives to burning assures that burners are aware of the choice to utilize fire and have made a choice in favor of it to support land management objectives. Alternatives to burning include any method of removing or reducing fuels by mechanical, biological or chemical treatments that replaces the use of fire. The feasibility of utilizing alternatives to burning is based on technical, environmental, economic, and public interest considerations. For example, cutting and baling a pasture instead of burning it, or, in a woodland, mechanical thinning to reduce hazardous fuel buildup and then utilizing offsite (e.g., firewood, posts and poles, etc.) disposal rather than burning them.

5. **Emissions Reduction Techniques** - The use of emission reduction techniques is generally a part of best burning practices and the use of them wherever possible is encouraged of all burners by the WDEQ-AQD. Any techniques used in conjunction with burning that reduce the actual amount of emissions produced from a planned burn project are considered actions to minimize emissions, or emission reduction techniques. Some techniques for reducing emissions are the same as some alternatives to burning, for example, mechanical thinning. In determining which category the action falls under, the burner need only consider if the technique is used in conjunction with fire (e.g., thinning out understory prior to a burn to reduce emissions and reduce risk of crown fire) or to replace fire (e.g., thinning an entire stand instead of burning it). Techniques used in conjunction with fire are emission reduction techniques and those used to replace fire are alternatives to burning.

6. **Evaluation of Smoke Dispersion** - The use of meteorological conditions can aid in identifying when burning is suitable and permissible based on the ability to minimize smoke effects. Burning under optimal weather conditions maximizes smoke diffusion, thereby minimizing effects. The purpose of this element is to ensure that the burner is aware of and uses meteorological conditions when conducting planned burn projects. The Wyoming requirements require the evaluation of wind direction, wind speed and a downwind distance to a population to minimize smoke effects. Generally, you can only ignite a planned burn project during daytime hours when there is a slight breeze and there is no population within 0.5 mile of the burn project in the downwind direction. Another option includes the evaluation of Ventilation Categories that describe the potential for smoke to ventilate away from its source.

7. **Air Quality Visual Monitoring** - The purpose of monitoring air quality during a burn is to make the burner and responsible jurisdictional fire authority aware of smoke dispersion, direction, and effects. This awareness will enable the burner and responsible jurisdictional fire authority to take corrective action should the monitoring show need. For example, if the wind changes direction and the smoke begins to billow toward a nearby home, the burner may want to consider taking action to minimize smoke effects (e.g., notify the home’s occupants, extinguish the burn, reduce the size of the burn). In order to accomplish this, the burner would need to make provision for this prior to initiating the planned burn project by having available vehicles with sprayers, tillage equipment, fire truck, or other source of water. Visual monitoring is the simplest and most common method of monitoring smoke, and includes observing smoke plume characteristics such as direction, rise, color
and density of the plume, and the time of day of these observations. This visual monitoring requirement may be as simple as attendance and observance of the burn project rather than the more detailed conducting and documenting visual monitoring. Under this element, the WYARNG is required to conduct and document visual monitoring on all unplanned wildland fire events for which they are the “responsible jurisdictional fire authority”.

8. **Long-Term Planning** - As required by the Regional Haze Rule, the WDEQ-AQD must consider fire projection information (i.e., future burn levels) and the anticipated effect on visibility in planning and when developing long-term strategies. The use of alternatives to burning is included as a long-term planning requirement since the selection of alternatives to burning typically happens at the planning level. Burners and/or land managers whose total planned burn projects in a year are projected to generate greater than 100 tons of PM$_{10}$ emissions are required to submit a written report on the Long-Term Planning Forms provided by the WDEQ-AQD no later than January 31 every third year. The written report will include the long-term burn estimates for the next three years, including the location, burn area or pile volume, vegetation type, and type of burn for each planned burn project; and the alternatives to burning considered and utilized during the previous three years and planned for the next three years, including the location and area of treatment(s), the vegetation type(s), and the specific technique(s). While the WYARNG Annual Fire Mitigation Work Plan would likely not exceed this threshold, early coordination with WDEQ would occur during the Annual Fire Mitigation Work Plan.

9. **Post Burn Reporting** - Post burn reporting is required for all planned ignitions and for unplanned ignitions that exceed 50 acres in size. The submission deadline for planned burn project is six weeks following completion of the planned burn. Burners must use the Post Burn Reporting Form provided by WDEQ-AQD and one Form per planned burn project must be submitted. For unplanned ignitions that exceed 50 acres, all jurisdictional fire authorities are required to submit post burn activity information no later than December 31st of each year. All post burn reporting must be submitted using the Form provided by the WDEQ-AQD, and the responsible jurisdictional fire authority should submit one Form per unplanned fire event that exceeds 50 acres. Note: The WDEQ-AQD, in cooperation with the Wyoming State Forestry Division, will utilize the tracking mechanism that is already in place for fire incident reporting (i.e., Wyoming Fire Incident Reporting System - WFIRS) to satisfy the WDEQ-AQD post burn reporting requirement for non-federal jurisdictional fire authorities, provided that the non-federal jurisdictional fire authority has submitted the WFIRS information to the Wyoming State Fire Marshal’s Office.

3.2.2.1.4 **WDEQ Open Burning Restrictions**

The **Open Burning Restrictions** (Chapter 10, Section 2) state that “No person shall burn prohibited materials using an open burning method, except as may be authorized by permit.” These restrictions and requirements apply to all small-scale open burning activities including the burning of: refuse, trade wastes, leaves and other vegetative materials, fire hazards, slash burning, and firefighting training. Any person or organization intending to engage in such open burning shall file a request to do so with the WDEQ-AQD.
Open burning of “vegetative material” under Chapter 10, Section 2 only applies to open burning that produces less than 0.25 tons of PM$_{10}$ emissions per day. For example, 0.25 tons PM$_{10}$ per day is equivalent to burning 6 acres of woodland; or 8 acres of shrubland; or 1,250 ft$^3$ of slash piles; or 34 miles of weeds in an irrigation ditch that is three feet wide. When areas or piles are on a contiguous land area and will be burned on the same day and by the same person or organization, the sum of these areas or piles constitutes the daily burn area or daily pile volume.

3.2.2.1.5  **Platte County and Municipal Fire Restrictions**
Burners must also comply with all local (city and county) requirements and restrictions. During periods of extreme fire danger County’s often impose fire bans that can restrict various activities, which may not only include restrictions on open burning but also military training activities. Camp Guernsey will abide with all applicable Platte County and municipal fire restrictions.

**Environmental Consequences**

**Impact Significance Threshold.** An alternative could have a significant adverse air quality effect if it would cause regulatory air quality standards to be exceeded in an attainment area. Impacts to air quality in a non-attainment area or maintenance area could be significant if emissions from the Proposed Action increased the frequency or severity of ambient air quality standard exceedances or delayed the attainment of any standard or milestone contained in the State Implementation Plan. A Proposed Action that resulted in emissions not in compliance with an approved air quality permit or that could not be permitted would be considered a significant adverse effect.

During a wildland fire and/or a prescribed fire, high concentrations of organic materials include carbon dioxide, water vapor, carbon monoxide, particulate matter, hydrocarbons, nitrogen oxides, and trace minerals are released. This “smoke” has a variety of effects upon air quality. Smoke also contains and distributes elements, compounds, and minerals considered to be biological building blocks necessary for the creation and production of plant tissues. Nutrients which were previously stored in vegetative or woody matter, such as carbon, phosphorus, nitrogen, calcium, and potassium, while mostly released as ash, are also carried in smoke and fall to the earth's surface over a broad geographic area. These nutrients may stimulate plant production in areas receiving the fallout from fires.

The WYARNG would manage smoke from each wildland fire and each prescribed burn under all three alternatives in compliance with WDEQ air quality requirements so as to minimize its effects on visitors, firefighters, adjoining lands and neighbors, and natural and cultural resources. The greatest threat to air quality at Camp Guernsey would be smoke effects on sensitive receptors (e.g. the young and elderly and people with breathing disabilities).

3.2.2.2  **Environmental Consequences**

3.2.2.2.1  **Effects of the Proposed Action**
Effects of elements common to all analyzed alternatives (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and

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The Camp Guernsey Fire Department is a non-federal fire authority and will utilize the WFIRS reporting system.
rehabilitation; and reviews, investigations, data and records management [see section 2.1 for
details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel
reduction treatments, and wildland fire use/prescribed fire in Impact Area would continue under
the Proposed Action. Immediate suppression of wildfires (with the limited exception being
wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel
reduction treatments would occur and a detailed plan for construction and maintenance of
firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be
scheduled annually to reduce the fine fuel load.

Additional coordination with other land management and fire management agencies would occur
under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource
Manager and Cultural Resource Manager would occur. Some new firebreaks would be established
and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially
increased focus on mechanical fuel reduction treatments (timber thinning) would occur. Prescribed
burns in the Impact Area would be scheduled in the winter/spring when fire management and
control would be optimal.

Smoke, particulate matter, and dust emissions would degrade visibility within the borders of Camp
Guernsey and the surrounding area during a wildland fire and during a prescribed burn. Smoke
particulates could remain suspended in the atmosphere for a few days to several months. Inversions
could occur and smoke from fires may linger in the valleys for a period of time. Very small
particulates can travel great distances and add to regional haze problems. Indirect adverse effects
from these air emissions would include reduced visibility along roadways, reductions in recreation
values due to visibility limitations, smoke and odors, and possible health effects to sensitive
receptors.

Effects of these common elements on air quality would be less than significant. The wildland fires
and limited prescribed burning that has occurred at Camp Guernsey in the past has not resulted in
exceedances of air quality standards or delayed the attainment of any standard or milestone
contained in the State Implementation Plan. There have been no reported incidents of inhalation
related human health consequences from previous fires on the installation. The Proposed Action
would improve this situation even further by reducing the size, intensity and frequency of
unplanned fires through the scheduling of planned prescribed burns in the impact area.

**Effects of prescribed fire to manage fuel loads outside Impact Area** – A slight increase in
smoke would occur under the Proposed Action due to the increase in prescribed fire activity
however any planned ignitions will be approved by the WDEQ and be conducted under
predetermined and acceptable conditions. WDEQ requires prescribed burning only on days where
smoke dispersion is sufficient to reduce the amount of airborne particulates in the region. If
conditions shift causing the burn to be outside of prescription, firing operations will cease and
crews will hold the lines and begin mopping up. Smoke events associated with prescribed burns
would be short-lived, on the order of a few hours to a few days. Ignition design and timing can
minimize smoke production and avoid periods where inversions are likely to avoid production of
excess smoke and smoke that lingers affecting air quality close to the ground. Camp Guernsey
would coordinate with the WDEQ to ensure all applicable smoke management practices are
implemented and to alert adjoining land owners that a prescribed burn would be occurring.
Effects of prescribed fire on air quality would be less than significant. The interagency and public coordination described above would address potential human health and safety related air quality concerns. Prescribed burns would only be conducted in suitable conditions and would not produce emissions that would increase the frequency or severity of ambient air quality standard exceedances, or delay the attainment of any standard or milestone contained in the State Implementation Plan.

Effects of wildland fire use – Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the Annual Fire Mitigation Work Plan could occur under the Proposed Action. Additional NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. A confine and contain strategy would be implemented if the fire continued to meet management objectives. Wildland fire use fires would be continuously monitored and Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders. Wildland fire use would not occur if the training area was being heavily used by soldiers.

Effects of wildland fire use on air quality would be less than significant. As discussed in the preceding paragraph the decision to allow wildland fires to continue to burn would be made in consideration of how much emissions would be produced and what effect those emissions would have. Significant effects would be avoided through the careful consideration of these factors.

Effects of prescribed fire to manage natural resources - Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the Annual Fire Mitigation Work Plan. Additional NEPA analysis and documentation for these work plans would be conducted annually.

Effects of prescribed fire to manage natural resources on air quality would be less than significant. Although the use of prescribed fire for this purpose, in addition to prescribed fires already conducted under the no action alternative, would add to emissions it would not be to an extent that significant impacts would occur. As discussed previously specific fire management actions in the Annual Fire Mitigation Work Plan would be carefully reviewed and coordinated to avoid these effects.

There were no comments received from the public in relation to air quality. No comments were received from Platte County, the Town of Guernsey, or other adjacent communities. No comments were received from the WDEQ-AQD or EPA regarding air quality.

Implementation of the activities under the Proposed Action would, over the long-term, decrease the probability of large wildland fires on Camp Guernsey and the associated air quality effects. Camp Guernsey is in an attainment area and the use of prescribed fire under the Proposed Action would not cause regulatory air quality standards to be exceeded. All WDEQ-AQD permitting and reporting requirements would be conducted under the Proposed.

Implementation of the Proposed Action would result in less than significant adverse impacts to air quality.

3.2.2.2.2 Effects of the No Action Alternative
Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to air quality would occur as a result of smoke from wildfires. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. The preparation and implementation of an Annual Fire Mitigation Work Plan would not be implemented under this alternative. Thus, the planning for prescribed burning would be much more difficult and potentially less well coordinated among the various stakeholders since it would not occur as far in advance and stakeholder interests may not be as well addressed. Wildfires, both natural and man-caused, that start in the Impact Area would generally be allowed to burn. Under the No Action Alternative, no change in the types and magnitude of wildland fire management would occur. However prescribed burning goals would be more difficult to achieve without advance planning; advance planning is required to take advantage of suitable burning conditions and training schedules when they happen. Fuel loads would continue to build to unnaturally high levels, which could result in future large wildland fires.

In the event of a large wildfire, greater air quality effects could be expected than the more frequent and smaller prescribed burns that would be conducted under prescribed weather conditions in the Proposed Action.

Implementation of the No Action alternative will have a significant adverse effect on air quality, as larger and more frequent wildland fires would potentially occur.

3.2.2.2 Effects of Alternative B
Effects on air quality under Alternative B would be the same for the common elements as detailed in the Proposed Action. See the discussion under the Proposed Action.

Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires. Large wildland fires would generate greater quantities of smoke that would have greater potential to negatively affect visitors, firefighters, adjoining lands and neighbors, and natural and cultural resources, and sensitive receptors.

Implementation of Alternative B would have a less than significant adverse effect on air quality as the WYARNG would manage smoke from each wildland fire and each prescribed burn under all three alternatives in compliance with WDEQ air quality requirements

3.2.3 Soils
3.2.3.1 Affected Environment
Camp Guernsey is located in a geographic area that is composed predominantly of sandstone bedrock, resulting in primarily fine sandy loam soils. The soil depth varies from a few inches to 60 inches and the soils are well-drained. Soil texture is highly variable ranging from fine to coarse. The Natural Resource Conservation Service has published a soil survey of Platte County, Wyoming that includes Camp Guernsey. The Camp Guernsey INRMP contains detailed information of the area soils and soil maps.

Erosion hazard. The very fine sandy loam soils that dominate Camp Guernsey have a high wind erodibility index meaning that they are small and easily transported by high winds. Many of the
soils in this area have been originally deposited by aeolian processes and they continue to move with the wind, especially when the vegetative cover is disturbed.

The soil erodibility factor (K-factor) is a quantitative description of the inherent erodibility of a particular soil to detachment and transport by rainfall and runoff. Soils high in clay have low K values, about 0.05 to 0.15, because they are resistant to detachment (note: clay soils are rare at Camp Guernsey). Coarse textured soils, such as sandy soils (which are predominant in the South Training Area), have low K values, about 0.05 to 0.2. Because of their texture, they have high infiltration and low runoff but they are nonetheless easily detached. Medium textured soils, such as the silt loam soils (which are common in the North Training Area), have moderate K values, about 0.25 to 0.4; because they are moderately susceptible to detachment and they produce moderate runoff. Soils that have high silt content (rare at Camp Guernsey) are the most erodible of all soils. They are easily detached, tend to crust, and produce high rates of runoff. Values of K for silty soils tend to be greater than 0.4. Organic matter reduces erodibility because it reduces the susceptibility of the soil to detachment and it increases infiltration, which reduce runoff and thus erosion.

The susceptibility to fire damage ratings represent the relative risk of creating a water repellant layer and vulnerability to water and wind erosion prior to reestablishing adequate watershed cover on the burned site. The ratings are directly related to burn severity. Sandy soils and some vegetation types are more susceptible to formation of a water repellant layer. High rock fragment content increases the rate of heat transfer into the soil and steep slopes increase the vulnerability to water erosion. Hot, dry south-facing aspects are more susceptible to fire damage than cool, north-facing slopes. “Highly susceptible” indicates that the soil has one or more features that affect soil damage by fire. “Moderately susceptible” indicates that the soil has features that are moderately favorable for damage to occur. The low intensity and short duration of prescribed fires reduces the likelihood of damage to the soil. The soil types within the Installation have a low potential for damage from fire to nutrient, physical, and biotic soil characteristics and good performance can be expected with little to no maintenance needed following a prescribed burn.

3.2.3.2 Environmental Consequences

Impact Significance Threshold. If an alternative resulted in a substantial increase in soil erosion, displacement, or compaction it could result in a significant adverse effect.

Generally, the soils on Camp Guernsey are well suited to wildland fire management activities. The high infiltration of precipitation of the sandy soils allows vehicle travel with minimal rutting. The soils are relatively easily revegetated. The largest constraint is the low precipitation and the arid nature of the entire region which makes regrowth and the accumulation of organic matter slow.

3.2.3.2.1 Effects of the Proposed Action

Effects of elements common to all analyzed alternatives (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and
wildland fire use/prescribed fire in Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce the fine fuel load.

Additional coordination with other land management and fire management agencies would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would occur. Prescribed burns in the Impact Area would be scheduled in the winter/spring when fire management and control would be optimal.

There are two general types of effects on soils from fire activities: effects from fire itself and effects from preparation and suppression activities. Effects from fires result from loss of vegetation cover that leaves soils exposed and susceptible to erosion from wind, rain, or disturbance from people and equipment. Effects on soils would also occur from construction of fire breaks, pile burning, or from maintenance of roads used for access.

Soil effects from wildland fire and prescribed fire are dependent on the fire severity. Fire severity determines the above ground disturbance of the soil and the amount of heat energy transferred into the soil. A low severity fire can restore and maintain desirable ecosystem attributes while a high severity fire may have substantial negative effects. The degree in which the soil is altered is dependent on soil type, duration of the fire, weather factors, topography, type of fuel, and fuel loading.

In high severity fires the litter and duff are completely consumed as well as the organic matter several inches into the soils which can substantially alter the structure and texture of the soil. High severity fire may also cause: breakdown in soil structure, reduced moisture retention and capacity, water repellency, changes in nutrient availability, erosion losses, reduction or loss of organic matter, alterations or loss of microbial species, loss of invertebrates, and damage to plant roots. The formation of a water repellant layer following a fire will increase the erosion potential due to the limited infiltration as a result of the hydrophobic soil particles. Soil erosion could be substantial in the instance of a substantial storm event following a severe wildland fire. Alternatively, in dry conditions soil may detach and move downslope or become suspended during wind events depending on topography.

Fire suppression actions have the potential to increase soil erosion because vegetation and organic litter would be removed on firelines. Erosion would be greatest along stretches of fireline that run down rather than along the contour of the slope. Using roads for firebreaks reduces new effects to soils. Fire camp and staging areas would generally be located in previously disturbed areas.

Suppression activities on large fires sometimes use water or fire retardant drops from aircraft. Chemical retardants contain fertilizer-type compounds, including ammonia and nitrates, which can change the chemistry of soils that are typically low in these nutrients. The half-lives of these
chemicals in soils are short. Effects from chemical retardants and suppressants on soils would be negligible to positive.

Mechanical/manual thinning helps reduce fuel loads by mimicking the effects of natural wildland fire on the landscape. Mechanical thinning activities have the potential to degrade the soil through compaction, soil displacement, and erosion. Proper site preparation and planning of thinning projects will minimize soil disturbance. The type of soil, soil moisture, slope, and season of operation determines the degree of soil disturbance within the unit. Selecting the logging system that best fits the topography, soil type, and season will minimize soil disturbance. When existing vegetation is deemed inadequate to prevent accelerated erosion, re-seeding and constructing waterbars on skid trails will slow erosion.

Slash pile burning would result in small areas of sterile soils. Biological functions would return quickly in these small patches because adjacent areas would serve as sources of soil and seeds.

Implementation of these common elements will result in short-term, adverse effects on soil. However, included in the Proposed Action of the IWFMP is preparation of an Annual Fire Mitigation Work Plan. Camp Guernsey Range Operations staff, Camp Guernsey Department of Public Works, Camp Guernsey Fire Department staff, and the Construction & Facilities Management Office (CFMO) Environmental Management Division will meet quarterly to plan and then implement detailed site specific fire mitigation projects for the coming year (e.g., prescribed burn plans, mechanical fuel reductions, new fire breaks, wildland fire use areas, etc…). The projects detailed within this Annual Fire Mitigation Work Plan will then be subject to further NEPA Analysis (a REC for activities adequately assessed as part of this Programmatic EA or for those activities covered by a categorical exclusion; or an EA which tiers off of this Programmatic EA for activities not adequately assessed in the programmatic analysis). The timing of future project-specific environmental analyses will be conducted as close as possible to the point of making real and irrevocable commitments to a project. Section 2.2 presents a listing of various additional BMP manuals that detail specific management practices that could be applied to minimize impacts on a project specific basis. Thus, these adverse short-term effects are not anticipated to exceed the significance threshold resulting in a substantial increase in soil erosion, displacement, or compaction. The effects of these common elements on soils would be less than significant.

Effects of prescribed fire to manage fuel loads outside Impact Area – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the Annual Fire Mitigation Work Plan (see section 2.2). NEPA analysis and documentation for proposed projects in these annual work plans will be conducted annually.

The increased use of prescribed fire under the Proposed Action as well as increasing the number of firebreaks throughout the training areas could have an effect on the soils. However standard restorative practices following standard BMPs would continue to minimize and manage soil degradation and erosion. Grading and re-seeding of disturbed areas would be conducted on an as needed basis.

Prescribed fire would release nutrients into the soil and the fertilization effects of ash would provide an important source of nutrients for vegetation in the area. In addition to increasing
nitrification of the soils and increasing minerals and salt concentrations in the soil, the ash and charcoal residue resulting from incomplete combustion aids in soil buildup and soil enrichment by being added as organic matter to the soil profile.

Prescribed fire that is intense enough to remove the duff layer and remove organic matter in the surface layer has the potential to damage soil nutrients, physical and biotic soil characteristics. Prescribed fire conditions are generally low severity and are characterized by lower air temperature, higher relative humidity, and higher soils moistures with lower fuel loading and higher fuel moisture. Prescribed fire activities are therefore unlikely to cause damage to the soils. Soils in the prescribed burn area may have a vulnerability to wind erosion prior to the reestablishment of adequate vegetative cover. Sandy soils are more susceptible to formation of a water repellant layer as well as soils with a high rock fragment content that increases the rate of heat transfer into the soil. Implementation of a carefully planned and executed prescribed burn program can help return the natural fire cycle to the landscape and reduce fuel loads to prevent a high severity fire. By planning for specific conditions and establishing clearly defined desired results in the burn plan, negative effects to the soil can be minimized. For example, carrying out prescribed burn operations in the spring during cooler conditions when the soil is moist will protect the soil and water resources from possible damage.

If a prescribed fire exceeded a burn prescription and burned “hot”, resulting in areas of high-burn severity, the organic layer of the soil could be consumed and soil layers could become water repellent. Fire management personnel would contain and/or suppress out-of-prescription fires, minimizing the potential for, and effects of, any high-burn severity prescribed fires.

More frequent, smaller, cooler burns conducted during inactive seasons have much less chance of damaging the soil or creating large erosion and sedimentation issues. Soils would also be better protected from the adverse effects of high-intensity fires through the fuel management techniques proposed in this alternative. Prescribed fires would be conducted under predetermined conditions that would insure that the protective layer of duff and litter was not completely removed, exposing mineral soil to the effects of erosion. Low intensity surface fires under a timber overstory conducted under prescriptive parameters would not cause changes in the structure of mineral soil or kill soil microbes because the elevated temperatures are of brief duration and the burns would be conducted under controlled conditions. Under normal circumstances, sufficient moisture would be present during prescribed burns to prevent complete combustion of the duff and forest litter, providing a protective layer for the soil. The smaller, cooler, less-intense fires would cause little or no detectable change in the amount of organic matter in surface soils.

A long-term beneficial effect would be the acceleration of the natural decomposition and nutrient recycling process, which would increase nitrogen available to stimulate growth and restore surface herbaceous vegetation, perpetuating organic soil layers and increasing site productivity.

Implementation of prescribed fire to manage fuel loads outside Impact Area will result in short-term, adverse effects on soil. However, these effects are not anticipated to exceed the significance threshold of a substantial increase in soil erosion, displacement, or compaction. Thus, effects of prescribed fire on soils would be less than significant.
**Effects of wildland fire use** - Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan* could occur under the Proposed Action. NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. A confine and contain strategy would be implemented if the fire continued to meet management objectives. Wildland fire use fires would be continuously monitored and Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders. Wildland fire use would not occur if the training area was being heavily used by soldiers.

Effects of wildland fire use on soils would be similar to the effects described above, they would not result in substantial increase in soil erosion, displacement or compaction, and they therefore would be less than significant.

**Effects of prescribed fire to manage natural resources** - Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan*. Additional NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. Effects of prescribed fires on soils are described above.

Effects of prescribed fire to manage natural resources on soils would be similar to the effects described above. The increase in fire managed areas would increase the acreage of soil disturbance. The short-term adverse effects in these areas would be the same as the effects described above. The increase in area would not be sufficient to make these adverse effects significant and there would be no substantial increase in soil erosion, displacement or compaction. Therefore effects would be less than significant.

**Agency/Public Comments.** There were no comments received from the public in relation to soils. No comments were received from Platte County, the Town of Guernsey, or other adjacent communities. The NRCS provided a comment letter that stating that there are no Important Farmland soils on the Installation, but, there are a few small areas of hydric soils (see Appendix B, NRCS letter). As discussed above soil effects from fire, such as changes in soil moisture and soil organic matter composition, depend on fire severity. These effects would have no impact on whether a soil met the definition of a hydric soil\(^1\). However, the presence of hydric soils could result in increased effects such as compaction and rutting. Significant effects would be avoided through careful consideration of the location of hydric soils during the planning of prescribed burns and firebreaks.

**Findings.** The short-term effects on soils from implementation of the Proposed Action would be adverse. However, in the long-term, the effects of these actions on soils would be beneficial due to the perpetuation of natural ecosystem processes. The soils will remain productive and accelerated erosion will be minimal.

\(^1\) The NRCS defines a hydric soil as a soil “formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part”.

https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/hydric/?cid=nrcs142p2_053961
Implementation of the Proposed Action is not expected to exceed the significance threshold of a substantial increase in soil erosion, displacement, or compaction. Thus, effects of prescribed fire on soils would be less than significant.

3.2.3.2.2 Effects of the No Action Alternative
Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to soils would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires.

Continuation of current policy limits the ability to reduce the fuel hazard on Camp Guernsey with all wildfires being aggressively suppressed and limited vegetation treatments being prescribed. Coordination between Camp Guernsey and other public agencies that own land within the Installation would not occur via a written plan. The lack of planned fire management across ownerships would result in more frequent and larger fires. This could increase the likelihood of large-scale wildfires that burn large areas at high-severity, thereby increasing the potential for accelerated soil erosion. A common detrimental effect of wildfires is erosion of the top soil layers. If high amounts of rainfall occur soon after a fire, soil erosion could be substantial. Removal of vegetation and blackening of the soil produced by burning would also increase soil temperatures by eliminating the shading and insulation provided by vegetation.

Large high-intensity long duration wildland fires would continue to occur under the No Action Alternative. These types of fire have much greater potential to damage the soil by killing microbiota in the soil. Intense late summer rains following these fires also have potential to create erosion and sedimentation as the duff layer on the soil would be completely consumed. The long-term adverse effects as the result of excluding smaller less-intense fires would include a decline in soil productivity as some nutrients become organically bound primarily in woody species biomass. As a stand matures, as it would under a limited fire regime, an increasing portion of the nutrients on the site become locked up in the vegetation and would be unavailable for further use until the plants die and decompose.

When heavy concentrations of fuel burn during periods of high temperature and low fuel moistures, the heat per unit area may be elevated long enough to ignite organic matter in the soils and render the soils fallow for several years. If the forest floor is completely consumed, which is more likely under this alternative, the microenvironment of the upper soil layer would be drastically changed, resulting in increased tree mortality.

The cumulative, long-term effect on soils and erosion would be more severe if larger fires continue to occur due to higher fuel loads and more contiguous fuels. These types of wildfires will occur more frequently under the No Action Alternative. Past experience with these types of fires at Camp Guernsey have not resulted in a significant impact (substantial increase in soil erosion, displacement, or compaction). Therefore, the effects of continued implementation of past wildland fire policies are not anticipated to exceed this significance in the future. Thus, adverse effects of the No Action Alternative on soils are projected to be less than significant.
3.2.3.2.3 Effects of Alternative B
Effects on soils under Alternative B would be the same for the common elements (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]) as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Implementation of Alternative B is not expected to exceed the significance threshold of a substantial increase in soil erosion, displacement, or compaction. Thus, effects of prescribed fire on soils would be less than significant.

3.2.4 Biological Resources - Vegetation

3.2.4.1 Affected Environment
As described in Section 3.2 EcoRegions, the North Training Area is located in the Pine Bluffs and Hills Level 4 Ecoregion and the South Training Area is located in the Moderate Relief Plains Level 4 Ecoregion (see http://www.epa.gov/wed/pages/ecoregions/wy_eco.htm). The Pine Bluffs and Hills ecoregion of the North Training Area is composed of light colored sedimentary rocks of the Hartville Formation which are eroded into escarpments, bluffs, and badlands. Ponderosa pine and juniper woodland covers most of the steep sided hills and ridge tops. Mixed grass prairie dominates the valleys and table lands. Limestone ridges in the southern part of the North Training Area are vegetated with a mountain mahogany shrubland. The South Training Area is composed of irregular plains formed by fluvial deposits and eroded gravels from the Arikaree Formation which compose the Moderate Relief Plains ecoregion. Prairie grassland vegetation in this region includes needle-and-thread, prairie junegrass, winterfat, and scattered yucca. Patches of mountain mahogany and skunkbush sumac grow on limestone bluffs and hilltops with some of the steeper sided hills being covered with ponderosa pine and juniper.

3.2.4.1.1 Ecological Systems
The WYARNG has conducted numerous surveys at Camp Guernsey documenting plant species, vegetation communities, weeds, forest inventories, wildlife habitats, and range condition. A detailed inventory and description of the vegetation species and plant communities is provided in the Camp Guernsey INRMP (WYARNG 2014). The WYARNG has mapped fifteen ecological systems on Camp Guernsey (see Table 3.1 and Figures 3.15 and 3.16). None of these systems are unique, rare, or imperiled.

Table 3-1. Ecological Systems.

<table>
<thead>
<tr>
<th>Ecological System Name</th>
<th>No.</th>
<th>Acres</th>
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</thead>
<tbody>
<tr>
<td>Northwestern Great Plains Mixedgrass Prairie</td>
<td>CES303.674</td>
<td>28,215</td>
</tr>
<tr>
<td>Northwestern Great Plains - Black Hills Ponderosa Pine Woodland and Savanna</td>
<td>CES303.650</td>
<td>13,040</td>
</tr>
</tbody>
</table>
The four dominant matrix and/or large patch forming plant communities, and those most likely to be affected by wildland fires and prescribed fire, on Camp Guernsey are:

- Mixedgrass Prairie,
- Big Sagebrush Steppe,
- Ponderosa Pine Woodland, and
- Foothills Shrubland.
Figure 3-15. North Training Area Vegetation.
Figure 3-16. South Training Area Vegetation.
The Terrestrial Ecological Systems Classification system (see NatureServe Explorer http://www.natureserve.org/explorer/) identifies a Northwestern Great Plains Mixedgrass Prairie system (CE303.674). This matrix forming ecological system contains elements of both the Great Plains tallgrass and shortgrass systems (e.g., mixedgrass). However, it differs from these systems in that the cooler climate in this region allows native cool-season grasses to be more important (greater than 50% cover). The growing season and rainfall are intermediate to the drier shrubland regions to the west, the mesic tallgrass regions to the east, and the shortgrass regions to the south. The Mixedgrass Prairie community is dominated by medium and short graminoids. The soils on these sites, clay loam, silt loam, or loam are usually deep and fertile.

The mid-grass stratum is co-dominated by the cool-season bunchgrass *Hesperostipa comata* (needle and thread) and the rhizomatous *Pascopyrum smithii* (western wheatgrass). *Hesperostipa comata* is more common on the upper slopes with sandier soils and *Pascopyrum smithii* is more common on the lower slopes with finer-textured soils. Another native mid-grass graminoid that is consistently present is *Koeleria macrantha* (prairie junegrass). *Nassella viridula* (green needlegrass) can be locally common on more mesic sites that are protected from livestock grazing (as it is a highly preferred forage).

Short stature graminoids (grasses and sedges) often compose equal or greater cover than that of mid-height grasses. The most common short grass is the warm-season *Bouteloua gracilis* (blue grama); with *Carex filifolia* (threadleaf sedge) and *Poa secunda* (Sandberg bluegrass) often being secondary species, but they also can vary from moderate cover to locally absent. Under degraded range conditions, the cover of annual bromes, *Vulpia octoflora, Koeleria macrantha,* and *Poa secunda* increase, and the cover of *Pascopyrum smithii* and *Hesperostipa comata* decreases.

The introduced annual brome grasses *Bromus tectorum* (cheatgrass) and *Bromus arvensis* (field [Japanese] brome) (collectively referred to as cheatgrasses) are present in many areas and they commonly contribute substantial cover. Note, that in the sandy-textured soils found at Camp Guernsey, *Bromus tectorum* is the more commonly encountered annual brome rather than
Bromus arvensis. Other non-native grasses frequently invading this community from adjacent agricultural lands and/or reclaimed disturbances include Bromus inermis (smooth brome), Kentucky bluegrass (Poa pratensis), and the crested wheatgrasses: Agropyron cristatum (fairway crested wheatgrass), Agropyron desertorum (standard crested wheatgrass), and Agropyron fragile (Siberian wheatgrass). Common native invaders encountered near recently reclaimed disturbance include Elymus lanceolatus ssp. Lanceolatus (thickspike wheatgrass) and Elymus trachycaulus (slender wheatgrass).

Forbs do not contribute much of the vegetative cover, they are scattered throughout this community, and they are typically of low constancy. However, a very wide diversity of forbs are encountered, with various species being expressed over the growing season. Some of the more common native perennial forb species include scarlet globemallow (Sphaeralcea coccinea), common yarrow (Achillea millefolium), slimflower scurfpea (Psoralea tenuiflora), Hood’s phlox (Phlox hoodii), American vetch (Vicia americana), meadow deathcamas (Zygodenus venenosum), silvery lupine (Lupinus argentus), rush skeletonweed (Lygodesmia juncea), lacy tansyaster (Machaeranthera pinnatifida), hairy false goldenaster (Heterotheca villosa), white locoweed (Oxytropis sericea), and various milk vetches (Astragalus spp.). Annual and biennial forbs, though providing little in the way of cover, are often common. The environmental conditions of a given year sometimes allow vigorous establishment of annual/biennial species. Among the natives included are wooly plantain (Plantago patagonia), mountain tansymustard (Descurainia incana), western tansymustard (Descurainia pinnata), stickseed (Lappula redowskii), and denseflower pepperweed (Lepidium densiflorum). Non-native annual/biennial forbs present commonly include sweetclovers (Melilotus albus, M. officinalis), desert alyssum (Alyssum desertorum), pale madwort (Alyssum alyssoides), and fluffweed (Filago arvense).

The succulent Opuntia polyacantha (plains pricklypear) is commonly encountered. Xanthoparmelia chlorochroa (tumbleweed shield lichen) is also common in this community (especially on sandier sites), but its development is uneven and it tends to be sparse in areas that had been heavily grazed by livestock.

Shrubs and subshrubs are present in minor amounts with Wyoming big sagebrush (Artemisia tridentata ssp. wyomingensis) and prairie sagewort (Artemisia frigida) being the two most commonly encountered species. Silver sagebrush (Artemisia cana) and white sagebrush (Artemisia ludoviciana) are often encountered on the more mesic sites. Those areas with greater than 10% cover of shrub species would be considered part of the Inter-Mountain Basins Big Sagebrush Steppe system (CES304.778). Fire and grazing constitute the primary dynamics affecting this system. The fire frequency in this community is likely reduced from historic levels due to fire suppression and the removal of fine fuels by intense livestock grazing.

The Terrestrial Ecological Systems Classification system (see NatureServe Explorer [http://www.natureserve.org/explorer/]) identifies an Intermountain Basins Big Sagebrush Steppe system (CES304.778). This widespread matrix forming ecological system occurs throughout much of the Columbia Plateau, the northern Great Basin, the northwestern Great Plains, and the Wyoming Basins. Soils are typically deep and non-saline often with a microphytic
crust. This shrub-steppe system is dominated by perennial grasses and forbs with big sagebrush (*Artemisia tridentata*) dominating or codominating the open to moderately dense (10-25% cover) shrub layer. The herbaceous layer generally has >20% cover of perennial graminoids which form the matrix surrounding the shrubs. The natural fire regime of this ecological system maintains a patchy distribution of shrubs so the general aspect of the vegetation is a grassland prairie.

In the National Vegetation Classification Standard the designation “Shrub Herbaceous” is synonymous “Shrub-Steppe” and is used to denote vegetation types wherein the shrub component has less than 25% cover with perennial grasses totaling greater than 20% cover, which is clearly the case with this relatively xeric big sagebrush community in the Guernsey area, as opposed to a “Shrubland” community where the shrub cover exceeds 25% and grass cover is less than 20%. The cover of *Artemisia tridentata* ssp. *wyomingensis* is also variable within stands of Shrub Steppe; clustered around the cut-off point used in differentiating Shrub Steppe (>10% shrub cover) from Mixedgrass Prairie (<10% shrub cover), creating a cover value that is not readily differentiated in remote sensing.

As one of the most common upland ecological systems in the Northern Great Plains, this community is capable of dominating from just above the riparian zone to the top, or sometimes only the shoulder, of ridges and hills. It is associated with moderately deep medium-to fine-textured soils (loams, silt loams, silty clays, clay loams and clays) derived from sedimentary formations. Soil moisture conditions are relatively mesic. The vegetation contains an open short-shrub layer, approximately 1.5 ft tall, dominated by *Artemisia tridentata* ssp. *wyomingensis* (Wyoming big sagebrush), and a dense herbaceous layer co-dominated by medium-tall graminoids and short graminoids. Other shrubs may be present, including *Artemisia cana* (silver sagebrush) and *Ericameria nauseosa* (rubber rabbitbrush). As with the Mixedgrass Prairie, the relative composition of the common grasses in the Big Sagebrush Steppe community is primarily dependent upon past grazing intensity and the cover of sagebrush is primarily dependent upon the elapsed time since the last range fire.

Several state and transition models describe plant succession in Big Sagebrush Steppe plant communities (Cagney, et.al. 2010). In these models, both the grassland community (the product of disturbance [fire]) and the sagebrush steppe community are identified as a single “state”
because the change from the grassland plant community to the sagebrush steppe community does not entail crossing an “ecological threshold.” Sagebrush will advance on the grassland plant community with time alone. Grazing management can affect the speed of the progression because pressure on the herbaceous community can create more sagebrush germination sites. However, independent of grazing management, sagebrush canopy cover will eventually advance to a level commensurate with climatic conditions (somewhere less than 25% in the Guernsey area). This canopy cover develops independent of the health of the herbaceous plant community and once the sagebrush canopy reaches its potential (the site becomes fully occupied), the herbaceous community niches become limited. Consequently, because the two communities (Mixedgrass Prairie and Big Sagebrush Steppe) are transitional and they do not persist in the absence of disturbance, they are not identified as independent “states.”

In summary, the Big Sagebrush Steppe community found throughout the Northern Great Plains is simply a Mixedgrass Prairie community with an overstory of sagebrush.

**Wyoming big sagebrush** is a long-lived species. In an undisturbed Wyoming big sagebrush community in southern Wyoming, plants ranged from 26 to 57 years of age; average age was 42 years. Maximum life span may exceed 150 years. Identification of big sagebrush subspecies based upon morphology is difficult and often faulty. This is especially true for Wyoming big sagebrush, which is intermediate in several characteristics used to distinguish basin and mountain big sagebrush. Wyoming big sagebrush reproduces from seed; it does not sprout or layer. Pollination is mostly by outcrossing, but plants can also self-pollinate. Shrubs produce large quantities of small seeds beginning at 3 to 4 years of age. A moderate-sized plant can produce about 350,000 seeds in a season, and a large one produces over a million. Big sagebrush seed is disseminated mostly by wind, with some seed spread by animals and water. The seed floats, so seedlings may establish along watercourses. Most seed shatters within a week of maturation and travels less than 100 feet from the parent plant. Some viable seed is retained on the parent and disseminates slowly over the winter. Establishment occurs mostly from the seedbank. Wyoming big sagebrush seed stored in the warehouse has retained viability for at least 6 years; viability in the field is unknown. On burns, Wyoming big sagebrush that escape fire are an important seed source. If the seedbank is destroyed over a large area by repeated fires or other means, Wyoming big sagebrush eventually seeds in from adjacent areas, but such a strategy may take several decades.

The **Northwestern Great Plains-Black Hills Ponderosa Pine Woodland and Savanna** ecological system (CES303.650) dominates the rocky shallow-soil hills and most north-facing slopes and ravines at Camp Guernsey. This system is found within the matrix of the Mixedgrass Prairie system. Physiognomically, this is a variable system, with everything from very sparse patches of trees (savannas) on drier sites, to nearly closed-canopy woodlands on north slopes or in draws where soil moisture is higher. This system occurs throughout the Great Plains along areas that border the Rocky Mountains and into the central Great Plains. The expansion of this system into the central Great Plains may be due to fire suppression. This system occurs primarily on gentle to steep slopes along escarpments, buttes, canyons, rock outcrops or ravines and can grade into one of the Great Plains canyon systems or the surrounding prairie system. Soils typically range from well-drained loamy sands to sandy loams formed in colluvium, weathered sandstone, limestone, scoria or eolian sand. Ponderosa pine (*Pinus ponderosa*) typically responds
best on well-drained soils and on some sites ponderosa pine appears to require well-aerated, rapidly drained soils.

*Black Hills Ponderosa Pine Woodland on north-facing slope in background, Mixedgrass Prairie in valley bottom, and Ponderosa Pine Woodland in foreground at Camp Guernsey. Note: dense stand on north-facing hillside in background and old fire paths that have not regenerated.*

*Black Hills Ponderosa Pine Woodland at Camp Guernsey*

This ecological system typically has scattered mature trees with a fairly continuous graminoid understory. *Pinus ponderosa* (Ponderosa pine) is the most abundant tree species. At Camp Guernsey, a sparse to relatively dense understory of *Juniperus scopulorum* (Rocky Mountain juniper) and/or *Cercocarpus montanus* (true mountain mahogany) is common.
Grasses under the pines are essentially the same as those on the adjacent Mixedgrass Prairie. The most abundant graminoids in the understory are little bluestem (*Schizachyrium scoparium*), needle-and-thread grass (*Hesperostipa comata*), threadleaf sedge (*Carex filifolia*), blue grama (*Bouteloua gracilis*), and side oats grama (*B. curtipendula*). Prairie sandreed (*Calamovilfa longifolia*) and prairie Junegrass (*Koeleria macrantha*) may be found on sandy soils. Forbs that may be present include scarlet gaura (*Gaura coccinea*), lemon scurfpea (*Psoralidium lanceolatum*), and plains milkweed (*Asclepias pumila*). In addition to the herbaceous species, shrubs such as Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*), Western snowberry (*Symphoricarpos occidentalis*), skunkbrush (*Rhus trilobata*), and mountain mahogany (*Cercocarpus montanus*) are sometimes found in this community.

Invasive plants in this system include smooth brome (*Bromus inermis*), cheatgrasses (*B. arvensis, B. tectorum*), hound's-tongue (*Cynoglossum officinale*), dame's-rocket (*Hesperis matronalis*), Dalmatian toadflax (*Linaria dalmatica*), horehound (*Marrubium vulgare*), and Kentucky bluegrass (*Poa pratensis*). Smooth brome and cheatgrasses can rapidly spread into sites affected by severe fire.

Surface fires can be frequent on drier sites and aspects in these pine woodlands. Bark beetles have been devastating pine trees across the Rocky Mountain’s for the past several years. Grazing by domestic livestock may reduce associated grasses; in cases of extreme overgrazing, cheatgrass (*Bromus tectorum*) may become established. Timber cutting and other disturbances have degraded many examples of this system within the Great Plains. Historic records suggest the current range of ponderosa pine in this area is practically the same as it was in the late 19th Century, except that stands have become denser and have spread to a limited extent away from the bluffs and canyons into adjacent uplands and bottoms due to fire suppression.

Though this system is easily identified, the various plant associations vary significantly on the basis of slope and aspect, and pine canopy density.

The entire Camp Guernsey area was extensively logged in the late 1800’s and early 1900’s by the mining camps in the Hartville/Sunrise area and the associated railroad. This logging, along with fire suppression has had various effects on the pine woodlands in the Guernsey area. The extensive logging likely removed almost all of the saw timber sized trees into the mid-1900’s. This effect was then followed by active fire suppression as pines in the logged woodlands grew and spread. Many of the woodlands are now comprised of dense stands of even-aged trees approximately 50 years of age. These dense, even-aged pine stands are now highly susceptible to catastrophic high-intensity canopy fires.

The scientific name of interior ponderosa pine is *Pinus ponderosa* var. *scopulorum*. It is one of three widely recognized varieties of ponderosa pine; the other two are Pacific ponderosa pine (*P. p. var. ponderosa*) and Arizona pine (*P. p. var. arizonica*). There are also two races of interior ponderosa pine: the northern and southwestern types. The **Northern interior ponderosa pine** found in the Guernsey area has a majority of 2-needle fascicles. The southwestern race has a majority of 3-needle fascicles and a relatively open crown.
Ponderosa pine is long lived, large tree that may attain ages of 700 or more years. The oldest interior ponderosa pine on record was a 1,047-year-old tree from Colorado. Interior ponderosa pine first produces cones at 10 to 20 years of age. Ponderosa pine reproduces through seeds produced in cones, which require 2 years to mature. Seed production is cyclic: trees in the Black Hills produce good seed crops every 2 to 5 years. Natural regeneration is sporadic. The optimal conditions for pine recruitment include “an excellent seed crop falling on heavily grazed soil during an abnormally wet summer”. When this “perfect storm” of conditions occur numerous young ponderosa pine seedlings germinate. Seeds are mostly wind dispersed and do not usually carry more than 120 feet from the parent tree. Seeds cached by rodents may result in some
seedling establishment, but rodents are not important dispersal agents of interior ponderosa pine seed. Clark's nutcrackers play a minor but important role in seed dispersal because seeds they cache are more likely to establish than rodent-cached seeds. Seeds require mineral soil and do not germinate until the soil is continuously warm and moist. Ponderosa pine is not a seed banking species, although a minor amount of seed may germinate in its 2nd spring or summer.

The optimal conditions for pine recruitment include “an excellent seed crop falling on heavily grazed soil during an abnormally wet summer”. When this “perfect storm” of conditions occur numerous young ponderosa pine seedlings germinate.

Seedlings are relatively shade intolerant and require canopy-opening disturbances such as fire, logging, or tree death to establish. Seedlings quickly develop a fast growing taproot which enables them to obtain moisture from many levels. Seedlings also possess the ability to withstand prolonged drought. Certain gazing regimes favor seedling establishment. It has been reported that heavy cattle grazing that reduced grass interference, followed by light cattle grazing that allowed tree seedlings to survive, favored ponderosa pine over herbaceous and shrub species. On open sites with favorable moisture conditions, interior ponderosa pine seedlings often establish in large numbers. The young trees are capable of growing exceptionally fast if conditions are good. Dense seedlings often develop into "dog-hair" sapling thickets if stands are not thinned by fire or other means. In the Blackhills of South Dakota, an even-aged, 63-year-old stand that had never experienced fire contained 6,600 trees per acre, with average diameter at breast height (d.b.h.) of 2.4 inches. Because of the intense competition for nutrients, moisture and sunlight, very few trees can then fully mature. As a result even-aged stands of small pines develop. This development of a closed canopy forest together with declines in understory production and litter accumulation creates a stagnant situation for all the trees and even the grasses and forbs. This new state can persist for a very long time until surface fire (or other disturbance [insects, man-made tree thinning]) intervenes.
The **Rocky Mountain Lower Montane-Foothill Shrubland** (CES306.822) occupies 2,525 acres at Camp Guernsey. This large patch ecological system is found in the foothills, canyon slopes and lower mountains of the Rocky Mountains and ranges from southern New Mexico extending north into Wyoming, and west into the Intermountain region. These shrublands occur between 5,000-9,000 feet in elevation and are usually associated with exposed sites, rocky substrates, and dry conditions, which limit tree growth. At Camp Guernsey this community is generally found on ridge crests and steep (20-60%) upper and middle slopes of various aspects and escarpments. On north and east facing slopes occurrences more frequently extend to lower slopes. Soils are poorly developed, with the majority of occurrences being on shallow loamy sands derived from calcareous Tertiary sandstones. To a lesser degree, this community occurs on shallow silt loams associated with siltstone. Rock outcrops with little to no soil development are common within this community.

True mountain-mahogany (*Cercocarpus montanus*) strongly dominates this system in parts of Wyoming and Colorado. Scattered trees or inclusions of grassland patches or steppe may be present, but the vegetation is typically dominated by a variety of shrubs. This system is characterized by a canopy of true mountain-mahogany (*Cercocarpus montanus*) up to 6 ft tall. Density of the canopy is variable depending on aspect. South and west-facing slopes are typically fairly sparsely vegetated with mountain mahogany canopy coverage in the 20-30% range. North and east-facing slopes often support dense (30-70%) nearly impenetrable stands. Other shrubs including antelope bitterbrush (*Purshia tridentata*), skunkbrush sumac (*Rhus aromatica* var. *trilobata*) golden currant (*Ribes cereum*), western snowberry (*Symphoricarpos oreophilus*), and chokecherry (*Prunus virginiana*) are sometimes associated on the most mesic north-facing slopes. Big sagebrush (*Artemesia spp.*), broom snakeweed (*Gutierrezia sarothrae*), yucca (*Yucca glauca*), and prickly pear (*Opuntia spp.*) are often common components on xeric south and west-facing exposures. Rocky Mountain juniper (*Juniperus scopulorum*) and ponderosa pine (*Pinus ponderosa*) are common invaders at Camp Guernsey where wildfires have been suppressed.
Herbaceous vegetation is typically fairly sparse to moderate with the common Mixedgrass Prairie species: needle-and-thread (*Hesperostipa comata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), threadleaf sedge (*Carex filifolia*), blue grama (*Bouteloua gracilis*), Little Bluestem (*Schizachyrium scoparium*), Sandberg's bluegrass (*Poa secunda*), prairie Junegrass (*Koeleria cristata*), purple three awn (*Aristida purpurea*) and fringed sage (*Artemesia frigida*). Cheatgrass (*Bromus tectorum*) is abundant on heavily grazed and/or eroded sites and is sometimes the dominant species present under dense shrub canopies with an otherwise sparse herbaceous layer on north facing slopes. On less disturbed sites cheatgrass much less common.

At Camp Guernsey, this system is often present under a very open *Pinus ponderosa* or *Juniperus scopularum* canopy with exposed bedrock outcrops or bare ground common.

**NOTE:** *Juniperus scopulorum* is closely related to *Juniperus virginiana* (red cedar or Eastern juniper) and they often hybridize where their ranges overlap on the Great Plains.

The scientific name of true mountain-mahogany is *Cercocarpus montanus*. The variety which occurs on Camp Guernsey, *Cercocarpus montanus var. montanus*, has the common name **alder-leaf mountain-mahogany**. True mountain-mahogany hybridizes with curlleaf mountain-mahogany (*C. ledifolius*) where populations overlap.

True mountain-mahogany occurs on dry slopes, hills, ridges, mesas, desert foothills, and rocky outcrops. True mountain-mahogany occupies sites with well-drained, coarse, poorly developed, very shallow to moderately deep soils with almost neutral pH, and often where limestone is the primary parent material.

True mountain-mahogany is a shrub 3 to 10 feet tall and is considered long-lived. Stem diameter has been used to successfully age shrubs in Wyoming and Utah. Deciduous, persistent, "mostly deciduous," and "occasionally evergreen" are all used to describe true mountain-mahogany. The true mountain-mahogany root system is extensive. Typically there are substantial tap and lateral roots. True mountain-mahogany reproduces by sexual and asexual means. Establishment from seed requires favorable conditions and is periodic. A soft, thin seed coat and lack of seed
dormancy suggest that true mountain-mahogany seed does not persist in the seed bank. Seeds are dispersed by wind and small mammals. Wind-dispersed seed can travel up to 450 feet from the parent plant. True mountain-mahogany regenerates through asexual means following aboveground stem removal from browsing and/or fire; however, asexual sprouting also occurs in the absence of aboveground damage. Vegetative sprouts are produced from both the root crown and from rhizomes.

![Mountain mahogany shrubland with invading juniper at Camp Guernsey.](image)

### 3.2.4.1.2 Regulatory Jurisdiction

The BLM has management jurisdiction over plants and plant communities on BLM lands within the Camp Guernsey Installation boundary. The USFWS has jurisdiction over federally threatened and endangered plant species within the Installation (see section 3.5.6). The state of Wyoming has no state regulation that protects rare or sensitive plant species or plant communities, with the exception of noxious weeds, which are discussed in a subsequent subsection. In addition, the Platte County Weed and Pest District has jurisdiction of County-designated noxious weeds.

### 3.2.4.1.3 Special Status Species and Plant Communities

The Wyoming Natural Diversity Database operates as a service and research unit of the University of Wyoming and they maintain the most complete source of data for plant species and Vegetation Communities of Conservation Concern (see [http://www.uwyo.edu/wyndd/](http://www.uwyo.edu/wyndd/)) in Wyoming. The Wyoming Natural Diversity Database data shows that there is potential habitat for sixteen plant species of state rarity within Camp Guernsey. Seven species, out of the sixteen plant species of state rarity have been documented on Camp Guernsey:

- golden prairie clover (*Dalea aurea*),
- Nebraska wild buckwheat (*Eriogonum pauciflorum* var. *nebraskense*),
- six-angle spurge (*Euphorbia hexagona*),
- rabbit tobacco (*Filago prolifera*),
- few-seeded stickleaf (*Mentzelia oligosperma*),
- Emory’s sedge (*Carex emoryi*),
• New Mexico needlegrass (*Hesperostipa neomexicana*).

The BLM maintains a list of Sensitive Plant Species applicable to BLM-administered lands. The BLM Plant Conservation Program is responsible for determining distribution and management of BLM Sensitive Plant Species (see [http://www.blm.gov/wy/st/en/programs/pcp.html](http://www.blm.gov/wy/st/en/programs/pcp.html)) and habitats on BLM lands. Actions are taken by the BLM to prevent species from being federally listed and to prevent their extinction.

### 3.2.4.1.4 Noxious and Invasive Weeds

In Wyoming, noxious weeds are managed under the Wyoming Weed and Pest Control Act of 1973. Wyoming has a list of Designated Noxious Weeds (W.S. 11-5-102 (a)(xi)) and Prohibited Noxious Weeds W.S. (W.S. 11-12-104). There are currently twenty five species on this State-Listed Noxious Weed list (see [http://www.wyoweed.org/weeds/state-designated-weeds](http://www.wyoweed.org/weeds/state-designated-weeds)):

- Leafy spurge (*Euphorbia esula*)
- Spotted Knapweed (*Centaurea maculosa*)
- Diffuse Knapweed (*Centaurea diffusa*)
- Russian knapweed (*Acroptilon repens*)
- Musk thistle (*Carduus nutans*)
- Scotch thistle (*Onopordum acanthium*)
- Plumeless thistle (*Carduus acanthoides*)
- Canada thistle (*Cirsium arvense*)
- Field bindweed (*Convolvulus arvensis*)
- Dyers woad (*Isatis tinctoria*)
- Hoary cress, whitetop (*Cardaria draba*)
- Hoary cress, whitetop (*Cardaria pubescens*)
- Perennial pepperweed (*Lipidium latifolium*)
- Dalmation toadflax (*Linaria dalmatica*)
- Yellow toadflax (*Linaria vulgaris*)
- Skeletonleaf bursage (*Ambrosia tomentosa*)
- Houndstongue (*Cynoglossum officinale*)
- Common burdock (*Arctium minus*)
- Quackgrass (*Agropyron repens*)
- Perennial sowthistle (*Sonchus arvensis*)
- Oxeye daisy (*Chrysanthemum leucanthemum*)
- Purple loosestrife (*Lythrum salicaria*)
- Common tansy (*Tanacetum vulgare*)
- Salt cedar (*Tamarix ramosissima*)
- Russian olive (*Elaeagnus angustifolia*)

The act also provides for Weed and Pest Control Districts associated with each county, covering all lands within a county including federal lands. Weed and Pest Control Districts provide cost-sharing assistance to landowners to eradicate or slow the spread of invasive species. Weed and Pest Control Districts are funded by mill levies on property. The Wyoming Office of State Lands and Investments pays for weed control on state lands. Districts also have crews who treat weed outbreaks along county, state, and federal roads.
Noxious weeds and pests are designated at the state level, but each County Weed District can declare additional species applicable only within the District. The Platte County Weed and Pest District has designated four additional plant species as Noxious Weeds in Platte County:

- Chicory (*Cichonum intybus*)
- Cheatgrass (*Bromus tectorum*)
- Puncturevine (*Tribulus terrestris*)
- Jointed goatgrass (*Aegilops cylindrical*)

The District board has the right to conduct investigations on lands when it has probable cause to believe that noxious weeds or pest infestations exist that are liable to spread to adjacent areas and could contribute to the injury or detriment of others. If the suspected area is deemed to be infested, the board can issue a resolution to the landowner containing specific remedial action for the control of the noxious weed or pest. The board may then put a lien on the property of any landowner who fails or refuses to perform these requirements.

Several noxious weed infestations have been identified on Camp Guernsey. **Plumeless thistle** is the most common and problematic State-Designated Noxious Weed on the Installation. The old Smith Ranch homestead is overrun with this noxious weed prior to WYARNG ownership and control strategies have only recently been implemented. In addition, many of the riparian areas on Camp Guernsey are infested by this noxious weed.

![State designated noxious weed - Plumeless thistle](image)

The County-Designated Noxious Weed of greatest concern is **cheatgrass** (*Bromus tectorum*) along with its counterpart field (Japanese) brome (*Bromus arvensis*). These two exotic winter annuals are present in nearly all habitats and all regions of the northern Great Plains as invaders ranging from small (recently arrived) constituents of otherwise intact communities to total dominance of the herbaceous layer. Field (Japanese) brome occurs on most soil types, but does best on mesic, fine textured soils with good litter cover, whereas cheatgrass occurs on deep, loamy, or coarse soils, which dominate at Camp Guernsey. In all of the plant communities on Camp Guernsey, cheatgrasses are common. cheatgrasses responds favorably when the timing and quantity of precipitation is adequate and less favorably when precipitation is not adequate. Both species are highly competitive, invasive, exotic, winter annual grasses that readily colonize disturbed areas, germinating in fall, followed by vigorous early spring growth. The best defense is a good cover of native perennial grasses.
Once established, cheatgrasses are difficult to eliminate. In many areas annual bromes are so common that control may be impractical or not economically feasible with current control technologies. Many of these areas may have crossed a threshold to represent a vegetation disclimax. Where active control is practical, live plants must be eliminated, seed set must be prevented, and new seedlings must be quickly controlled. Where such high input manipulation is not practical, the combined variables of time, proper grazing management, protection from fire, and lack of other disturbance may allow perennial native vegetation to regain dominance, to the detriment of the cheatgrasses.

The Camp Guernsey INRMP identifies noxious weed control strategies that will be implemented in the coming years (WYARNG 2015a). The Camp Guernsey ITAM plan also outlines strategies for controlling noxious weeds associated with military training exercises (WYARNG 2013).

### 3.2.4.2 Environmental Consequences

**Impact Significance Threshold.** If an alternative would result in changes in the abundance or distribution of a local or regional plant population to the extent that the population would be unlikely to recover or return to a sustainable level, it could have a significant adverse effect. If an action would result in the uncontrolled or uncontrollable introduction or expansion of noxious weeds, it could have a significant adverse effect. If an action resulted in the direct or indirect loss of viability of any population of special status species, it could have a significant adverse effect.

**3.2.4.2.1 Effects of the Proposed Action**

Fire is an integral part of the prairie ecosystem on the Great Plains. Prairie species exhibit a number of characteristics making them suited to a fire-prone landscape, where low humidity, drying winds, and low soil moisture are common. Fire effects on prairie ecosystems are a function of fire frequency, intensity, and timing, as well as the interaction of these factors with grazing. Fire can influence prairie vegetation in a number of ways including changes in productivity, composition, and structure. Fire also releases important nutrients into the soil for root uptake and releases nutrients bound in litter. The fire cycle contributes to landscape diversity and grass productivity.
Fire effects on vegetation are addressed on a species/community basis:

**Ponderosa Pine Fire Ecology:** The ecological changes that have occurred in ponderosa pine forests over the last century have been well documented by a number of researchers. Frequent, mostly light-severity surface fires thinned small trees, especially the less fire-resistant Rocky Mountain juniper. The combined effects of 60 to 80 years of fire exclusion, logging that removed many overstory pines, and heavy livestock grazing have created closed-canopy stands with dense understories and ladder fuels. When wildfire burns these dense interior ponderosa pine stands under dry conditions, the abundant fuel quickly allows it to develop a high intensity fire and to spread into tree crowns.

2 years after Sawmill Canyon Fire. Note, the few remaining trees available to re-seed this historic woodland.

Severe, stand-replacing fires were infrequent in interior ponderosa pine forests in the past; now they are common. Abundant litter and living and dead woody fuels feed explosive wildfires of intensities and sizes that have not occurred for many centuries, if ever. The increasingly frequent occurrence of large, crowning wildfires in interior ponderosa pine may indicate a shift to a fire regime characterized by very large (>100,000-acre) crown fires. Natural regeneration after these large severe fires is not easy or quick.

Prior to Euro-American settlement, ponderosa pine communities are generally considered to have been maintained by ground fires in an open canopy state with abundant herbaceous vegetation in the understory. These natural wildfires thinned the woodlands and prevented expansion of pine trees into adjacent prairies. After fires burned through, only a small number of trees would survive, allowing for trees of different age classes to regenerate. In addition, fires varied in their effects and in their spatial distribution, creating a mosaic of different stand ages and forest structures. This mosaic of stand ages and structures creates healthier woodlands than those dominated by even-aged stands. In healthy woodlands, insects, such as the mountain pine beetle, have less chance to destroy trees. Pine beetle attacks trees that are about 9 inches in diameter and close together. In a mature, fire controlled woodland, this situation rarely developed. Many of
today’s pine woodlands have become overstocked as a result of fire suppression. These overstocked stands are now more prone to stand-replacing crown fires and insect infestations (Fischer and Clayton 1983). A large body of evidence has documented substantial changes in the overstory of ponderosa pine woodlands in the Black Hills region which extends south to Camp Guernsey. It has been well documented that ponderosa pines have increased in density and expanded into prairies across much of the Black Hills region over the last century (Brown and Sieg 1999; Brown 1994; Progulske 1974; Brown and Sieg 1996).

Interior ponderosa pine evolved under a regime of frequent surface fires and infrequent mixed-severity and stand-replacement fires. Pre-settlement fires in lower-elevation (<7920 feet) ponderosa pine communities were mostly low- to moderate-severity surface fires that maintained open-grown, park like stands. Prior to the 1900’s interior ponderosa pine was perpetuated by surface fires that recurred every 5 to 30 years. An average fire return interval from the 1500’s to the late 1800’s at a ponderosa pine forest near Jewel Cave National Monument, South Dakota, averaged 20 to 24 years. Fire return intervals at savanna sites in Wind Cave National Park, South Dakota, averaged 10 to 12 years, with a range of 2 to 23 years.

Interior ponderosa pine is rated "very resistant" to fire. No other conifer within its range is better adapted to survive surface fires, which often char but usually do not kill mature trees. Adaptations to survive surface fires include open crowns; self-pruning branches; thick, insulative, relatively unflammmable bark; thick bud scales; tight needle bunches that enclose and protect meristems, then open into a loose arrangement that does not favor combustion or propagation of flames; high foliar moisture; and a deep rooting habit. Trees in widely spaced stands are typically better equipped to survive surface fire than trees in denser stands because they develop thicker bark. Heavy accumulations of litter at the base of trees increase the duration and intensity of fire, making trees more susceptible to scarring. Resin deposits around an old fire scars or injury may increase bark flammability and promote further injury.

Ponderosa pine cannot survive crown fire, but mature trees can survive a considerable amount of scorching. Severe surface or crown fires generally kill interior ponderosa pine of all size classes, although some sawtimber-sized trees may survive severe surface fire. Low-severity surface fire often kills interior ponderosa pine seedlings and saplings; however, the effect is dependent upon stand structure. Pole-sized and larger trees are resistant to low-severity surface fires. Young trees in open canopies acquire fire-resistant traits rapidly, and 6-year-old saplings often survive low-severity surface fire. Fire is especially damaging in overcrowded young stands: the relatively denser foliage and thinner bark of trees in thick stands reduce resistance to surface fire. Such stands are also prone to crown fire.
Photograph taken in 2009, three years following the Tracer Fire.

Three years following Tracer Fire.

In the absence of natural fire, periodic prescribed burns and selective thinning can be used to maintain and restore this system to an open woodland condition. Mature ponderosa pines are considered “fire resistant”, damaged only when the fire "crowns" and 60% or more of the crown is burned (red needles). Thinning understory trees and manually removing ladder fuels and heavy fuels from the base of large trees may be necessary in order to protect old growth from death during prescribed burns. Ecological restoration treatments (tree thing and prescribed fire) have been widely applied in Black Hills ponderosa pine woodlands to convert these closed canopy woodlands to an open canopy structure similar to that found at the time of Euro-American settlement. The United States Forest Service (USFS) Custer National Forest and the National Park Service (NPS) Wind Cave National Park and Jewel Cave National Monument have active prescribed fire programs. Since 1973, Wind Cave National Park has expanded its prescribed fire program from small ground ignition plot burning of 250 - 350 acres to present day sophisticated
aerial ignition unit burns of 2,500 acres. They use a 5- to 10-year fire rotation to manage their ponderosa communities.

Fire prepares a favorable seedbed for interior ponderosa pine regeneration. Periodic surface fire removes the heavy litter and duff that accumulate in ponderosa pine forests. Wind-borne seeds falling from the crowns of surviving or fire-killed trees land on a nutrient-enriched mineral seedbed under an open canopy that favors germination and seedling establishment. Periodic burning can be used to expose mineral soils, provide nutrient availability, reduce competition, stimulate native grass and forb production, increase basal diameter growth of overstory ponderosa pine, and provide favorable seedbeds. In some cases, especially on sites heavily infested with cheatgrass, frequent prescribed burning at low intensities may stimulate greater cheatgrass cover following the fire, especially if the burn did not kill the seed bank. Increasing the time between prescribed fires may inhibit cheatgrass by increasing surface fuels (both herbaceous and litter), which directly inhibits cheatgrass establishment, and by creating higher intensity fires capable of killing a much greater fraction of the seed bank.
Dog-hair stand that is not resistant to fire. Fire suppression following a crown fire or intense logging will allow ponderosa to develop this structure.

Prescribed fire hand crews “stringing fire” in incremental strips to keep burn severity to prescribed levels.
Ponderosa pine stand with density of approximately 120 trees per acre where fires have been excluded.

Ponderosa pine stand with density of approximately 60 trees per acre. This is the desired tree density by using regular prescribed fire.

The expense of excluding fire from ponderosa pine forests in an active fire year is very large, and these costly attempts at fire suppression are not always successful. In comparison, treatments to restore ponderosa pine structure and ecological processes are modest in cost. If several fire cycles have been missed, thinning trees and manually removing heavy fuels from the base of large trees may be necessary to in order to protect old growth from severe scorching or death.

**Rocky Mountain Juniper Fire Ecology:** Fire is a major factor controlling the distribution of Rocky Mountain juniper. Reduced fire frequency due to active suppression accounts for the expansion of juniper woodlands into meadows, grasslands, sagebrush communities, and aspen groves that began in the late 1800’s. Prior to this time, more frequent fires maintained a relatively low density in woodlands and often restricted junipers to rocky sites. In general, Rocky Mountain juniper grows in areas that do not burn frequently or intensely. Due to its thin bark and compact crown, Rocky Mountain juniper trees up to 3-4 feet tall are easily killed by fire. Since the species grows slowly, trees are especially susceptible to fire for their first 20 years or more. However,
large Rocky Mountain junipers have been documented to survive at least 4-6 fires. As trees mature, they develop thicker bark and a more open crown, allowing them to survive surface fires if the low, spreading branches do not carry fire to the crown. However, a severe fire may damage or kill such trees. High volatile oil content, especially in the lower branches, also makes the trees flammable. Rocky Mountain juniper does not resprout after top-kill. Post-fire reestablishment is solely by seed, and animal transport of seeds is an important factor.

**True Mountain-Mahogany Fire Ecology:** The above-ground branches of true mountain-mahogany are often consumed by fire. However, the roots persist and true mountain-mahogany quickly recolonizes burned sites through root crown or rhizome sprouts. Post-fire sprouting is described as "vigorous" and "rapid" and is common under a range of fire regimes. However, fire severity does affect post-fire sprouting. Researchers have found more and taller spouts in areas burned at low severity than on unburned sites or sites burned in high-severity fires. Succession following disturbances in true mountain-mahogany stands involves little or no compositional change (unless the site had been invaded by trees). The typically self-replacing recovery in this vegetation type has been termed auto-successional. Shrubs present in mature stands, including true mountain-mahogany, are normally present in the first post-fire year. Fires typically reduce the number of true mountain-mahogany shrubs, and as fire frequency increases the number of shrubs in a stand decreases.

Fire impacts these shrublands at a frequency of every 50 to 100 years, but these systems will persist for longer periods. Fire suppression may have allowed an invasion of trees into some of these shrublands, but in many cases, mountain mahogany sites are too xeric for tree growth. In the absence of natural fire, periodic prescribed burns can be used to maintain this system.

*Foothill Shrubland community that has been invaded by Rocky Mountain juniper. A fire in this community would likely kill the invading pines and juniper and rejuvenate the mountain mahogany.*
Juniper invading a grass swale within the Mixedgrass Prairie community and the Foothill Shrubland community on the hillslope. A fire in this area will likely kill the invading pines and juniper in both communities leaving the grasses and mountain mahogany.

**Wyoming Big Sagebrush Fire Ecology**: The historic sagebrush-steppe ecosystem was a mosaic of successional (age) classes created and maintained by fire regimes ranging in frequency from 50-100 years or more, depending on sagebrush species and specific geographic area. Wyoming big sagebrush ignites readily and produces a very hot fire. Fire kills Wyoming big sagebrush and it may be slow to establish on a burned area. Wyoming big sagebrush may take up to 20-40 years to reestablish following fire. As previously described, the Big Sagebrush Steppe community found throughout the Northern Great Plains is simply a Mixedgrass Prairie community with an overstory of sagebrush. The sagebrush establishes naturally following fire.

Wyoming big sagebrush establishes after fire from the seedbank; from seed produced by remnant plants that escaped fire; and from plants adjacent to the burn. Fires in Wyoming big sagebrush are usually not continuous, and remnant plants are the principal means of postfire reproduction. Fire does not stimulate germination of soil-stored Wyoming big sagebrush seed, but neither does it inhibit its germination. Wyoming big sagebrush steppe communities historically had low fuel loadings and were characterized by 10- to 70-year interval, patchy fires that produced a mosaic of burned and unburned lands. While burning will remove Wyoming big sagebrush, it will not restore perennial grasses in areas where cheatgrass has become dominant. In general, burning in cheatgrass-infested big sagebrush types is not recommended if cheatgrass cover exceeds 50% or if cover of fire-resistant native grasses is less than 20%. Cheatgrass is more likely to invade after fire if the dominant native grass is not a fire-resistant species or if native grasses were in poor condition prior to fire. Artificial seeding with native grasses is recommended after fire if cheatgrass was a major component of the pre-fire community or if it was a minor component and native grasses were in poor condition.
Plains Pricklypear and Fire Ecology: The following two sections are paraphrased from the USFS Fire Effects database: [http://www.fs.fed.us/database/feis/plants/cactus/opupol/all.html](http://www.fs.fed.us/database/feis/plants/cactus/opupol/all.html); please refer to the source for a detailed reference cited section.

Plains pricklypear (*Opuntia polyacantha*) is a native perennial cactus (succulent), typically reaching 4 to 12 inches in height. The species tends to form clumps or mats that may extend several yards in diameter. The fruits are dry at maturity and are covered with barbed spines. Plains pricklypear has a shallow, laterally extensive root system that takes advantage of rainfall as scant as 1/10 inch. Its high water retention capability in aboveground tissues allows it to survive drought. *Opuntia* plants usually live less than 20 years, but vegetative propagation can ensure a very long life span for the clonal colony. Plains pricklypear reproduces by seeds, layering, and sprouting from segments mechanically separated from the parent plant. Stem dieback in mature clumps can separate the plant into several individuals. Detached stems buried in soil or litter may grow horizontally before sprouting. Seeds of plains pricklypear fall near the parent plant or are dispersed by mammals that consume the fruits. They are also dispersed when barbs on the fruits or lobes attach to a passing animal.

Plains pricklypear occurs on dry sites throughout the Great Plains. Plains pricklypear occurs both on grazed ranges and in areas not used by livestock. The presence of plains pricklypear can reduce both the production and availability of forage. In the Colorado plains, the percent cover of plains pricklypear was measured after 25 years of light, moderate, and heavy cattle grazing. This study did not find a correlation with plains pricklypear abundance and grazing intensity. It was concluded that, "the illusion that pricklypear abundance in this area is associated with heavier grazing is because the pricklypear in the more lightly-used pastures is camouflaged by the ungrazed grass." The cactus was more visible in the heavily grazed areas, thus appearing to be increasing as a result of grazing.
Plains pricklypear occurs in disturbed roadside areas and in old, relict, pre-agricultural plant communities. It is found on clay loam and sandy loam soils but it is infrequent on sand dunes. In grasslands, pricklypear does not occur in areas characterized by abundant soil moisture, such as swales and depressions. Its frequency decreases in wet years. Precipitation is a primary determinant of the distribution and abundance of plains pricklypear. Although plains pricklypear is present and often abundant in climax or late-successional communities throughout its range, it is often regarded as a disturbance-adapted, early seral species. It increases in number in response to disturbances such as drought, grazing pressure, and severe hailstorms. Plains pricklypear cover decreases as precipitation normalizes following drought. Abundant plains pricklypear is sometimes cited as an indicator of poor range condition.

Plains pricklypear plants are vulnerable to fire. Moderate or even low-severity fires can top-kill pricklypear species. Aboveground tissues of *Opuntia* spp. are easily killed by fire, but some fleshy stem segments usually survive low- to moderate-severity fire and resume growth, even when burned off the parent plant. Prickly-pears are vulnerable to mortality from heat generated by fires as well as by actual burning. Hotter fires probably lead to higher mortality. Plants regenerate by sprouting from the root crown, by layering of unburned or partially burned stem pieces that contact soil, and from seedling establishment. Succulent mortality after a fire is often greater than 50%, but rarely total.

The succulent stems of pricklypear species are not combustible and without sufficient fuel may suffer little damage from fire. However, when spines are singed off by wildfires not severe enough to destroy the plants, plains pricklypear becomes a desirable food source for wildlife and livestock. Plains pricklypear postfire mortality may be delayed for 3 or more years. Secondary effects of fire include insect infestation of weakened plants and increased grazing pressure when spines are burned off.

**Cheatgrass and Fire Ecology:** The introduced annual brome grasses *Bromus tectorum* (cheatgrass) and *Bromus arvensis* (field [Japanese] brome) (collectively referred to as cheatgrasses) are common in most plant communities at Camp Guernsey. Both of these plants are County-designated noxious weeds. Cheatgrass seed is highly adapted to a regime of frequent fires and low intensity fires will not kill the seeds. In late winter/early spring following a fire,
surviving seeds will germinate and establish at a much greater density than pre-fire due to the lack of competition from native plants that have not yet germinated. Much land in the Intermountain West occupied by these introduced grasses is now considered permanently altered (converted) with major restoration efforts being undertaken in an effort to eradicate these invasive grasses. The High Plains of southeastern Wyoming are also susceptible to this conversion as evidenced by the severe cheatgrass problems in Sybille Canyon to the southwest of Camp Guernsey.

Cheatgrass establishes from soil-stored and transported seed after fire. It has long been known that cheatgrass is highly adapted to a regime of frequent fires. Cheatgrass has a very fine structure, tends to accumulate litter, and dries completely in early summer, thus becoming a highly flammable, often continuous fuel. By the time of burning most cheatgrass seeds are already on the ground, and those not near the higher heat of an adjacent burning shrub can survive. Even if the fire burns when cheatgrass plants are still green and kills them before they can set seed, there may be enough viable cheatgrass seed in the litter and upper layers of soil for plants to reestablish.

Cheatgrass is a strong competitor in the post-fire environment, where it takes advantage of increased resource availability and produces an abundant seed crop. During a low to moderate wildfire, most of the cheatgrass seeds will likely survive. The following season, surviving seeds will germinate. These plants are released from competition, and have more water and nutrients available to them. The cheatgrass plants then produce abundant tillers, each supporting many flowers, thus producing a large seed crop. Cheatgrass often dominates post-fire plant communities, and once established, cheatgrass-dominated grasslands greatly increase the potential and recurrence of wildfires. Cheatgrass fires tend to burn fast and cover large areas, with a fire season from 1 to 3 months longer than that of native rangeland. The average fire-return interval for cheatgrass-dominated stands is less than 10 years.

Live cheatgrass plants are susceptible to heat kill, as with a flame thrower or handled propane torch, though they are difficult to burn when green. If fire occurs when seed remains in panicles above ground, most seeds will be killed and cheatgrass density will decline immediately following fire. However, when cheatgrass plants are dry enough to burn, they are already dead, and have already set seed. Fire will then reduce cheatgrass plants to ash. Cheatgrass seeds are also susceptible to heat kill, but can survive fires of low to moderate-severity if the entire litter layer is not consumed or if the seeds are buried deeply enough to be insulated from the heat. Fire from herbaceous fuel alone is not usually hot enough to consume cheatgrass seeds.

As a management tool, prescribed fire can be used to either kill unwanted species or to simulate historic fire regimes and promote desired species. Historic fire regimes did not occur in the presence of many invasive plants that are currently widespread, and the use of fire may not be a feasible or appropriate management action if fire-tolerant invasive plants (i.e., cheatgrass) are present. On sites heavily infested with cheatgrass, frequent prescribed burning at low intensities may stimulate greater cheatgrass cover following the fire, especially if the burn did not kill the seed bank. Increasing the time between prescribed fires may inhibit cheatgrass by increasing surface fuels (both herbaceous and litter), which directly inhibits cheatgrass establishment, and by creating higher intensity fires capable of killing a much greater fraction of the seed bank.
Livestock grazing can reduce cheatgrass cover and can be purposely manipulated to control cheatgrass, although some authors recommend against it. To prevent seed production, it is recommended that cheatgrass plants be grazed before they turn purple in color. At least 2 defoliations are needed in the spring of each year, for a minimum of 2 consecutive years, to start to manage cheatgrass.

**Smooth Brome Fire Ecology:** The introduced perennial brome grass *Bromus inermis* (smooth brome) is also common in many plant communities at Camp Guernsey. While this plant is not a designated noxious weed, it can become “weedy” and dominate native plant communities, especially in the High Plains of southeastern Wyoming. The extensive rhizome system of *Bromus inermis* allows it to rapidly spread and establish in burned areas. It also withstands high levels of utilization, making replacement by former dominants such as *Pascopyrum smithii* (western wheatgrass) very difficult.

**Effects of elements common to all analyzed alternatives** (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and wildland fire use/prescribed fire in the Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce the fine fuel load.

Additional coordination with other land management and fire management agencies would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would
occur. Prescribed burns in the Impact Area would be scheduled in the winter/spring when fire management and control would be optimal.

Wildland fires and fire management activities directly affect vegetation through removal of aboveground plant cover. Vegetation removal can have a variety of effects on vegetation communities depending on individual plant response to fire. Some plants are killed by fire and some plants actively resprout following fire (see previous section on plant/community response to fire). A low severity fire will generally restore and maintain desirable ecosystem attributes while a high severity fire may cause entire plant communities to change. The degree of effect depends on the type and amount of vegetation affected, and the rate at which vegetation would regenerate after damage. Ultimately, these direct and indirect effects can reduce or change the functional qualities of vegetation including wildlife habitat and livestock forage. Wildland fire and fire management activities also have the potential to introduce noxious weeds being transported on vehicles and equipment coming from other areas. Cheatgrass occurring at Camp Guernsey has a high probability of increasing in abundance following wildland fires.

All of Camp Guernsey’s vegetative communities have developed with, and are adapted to natural wildland fire cycles. Generally, low intensity fire affects plant species and communities by triggering the release of seeds; altering seedbeds; temporarily eliminating or reducing competition for moisture, nutrients, heat and light; stimulating vegetative reproduction of top-killed plants; stimulating the flowering and fruiting of many shrubs and herbs; and influencing community composition and successional stages through its frequency and/or intensity. The effect of fire (natural or prescribed) on ponderosa pine is generally related to tree size, fire intensity, and tree density. Low-intensity fires readily kill seedlings less than 12 inches in height. Larger ponderosa pine seedlings can sometimes survive heat generated by low-intensity surface fires, especially dormant season fires. Larger seedlings, saplings, and poles are only damaged by low-intensity fires. Beyond the pole stage, ponderosa pine is quite resistant to low intensity surface fires.

Suppression activities that result in soil disturbance from the creation of fire lines would make those disturbed areas more susceptible to noxious weed infestation, primarily cheatgrass. Firebreaks are bladed annually to clear all vegetation down to the soil. Firebreaks are also monitored for establishment of noxious weeds and soil erosion. Weed treatments and erosion repairs would be made as needed.

Mechanical and manual thinning of trees to reduce fuel loads would result in more open canopies. This could result in an increase in sun-tolerant plant species and a decrease in shade-tolerant species. Pruning of remaining trees will help to reduce ladder fuels which would prevent wildland fires from getting into the canopy. Because of the density of some ponderosa pine stands at Camp Guernsey it may be necessary to mechanically thin the area prior to utilizing prescribed fire to maintain the community.

The current practice of utilizing prescribed fire annually in the Impact Area and Range Row, as well as allowing wildland fires to burn in the Impact Area, has the high potential of changing the vegetation community in this area to an annual grassland dominated by cheatgrass and smooth brome. This is not a desirable community and such a conversion should be avoided. Locations and projects to use prescribed fire to reduce fuel loads in the Impact Area will be identified in
the *Annual Fire Mitigation Work Plan* (see section 2.2). NEPA analysis and documentation for these work plans will be conducted annually. The Burn Plan for each prescribed fire in this area would evaluate this potential effect and prescribe methods and monitoring measures. As such this would prevent the uncontrolled expansion of these undesirable plant communities, especially into areas where such expansion would threaten the viability of any special status species populations.

The active fire suppression occurring at Camp Guernsey and surrounding areas has reduced the frequency and size of wildfires in this area. This has allowed plant community succession to continue which has resulted in the propagation of very dense woodlands and the invasion of ponderosa pine and juniper into adjacent communities, most noticeably mountain-mahogany shrublands. These aggressive fire suppression actions have also allowed the buildup of fuel loads within the woodland community and when extreme fire conditions (extended drought, dry weather, and windy conditions) occur large high intensity wildfires have burned much of the North Training Area at Camp Guernsey. These large high intensity wildfires have removed almost all of the pines and junipers over vast areas. Natural succession to replace these woodlands will take many decades as the seed source is far removed from the interior of these areas.

**Effects of prescribed fire to manage fuel loads outside Impact Area** – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the *Annual Fire Mitigation Work Plan* (see section 2.2). NEPA analysis and documentation for proposed projects in these annual work plans will be conducted annually. Using prescribed fire to manage fuel loads in the wooded habitat would reduce the density of pine and juniper, which would subsequently reduce the potential for much larger and more intense wildland fires. The reduction in tree density would also result in increased grass (forage) production for livestock and wildlife, while at the same time opening up dense stands for better training maneuver access.

Effects of prescribed fires to reduce fuel loads outside the Impact Area would result in less than significant adverse effects to vegetation. The management of fuel loads would encourage the return of more natural conditions under natural fire cycles and therefore would benefit special status species impacted by previous fire suppression. The WYARNG evaluate potential fire induced spread of cheatgrass and smooth brome during the development of the Burn Plan and would prevent the uncontrolled expansion of these undesirable plant communities, especially into areas where such expansion would threaten the viability of any special status species populations.

**Effects of wildland fire use** – Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan* could occur under the Proposed Action. NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. A confine and contain strategy would be implemented if the fire continued to meet management objectives. Wildland fire use fires would be continuously monitored and Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders. Wildland fire use would not occur if the training area was being heavily used by soldiers.
Effects of wildland fire use on vegetation would be less than significant for the reasons listed above in previous discussions. The WYARNG would consider the presence of noxious weeds and special status species in the determination of whether to suppress wildland fires.

**Effects of prescribed fire to manage natural resources** – Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan*. Additional NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. Prescribed fire (as well as some wildland fire) is a management tool used to maintain or increase age-class diversity within vegetative types (e.g., big sagebrush/grassland); rejuvenate fire dependent vegetative types (e.g., true mountain mahogany/ponderosa pine); maintain or increase vegetation productivity, nutrient content, and palatability; and maintain or improve wildlife habitats, rangeland, and watershed conditions. Prescribed fire also is also a management tool for disposal of timber slash, seedbed preparation, reduction of hazardous fuel, control of disease or insects, grazing management, thinning, or plant species manipulation. As a management tool, prescribed fire can be used to either kill unwanted species or to simulate historic fire regimes and promote desired species. Perpetuating a natural fire regime would have long-term, direct, beneficial effects on vegetation and the associated land use (military training and grazing). Effects of prescribed fire to manage natural resources would be less than significant.

There were no comments received from adjacent landowners concerning vegetation effects. The BLM was actively involved in the fire management planning process and no formal comments were received from this overlying and adjoining landowner. The Wyoming State Forestry Division was actively involved in the fire management planning process and no formal comments were received from the WY Office of State Lands. The Bureau of Reclamation provided no comments. No comments were received from Platte County, the Town of Guernsey, or other adjacent communities. There were no comments received from the public in relation to vegetation. The WGFD commented on the need for continued management actions for noxious and invasive weeds (see Appendix B – WGFD letter). The Glendo Rural Fire District President, Kelly Roediger, expressed concerns with the dense stands of ponderosa in the NW corner of the Installation and their proximity to rocket firing points (see Appendix B). The WYARNG is planning to widen the fuel break along Patten Creek Road in this area to mitigate this concern. In addition, future fuel reduction treatments (tree thinning and possibly prescribed fire) may be incorporated into future Annual Fuel Work Plans in this area. Mr. Roediger also expressed concern with the timbered areas in the NE corner of the Installation and their proximity to rocket firing points (see Appendix B). The WYARNG is planning to widen the fuel break along Patten Creek Road in this area to mitigate this concern. In addition, future fuel reduction treatments (tree thinning and possibly prescribed fire) may be incorporated into future Annual Fuel Work Plans in this area. Mr. Roediger also expressed concern with the timbered areas in the NE corner of the Installation. Currently, there are no plans to mitigate this perceived hazard. The 2012 Sawmill Canyon Fire burned a vast area between this timber and the Impact Area, leaving few standing trees. Future fuel breaks and fuel reduction treatments (tree thinning and possibly prescribed fire) may be incorporated into future Annual Fuel Work Plans in this area.

Implementation of the Proposed Action would allow Camp Guernsey to better prevent, control, and manage wildfires, which in time would result in fewer high intensity fires. Reintroducing a regular recurring fire interval to the landscape at Camp Guernsey will make each vegetation community more resilient to catastrophic fire, drought, and insects. This would result in a positive benefit to vegetation at Camp Guernsey. Reduction of the severity and size of fires through more effective fire prevention and suppression, which the Proposed Action provides, would reduce the
likelihood and extent of large severe wildfires which can change the woodland community to a grassland for a very long time.

Implementation of the Proposed Action would not result in changes in the abundance or distribution of a local or regional plant population to the extent that the population would be unlikely to recover or return to a sustainable level. The Proposed Action would not cause the uncontrolled or uncontrollable introduction or expansion of noxious weeds. The Proposed Action would not result in the direct or indirect loss of viability of any population of special status species. Implementation of the Proposed Action would have a less than significant adverse effect on vegetation.

3.2.4.2.2 Effects of the No Action Alternative

Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to vegetation would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires.

As previously described, the pre-settlement fire regime in the Guernsey region was one of generally light, frequent surface fires. These fires would kill some seedlings, saplings and pole sized trees. Dendrochronology studies (counting growth rings in tree cross-sections) indicate that following European settlement in the late 1800’s, frequent, low-intensity fires virtually disappeared from the area, probably the result of active fire suppression and logging. This fire suppression ethic resulted in a buildup of fuel volumes resulting in fewer, but generally more severe fires as well as an increase in insect and disease epidemics. Wildfires burning through these woodlands often result in a situation that destroys entire stands of pine rather than merely thinning them.

Over half of the woodlands in Camp Guernsey’s North Training Area have been consumed by high-intensity fires over the past 10 years. These wildfires left few surviving trees to serve as a seed stock and these historic woodlands will now take many decades to naturally regenerate. Without proactive management actions (mechanical thinning or prescribed fire) many of these recently burned areas will, after a century or more, develop into over stocked, dense, dog-hair stands, thus perpetuating the new fire cycle. Under the No Action alternative, additional high-intensity wildfires can be expected in many of the remaining wooded areas during years of drought (in both the North and South Training Areas). The potential for severe wildland fires under the No Action alternative will remain an issue for Camp Guernsey because of the general lack of planned and coordinated fire management activities to reduce fuel loads. Implementation of the No Action Alternative would have a significant adverse effect on vegetation.

3.2.4.2.3 Effects of Alternative B

Effects on vegetation under Alternative B would be the same for the common elements as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.
Allowing wildland fire to burn under certain conditions (wildland fire use), as in the Proposed Action, can reduce fuels in areas of Camp Guernsey at a fraction of the cost that it would cost to mechanically reduce. Therefore, eliminating the option of allowing wildland fires to burn under this alternative could result in more expensive treatments or less area treated.

Implementation of Alternative B would have a less than significant adverse effect on vegetation. While the positive effects on vegetation would be less than under the Proposed Action, Alternative B would not likely result in the uncontrolled or uncontrollable introduction or expansion of noxious weeds because of the planning and coordination that would occur for the activities contained within this Alternative. The same is true for the concern of the potential loss of viability of any special status species population.

3.2.5 Biological Resources - Wildlife

3.2.5.1 Affected Environment

Wildlife Jurisdiction. Within the state of Wyoming, jurisdiction over wildlife is shared by the Wyoming Game & Fish Department (WGFD) and the United States Fish and Wildlife Service (USFWS). The WGFD is charged to “provide an adequate and flexible system for control, propagation, management, protection, and regulation of all Wyoming wildlife” (WY Stat. 23-1-103). There is no statutory authority for the WGFD to protect, restore or enhance wildlife habitat on any lands other than those owned by the WGFD. The USFWS is charged with administering: federally threatened and endangered species and designated critical habitat under the Endangered Species Act (ESA); migratory birds under the Migratory Bird Treaty Act; and eagles under the Bald and Golden Eagle Protection Act.

Wildlife Overview - Camp Guernsey’s variety of ecological systems support a diverse array of resident and migratory wildlife, including large and small mammals, predators, raptors, waterfowl, upland game birds, shorebirds, songbirds, reptiles, amphibians, fish, and insects. Due to the complexity of wildlife resources and the large size of Camp Guernsey, this section does not attempt to provide an encyclopedic description of all wildlife present; rather, this section focuses on those sensitive wildlife species and priority habitats which may be effected by the alternatives. Note: Threatened and Endangered Species are discussed in section 3.5.6.

The WYARNG has conducted numerous wildlife surveys at Camp Guernsey over the past 18 years (see Section 1.6). A detailed inventory and description of the wildlife species and habitats present on Camp Guernsey is provided in the Camp Guernsey INRMP (WYARNG 2015a).

3.2.5.1.1 Camp Guernsey Sensitive Wildlife Species and Priority Habitats

Figure 3-17 illustrates the locations of sensitive wildlife species and priority habitats at Camp Guernsey. Two bald eagle nests are located adjacent to Camp Guernsey one along the North Platte River near the mouth of Sawmill Canyon and the other along the shore of Guernsey Reservoir near the southern end of the North Training Area. Osprey nests are located within the Cantonment Area and along the North Platte at Wendover Bend in the very southern part of the North Training Area. Additional raptor nests (occupied and unoccupied) have been found in the Broom Creek Canyon leading the WYARG to identify Broom Creek Canyon in the North Training Area as priority nesting habitat for raptor nesting. Annual monitoring conducted by WYARNG staff continues to search for additional nests.
There are two **bat community roosts** on Camp Guernsey in the North Training Area: Bat’s Balcony located in the north-central portion of the North Training Area and Youngite Mine Cave (aka Crystal Cave) located in the cliffs along the North Platte River. Bat’s Balcony is one of the largest maternity colonies of Townsend’s big-eared bat (*Corynorhinus townsendii*) in Wyoming with greater than 200 females using the site. In addition, the site is used as a winter hibernation
Figure 3-17. Sensitive Wildlife Resources.
site by Townsend’s big-eared bat, western small-footed myotis (*Myotis ciliolabrum*) and little brown bat (*Myotis lucifugus*). Youngite Mine Cave is used as a winter hibernation site by Townsend’s big-eared bat and western small-footed myotis. All of the above species plus the big brown bat (*Eptesicus fuscus*) have historically used Youngite Mine Cave as a summer roost.

A small area along the eastern boundary of the South Training Area is designated as Crucial Winter Range for pronghorn antelope by W GFD. A ferruginous hawk nest is located along the northwest edge of the South Training Area. Recently a red-tailed hawk nest was also found in the South Training Area. A prairie dog colony along the eastern edge of the South Training Area provides known nesting habitat for burrowing owls.

### 3.2.5.1.2 Federal Species of Concern

The following three federal laws are the primary drivers of federal wildlife management at Camp Guernsey:

- The Migratory Bird Treaty Act;
- The Bald and Golden Eagle Protection Act; and
- The Endangered Species Act.

The first two of these laws are addressed individually below. Threatened and Endangered species regulated under the Endangered Species Act are addressed in section 3.6.6.

#### 3.2.5.1.3 Migratory Bird Treaty Act

The *Migratory Bird Treaty Act* (16 U.S.C. 703–712) prohibits the taking, killing, or possessing of any migratory bird, part, nest or egg without authorization. Such “authorization” typically includes waterfowl hunting licenses, falconry licenses, and permits for scientific research, education, and depredation control. The definition of “take” (50 CFR 10.12) under the Migratory Bird Treaty Act is to pursue, *hunt, shoot, wound, kill, trap, capture, or collect*, or attempt to *hunt, shoot, wound, kill, trap, capture, or collect*. However, as detailed in the next three paragraphs, the military has an “authorization” for the incidental take of migratory birds while conducting military readiness activities as long as the readiness activities do not pose a significant adverse effect on migratory bird populations. This authorization for incidental take does not authorize take for non-readiness activities such as natural resource management; or the maintenance, construction, operation, and demolition of facilities. The Migratory Bird Treaty Act does not contain any prohibition that applies to the destruction of an unoccupied migratory bird nest (without birds or eggs), provided that no possession occurs during the destruction. However, unoccupied nests of threatened and endangered migratory bird species and bald and golden eagles are legally protected by other statutes.

**Camp Guernsey Migratory Bird Inventory and Management Strategies.** The WYARNG has conducted several surveys to document migrating and breeding birds within and adjacent to Camp Guernsey. The INRMP contains a list of potential migratory bird species that may occur on or adjacent to Camp Guernsey along with those bird species recorded as being observed. The INRMP also identifies monitoring and management strategies to conserve these federally protected species. The USFWS has reviewed and concurred with the INRMP and they did not identify any specific concerns with Migratory Birds during interagency scoping for this EA. The USFWS did provide several general recommendations for management of Migratory Birds in
their comment letter (see Appendix B – USFWS letter). This is a general comment letter that USFWS provides on all Wyoming projects and each recommendation has been addressed in the INRMP, which has received concurrence from the USFWS.

**Raptors.** Raptors (birds of prey – hawks, eagles, and owls) are a specific subset of migratory birds, which carry a few more specific USFWS management guidelines. Annual raptor surveys and raptor nest surveys are being conducted on and adjacent to Camp Guernsey. This raptor inventory of potential and observed species is included in the migratory bird inventory in the INRMP. Figure 3-17 illustrates the locations of known raptor nests and important nesting habitat at Camp Guernsey.

Camp Guernsey’s INRMP identifies monitoring and management strategies to conserve raptors. The USFWS has reviewed and concurred with the INRMP and they did not identify any specific concerns with raptors during interagency scoping for this EA. The USFWS did provide several general recommendations for management of raptors in a comment letter (see Appendix B – USFWS letter). The USFWS recommends two specific guidance policies for addressing raptor effects: Recommended Steps for Addressing Raptors in Project Planning and Recommended Seasonal and Spatial Buffers to Protect Nesting Raptors. These guidelines can be found at https://www.fws.gov/wyominges/Pages/Species/Species_SpeciesConcern/Raptors.html. This is a general comment letter that USFWS provides on all Wyoming projects and each recommendation has been addressed in the INRMP, which has received concurrence from the USFWS.

3.2.5.1.4 **Bald and Golden Eagle Protection Act**

The Bald and Golden Eagle Protection Act (16 U.S.C. 668–668d) includes more restrictive provisions than the Migratory Bird Treaty Act, such as the protection of unoccupied nests and a prohibition on “disturbing” eagles. The Bald and Golden Eagle Protection Act prohibits knowingly, or with wanton disregard for the consequences to take bald eagles and golden eagles without authorization. The definition of “take” (50 CFR 22.3 and 72 FR 31132) under the Bald and Golden Eagle Protection Act is to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb. “Disturb” is to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle; or a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Figure 3-17 illustrates the locations of known eagle nests at Camp Guernsey. Camp Guernsey’s INRMP identifies monitoring and management strategies to conserve eagles. The USFWS has reviewed and concurred with this INRMP and they did not identify any specific concerns with eagles during interagency scoping for this EA. The USFWS did provide several general recommendations for management of eagles in a comment letter (see Appendix B – USFWS letter). This is a general comment letter that USFWS provides on all Wyoming projects and each recommendation has been addressed in the INRMP, which has received concurrence from the USFWS. All project-specific and site-specific actions will undergo additional NEPA analysis, which will include an analysis of adverse effects on eagles.
3.2.5.2 Environmental Consequences

Impact Significance Threshold. If an alternative would result in changes in the abundance or distribution of a local or regional wildlife population to the extent that the population would be unlikely to recover or return to a sustainable level, it could have a significant adverse effect. If an action resulted in the irreplaceable loss, or abandonment of high value habitats for migratory bird populations, raptors, or other special status species, it could have a significant adverse effect. If an action resulted in the direct or indirect loss of viability of any population of migratory birds, raptors, or special status species, it could have a significant adverse effect.

3.2.5.2.1 Effects of the Proposed Action

Effects of elements common to all analyzed alternatives (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and wildland fire use/prescribed fire in Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce the fine fuel load.

Additional coordination with other land management and fire management agencies would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would occur.

Effects of these common elements on wildlife would be less than significant. There would be loss of individual animals, short-term displacement of individuals and negative impacts to habitats but over the long-term the effects to habitat quality would be positive. There would be no irreplaceable loss or abandonment of high value habitats for any species. There would be no loss of viability of any species population since the area of effects from the action would be smaller in extent that the area of any species population.

Effects of prescribed fire to manage fuel loads outside Impact Area – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the annual fire work plan (see section 2.2). NEPA analysis and documentation for the proposed projects in these annual work plans will be conducted annually. Using prescribed fire to manage fuel loads in the woodland habitat would reduce the density of pine and juniper, which would result in increased grass (forage) production for livestock and wildlife, while at the same time opening up dense stands for better training maneuver access. Timing and location of prescribed burns and other activities will be planned to avoid nesting eagles and other raptors. Prescribed fires will occur primarily during the fall and winter months and will not affect nesting birds. The potential
for smoke-related effects on bat hibernacula during prescribed fire activities would be addressed in individual work plans.

Effects of prescribed fire on wildlife would be less than significant. While they would occur over additional areas the effects would the same as those described above for the common elements.

**Effects of wildland fire use** – Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan* could occur under the Proposed Action. NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. A contain and contain strategy would be implemented if the fire continued to meet management objectives. Wildland fire use fires would be continuously monitored and Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders. Wildland fire use would not occur if the training area was being heavily used by soldiers.

Effects of wildland fire use on wildlife would be less than significant. While they would occur over additional areas the effects would the same as those described above for the common elements and for prescribed fire.

**Effects of prescribed fire to manage natural resources** – Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan*. Additional NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. Prescribed fire is a useful tool for rangeland management that could benefit livestock, wildlife, and training. Properly planned and executed prescribed fires would benefit wildlife. Timing and location of prescribed burns and other activities will be planned to avoid nesting eagles and other raptors. Prescribed fires will occur primarily during the fall and winter months and will not affect nesting birds. The potential for smoke-related effects on bat hibernacula during prescribed fire activities would be addressed in individual work plans.

Effects of prescribed fire to manage natural resources on wildlife would be less than significant. The WYARNG would avoid significant effects on populations and special status species through the planning considerations described above.

There were no specific comments received concerning wildlife effects during scoping for this EA. The WGFD did provide a comment letter that stated concerns about noxious weeds and invasive mussels. The WGFD also recommended use of various BMP manuals to minimize impacts to aquatic resources. These BMP manuals are listed in section 2.2. and these BMPs would be incorporated as appropriate.

The USFWS provided general comments on several federal wildlife protection laws.

Short term displacement of wildlife will occur under any fire management action that is implemented on the Installation. Some limited wildlife mortality will also occur. Displacement and loss of a few localized individuals or groups of animals would not jeopardize populations on and adjacent to the Installation. Habitat conditions for many wildlife species that inhabit the
Installation would improve with the restoration of the historic high frequency, low intensity fire regime characteristics. Such a fire regime would help restore and enhance the variety and diversity of native plant and wildlife habitats. Dead standing trees (snags) would be left to provide important habitat for a variety of wildlife species.

Ultimately, incorporating the proposed wildland fire management techniques on the Installation would benefit wildlife by reducing the risk of large scale habitat loss due to intense wildland fires by restoring a more natural fire return interval to the landscape. Implementation of the Proposed Action would not result in changes in the abundance or distribution of a local or regional wildlife population to the extent that the population would be unlikely to recover or return to a sustainable level. The Proposed Action would not result in the irreplaceable loss, or abandonment of high value habitats for migratory bird populations, raptors, or other special status species. The Proposed Action would not result in the direct or indirect loss of viability of any population of migratory birds or raptors.

As described above, implementation of the Proposed Action would have a less than significant adverse effect on wildlife resources.

3.2.5.2.2 Effects of the No Action Alternative
Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to wildlife would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires. Current habitat management practices and programs and restoration activities detailed in the INRMP would continue to be implemented. Continuation of current policy limits the ability to reduce the fuel hazard on Camp Guernsey with all wildfires being aggressively suppressed and limited vegetation treatments being prescribed. Coordination between Camp Guernsey and other public agencies that own land within the Installation would not occur via a written plan. The lack of planned fire management across ownerships would result in more frequent and larger fires.

Implementation of the No Action Alternative would result in less than significant adverse effects to wildlife. The positive wildlife habitat effects of the Proposed Action would not be realized under this alternative. More damage to habitats would occur and mortality or displacement of individuals would be greater due to the increased potential for higher intensity wildfires. However, no designated high value habitats would be affected and the extent of the area of effect would be insufficient to have population level effects on any species.

3.2.5.2.3 Effects of Alternative B
Effects on wildlife under Alternative B would be the same for the common elements as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Implementation of Alternative B would have greater potential adverse effects on wildlife than the Proposed Action and certain positive effects would not be realized. However as with the No
Action Alternative, Alternative B would result in less than significant adverse effects to wildlife because no designated high value habitats would be affected and the extent of the area of effect would be insufficient to have population level effects on any species.

3.2.6 Threatened, Endangered, Proposed, and Candidate Species, and Designated Critical Habitat

A list of threatened, endangered, proposed, and candidate species, and designated critical habitat that may occur within the boundary of this proposed action and/or may be affected by this proposed action was provided by the USFWS Wyoming Ecological Services Field Office on December 6, 2013 (see Appendix B – USFWS letter 1). The USFWS provided an updated list on March 20, 2014 (see Appendix B – USFWS letter 2). This species list fulfills the requirements of the USFWS under section 7(c) of the Endangered Species Act (16 U.S.C. 1531 et seq.). Table 3-2 lists the endangered, threatened, proposed, and candidate species and their designated and proposed critical habitat that occurs in, or may be affected by, actions on Camp Guernsey.

3.2.6.1 Affected Environment

Threatened and Endangered species are those species that are protected under the federal Endangered Species Act of 1973. These species are managed by the U.S. Fish and Wildlife Service (USFWS). For some federally listed species, critical habitat has also been identified by USFWS. Candidate species are species for which USFWS has enough information on to propose the species for listing, but listing is precluded by higher priority species. Candidate species are managed by the State wildlife agency. No Threatened and Endangered Species are known to occur on Camp Guernsey; although the geographic ranges, delineated by the USFWS (Section 7 ranges), of several species do include the Installation (Table 3-2). There is no designated critical habitat located on the Installation.

Potential habitat for federally listed species occurs primarily in riparian areas at Camp Guernsey.

<table>
<thead>
<tr>
<th>Species/Critical Habitat</th>
<th>Scientific Name</th>
<th>Status</th>
<th>Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Least Tern (Interior Population)*</td>
<td>Sterna antillarum</td>
<td>Endangered</td>
<td>Riverine habitat downstream of Wyoming in the Platte River system.</td>
</tr>
<tr>
<td>Pallid Sturgeon*</td>
<td>Scaphirhynchus albus</td>
<td>Endangered</td>
<td>Riverine habitat downstream of Wyoming in the Platte River system.</td>
</tr>
<tr>
<td>Piping Plover*</td>
<td>Charadrius melodus</td>
<td>Threatened</td>
<td>Riverine habitat downstream of Wyoming in the Platte River system.</td>
</tr>
<tr>
<td>Western Prairie Fringed Orchid*</td>
<td>Platanthera praecilera</td>
<td>Threatened</td>
<td>Riverine habitat downstream of Wyoming in the Platte River system.</td>
</tr>
<tr>
<td>Whooping Crane*</td>
<td>Grus americana</td>
<td>Endangered</td>
<td>Riverine habitat downstream of Wyoming in the Platte River system.</td>
</tr>
<tr>
<td>Preble's Meadow Jumping Mouse</td>
<td>Zapus hudsonius preblei</td>
<td>Threatened</td>
<td>Lush riparian vegetation or herbaceous understories of wooded areas near water.</td>
</tr>
<tr>
<td>Ute Ladies'-tresses</td>
<td>Spiranthes diluvialis</td>
<td>Threatened</td>
<td>Seasonally moist soils, riparian areas, and wet meadows.</td>
</tr>
</tbody>
</table>

*Indicates Platte River Species

Platte River Species and Critical Habitat. Three bird species: the least tern, piping plover, and whooping crane; one fish: the pallid sturgeon; and one plant: the western prairie fringed orchid are collectively referred to as “Platte River Species”. The Platte River Recovery Implementation
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Program (see [http://www.fws.gov/platteriver/](http://www.fws.gov/platteriver/)) details requirements and procedures for minimizing effects from water-related activities in contributing watersheds. If a proposed action may lead to consumptive use of water or have the potential to affect water quality in the Platte River System, there may be effects to threatened and endangered species inhabiting the downstream reaches of this river system.

**Preble's Meadow Jumping Mouse (Zapus hudsonius ssp. preblei).** Camp Guernsey has riparian areas that may contain suitable habitat for Preble’s. The WGFD conducted a Preble’s mouse survey along the North Platte River in 2012, which is the northern limit of their predicted range. Trapping sites were along or immediately adjacent to the North Platte River from approximately Casper to Lingle. Despite conducting greater than 5,500 trap nights at 8 sites along the North Platte River, the WGFD failed to detect any jumping mice. The low elevation in this area (lower than the mouse is reported to occur in), in combination with the lack of captures, suggests that while the North Platte River near Camp Guernsey is potentially “suitable habitat” the probability of this habitat being occupied is small. The Camp Guernsey INRMP details the WYARNGs management/monitoring plan for this threatened species.

**Ute Ladies'-Tresses (Spiranthes diluvialis).** Camp Guernsey has wet meadow and riparian habitat that Ute ladies’-tresses could potentially occupy. A survey of Camp Guernsey property was conducted in 2010 specifically looking for T&E plants (WYARNG 2010). This survey identified nine areas of potential habitat for Ute ladies’-tresses. All nine areas were searched and no plants were located. However, the flowering window for Ute ladies’-tresses is normally only about two weeks in August and these surveys missed that critical window. However, the nearest known occurrences of this species are 50 miles away. The Camp Guernsey INRMP details the WYARNGs management/monitoring plan for this threatened species. WYARNG staff continue to conduct surveys for Ute ladies’-tresses on Camp Guernsey.

### 3.2.6.2 Environmental Consequences

**Impact Significance Threshold.** If an alternative would result in the “taking” of federally designated endangered or threatened wildlife species or designated critical habitat, either through direct harm or habitat destruction, it could have a significant adverse effect. If an alternative would result in removing, cutting, digging up, damaging or destroying a federally designated endangered or threatened plant, it could have a significant adverse effect. A determination under section 7 of the Endangered Species Act that a Proposed Action “may affect likely to adversely affect” a listed species could result in a significant adverse effect.

**Effects Determination:** The WYARNG has determined that implementation of the Proposed Action will have no effect on Platte River Species and therefore formal consultation with the USFWS is not necessary.

**Preble's Meadow Jumping Mouse.** Camp Guernsey has riparian areas that may contain suitable habitat for Preble’s. However, the probability of this habitat being occupied is minimal.
**Effects Determination:** The WYARNG has determined that implementation of the Proposed Action will have no effect on Preble's meadow jumping mouse and therefore formal consultation with the USFWS is not necessary.

**Ute Ladies'-Tresses.** Camp Guernsey has wet meadow and riparian habitat that Ute ladies’-tresses could potentially occupy. Despite several past surveys, no Ute ladies’-tresses have been observed at Camp Guernsey and the probability of this habitat being occupied is minimal.

**Effects Determination:** The WYARNG has determined that implementation of the Proposed Action will have no effect on Ute ladies’-tresses and therefore formal consultation with the USFWS is not necessary.

Appendix E contains a Memorandum for Record documenting the No Effects determination. Implementation of the Proposed Action would result in no adverse effects on threatened and endangered species.

**3.2.6.2.2 Effects of the No Action Alternative**
Under the No Action Alternative, current wildland fire management would continue without a written plan. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires.

Implementation of the No Action alternative would result in no adverse effects on threatened and endangered species due to the improbability of occupation of affected habitats as discussed above for the Proposed Action.

**3.2.6.2.3 Effects of Alternative B**
Effects on T&E Species under Alternative B would be the same for the common elements as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Implementation of Alternative B would result in no adverse effects on threatened and endangered species due to the improbability of occupation of affected habitats as discussed above for the Proposed Action.

**3.2.7 Cultural Resources**
The ARNG NEPA Handbook defines cultural resources to include historic properties as defined by the National Historic Preservation Act (NHPA), cultural items as defined by the Native American Graves Protection and Repatriation Act (NAGPRA), archaeological resources as defined by the Archaeological Resources Protection Act (ARPA), sacred sites as defined in EO13007 to which access is afforded under the American Indian Religious Freedom Act (AIRFA), and collections and associated records as defined under 36 CFR 79.
3.2.7.1 Affected Environment
The Guernsey area has a large number of well-known cultural and historical sites related to Native American, pioneering, early ranching, Civilian Conservation Corps, and military activities that have been documented and recorded in consultation with SHPO. The Guernsey region was used by indigenous peoples for thousands of years. Beginning approximately 12,000 years ago, American Indians fashioned tools from the high-quality cherts and quartzites found in the area. Artifacts from this area have been recovered from archaeological sites throughout the western United States. The Patten Creek Site on Camp Guernsey is listed on the National Register for its abundance of artifacts. On-going cultural resource inventories continue to identify archaeological features, sites, and locations of traditional cultural concern.

Segments of the Oregon, California, and Mormon Trails followed the North Platte River through Camp Guernsey. The Oregon Trail Ruts National Historic Landmark and Register Cliff National Historic Landmark are located adjacent to Camp Guernsey along the southern bank of the North Platte River. Historic trail related sites include trail ruts, emigrant inscriptions, possible camp sites, and emigrant grave locations. Several historic homesteads dating from the late 1800s and early 1900s, where ranching and dry-land farming occurred are located on Camp Guernsey property.

The Cantonment Area contains a Historic District that is eligible for inclusion on the National Register for its many stone buildings constructed under the Work Projects Administration (Civilian Conservation Corps) between 1939 and 1946. The Civilian Conservation Corps also constructed roads and improvements within Guernsey State Park, also a National Historic Landmark, located just south of and adjacent to the North Training Area.

Cultural resources identified within the Installation boundary are documented in the Camp Guernsey Integrated Cultural Resource Management Plan (ICRMP) (WYARNG 2015b). The ICRMP also identifies Best Management Practices (BMPs) and standard operating procedures for preserving cultural resources on the Installation.

Consultation must occur with SHPO for federal undertakings that have the potential to affect Historic Properties. This consultation is conducted in accordance with the regulations of the Advisory Council (36 CFR Part 800) to identify resources, determine if they are eligible, and finally to avoid, minimize, or mitigate adverse effects to eligible resources.

3.2.7.2 Environmental Consequences
Impact Significance Threshold. A significant adverse effect to cultural resources could include:
1) any “adverse effect” to a National Historic Landmark, National Historic Trail, or a property that is eligible to be designated as such; 2) any adverse effect that would diminish the overall integrity of the Camp Guernsey Historic District to the extent that it would no longer be eligible to be listed on the National Register of Historic Places; or 3) any adverse effect to an archaeological site or building that is listed in or considered eligible for listing in the NRHP that is not resolved through an agreement between the WYARNG, NGB, and SHPO.

Adverse effects to historic properties are those which may “alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property’s
location, design, setting, materials, workmanship, feeling or association” (36 CFR 800.5). It is important to note the definition for “significant impacts” per the National Environmental Protection Act (NEPA) is not strictly correlated with the definition of “adverse effects” in the National Historic Preservation Act. Therefore, it is possible to have adverse effects per 36 CFR Part 800 which do not rise to the level of significant adverse impacts for the purposes of NEPA.

3.2.7.2.1 Effects of the Proposed Action

Effects of elements common to all analyzed alternatives (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and wildland fire use/prescribed fire in Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce the fine fuel load.

Additional coordination with other land management and fire management agencies would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would occur.

Because of the broad spectrum of activities, activity locations, project proponents (State vs Federal actions), and cultural resources that may be potentially present and affected by the Proposed Action it is not foreseeable or reasonable to anticipate all the potential effects in a meaningful manner at this time. The WYARNG will not implement Sec. 106 consultation for the approval of this plan, since the plan alone does not have the potential to cause effects on historic properties. (See 36 CFR 800.3 (a)(1)). Approval of this Programmatic EA has no potential to cause effects on historic properties and therefore the WYARNG has no consultation obligations under section 106 as per 40 CCFR 800.3(1). The WYARNG will complete Section 106 consultation in the future as part of the Annual Fire Mitigation Work Plan (see section 2.1) or on a project-by-project basis as these federal undertakings arise.

Effects of these common elements on cultural resources would be less than significant.

Effects of prescribed fire to manage fuel loads outside Impact Area – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the Annual Fire Mitigation Work Plan (see section 2.2). NEPA and NHPA analysis and documentation for proposed projects in these annual work plans will be conducted annually.

Effects of prescribed fire on cultural resources would be less than significant.
**Effects of wildland fire use** – Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan* could occur under the Proposed Action. NEPA and NHPA analysis and documentation for proposed projects in these annual work plans would be conducted annually.

Effects of wildland fire use on cultural resources would be less than significant.

**Effects of prescribed fire to manage natural resources** - Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan*. Additional NEPA and NHPA analysis and documentation for proposed projects in these annual work plans would be conducted annually.

Effects of prescribed fire to manage natural resources on cultural resources would be less than significant.

There were no comments received concerning cultural resources during project scoping. SHPO responded by written letter indicating that they did not have any specific scoping concerns.

The greatest threat to cultural resources is a large-scale, high intensity wildland fire that could lead to the loss of historic structures, destruction of rock art sites, or the disturbance of archeological sites by heavy equipment. Under the Proposed Action wildland fire may adversely affect some archeological sites. Under the Proposed Action cultural sites would be less effected by removing accumulations of fuel from the vicinity, thereby reducing the threat of catastrophic wildland fire. Adverse effects on cultural resources from prescribed fire management actions would be avoided through identifying the resources prior to disturbance and protecting the resources. Under the Proposed Action, the planning process would be more coordinated and efficient. All non-emergency projects (prescribed fire, fuel reduction) would be planned collaboratively, resulting in benefits to archeological resources as all efforts would be made to avoid or protect known archeological sites.

Implementation of the Proposed Action would result in less than significant adverse effects to cultural resources.

**3.2.7.2.2 Effects of the No Action Alternative**

The greatest threat to cultural resources is a large-scale, high intensity wildland fire that could lead to the loss of historic structures, destruction of rock art sites, or the disturbance of archeological sites by heavy equipment. Under the No Action Alternative wildland fire may adversely affect some archeological sites. Under the No Action Alternative, archeological sites scattered throughout the training area would be placed at greater risk as heavy accumulations of fuels continue to increase and encroach on a historic site or structure. Large high-intensity fires would increase the need for the use of heavy equipment to halt the spread of fire. The use of such equipment could damage previously unknown archeological resources located below the surface. In addition, under this alternative, the cultural landscape would slowly disappear as open woodlands, fields and parks, were taken over by trees. Then after a large-scale, high intensity wildland fire burned through these woodlands, a large barren treeless landscape would persist for
centuries. This ecological succession has already occurred throughout much of the North Training Area.

Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to cultural resources would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires. Coordination between Camp Guernsey and other public agencies, including SHPO would not occur via a written plan.

Implementation of the No Action alternative would result in less than significant adverse effects to cultural resources.

3.2.7.2.3 Effects of Alternative B
Effects on cultural resources under Alternative B would be the same for the common elements (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]) as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Implementation of Alternative B would result in less than significant adverse effects to cultural resources.

3.2.8 Native American (Tribal) Resources
There are several Executive Orders that address tribal resources that are outside the scope of the NHPA. The WYARNG maintains an on-going consulting relationship with 18 Native American tribes to identify properties of traditional religious and cultural significance to Indian tribes, protected tribal resources, tribal rights, or Indian lands on Camp Guernsey. In addition, the WYARNG allows tribal members access to Camp Guernsey lands to conduct any cultural activities. The WYARNG formally consults with tribes when proposed actions may have the potential to significantly affect properties of traditional religious and cultural significance to Indian tribes or other tribal interests protected by statute, regulation, or executive order.

3.2.8.1 Affected Environment
The WYARNG has coordinated annual tribal consultation meetings at Camp Guernsey, with federally recognized Native American Tribes, for the past decade to identify sites that the various tribes attach religious and cultural significance to. These consultation meetings have resulted in the identification of 274 sites with potential importance to Native American Tribes at Camp Guernsey. Thirty three (33) of these 274 sites have been determined eligible for inclusion in the National Register under Criteria D (potential to yield additional information). The WYARNG has determined that 15 of the 274 tribal sites are eligible for inclusion in the National Register as Traditional Cultural Properties (TCPs) under Criteria A. SHPO and the tribes have concurred
with these 15 determinations. The WYARNG will continue to consult with tribes for all federal undertakings that may affect these eligible TCPs.

The WYARNG has not made a determination on the eligibility of 226 of the 274 identified tribal sites under Criteria A for inclusion in the National Register based on their association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. The WYARNG will continue to consult with tribes for all federal undertakings that may affect these unevaluated tribal sites.

The WYARNG will continue to conduct Tribal consultation meetings at Camp Guernsey to identify any additional sites to which Indian tribes attach religious and cultural significance.

3.2.8.2 Environmental Consequences
Impact Significance Threshold. If an alternative would result in damage or destruction of a “protected tribal resource”, tribal rights, or Indian lands, it could have a significant adverse effect. A Proposed Action that would alter Native American access to any identified “protected tribal resource” could result in a significant adverse effect.

3.2.8.2.1 Effects of the Proposed Action
Effects of elements common to all analyzed alternatives (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and wildland fire use/prescribed fire in Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce the fine fuel load.

Additional coordination with other tribal governments would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would occur.

Approval of this Programmatic EA also has no potential to significantly affect protected tribal resources, tribal rights, or Indian lands and therefore the WYARNG has no tribal consultation obligations under DoD policy or E.O.s. The WYARNG will complete Tribal consultation in the future as part of the Annual Fire Mitigation Work Plan (see section 2.1) or on a project-by-project basis as these federal undertakings arise.

Effects of these common elements on protected tribal resources would be less than significant.
Effects of prescribed fire to manage fuel loads outside Impact Area – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the Annual Fire Mitigation Work Plan (see section 2.2). Future project specific Native American consultation for proposed projects in these annual work plans will be conducted annually.

Effects of prescribed fire on protected tribal resources would be less than significant.

Effects of wildland fire use – Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the Annual Fire Mitigation Work Plan could occur under the Proposed Action. Future project specific Native American consultation for proposed projects in these annual work plans will be conducted annually.

Effects of wildland fire use on protected tribal resources would be less than significant.

Effects of prescribed fire to manage natural resources - Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the Annual Fire Mitigation Work Plan. A future project specific Native American consultation for proposed projects in these annual work plans will be conducted annually.

Effects of prescribed fire to manage natural resources on protected tribal resources would be less than significant.

As part of the NEPA process, the WYARNG mailed scoping letters to 18 tribes with a cultural affiliation to Wyoming (as identified in the WYARNG Integrated Cultural Resource Management Plan) asking for input on the presence of any Native American resources that needed to be considered in this EA (see Appendix C). No comments were received that identified tribal resources or tribal concerns.

The greatest threat to cultural resources is a large-scale, high intensity wildland fire that could lead to the loss of protected tribal resources. Under the Proposed Action wildland fire may adversely affect some tribal sites. Under the Proposed Action tribal sites would be less effected by removing accumulations of fuel from the vicinity, thereby reducing the threat of catastrophic wildland fire. Adverse effects on tribal resources from prescribed fire management actions would be avoided through identifying the resources prior to disturbance and protecting the resources. Under the Proposed Action, the planning process would be more coordinated and efficient. All non-emergency projects (prescribed fire, fuel reduction) would be planned collaboratively, resulting in benefits to tribal resources as all efforts would be made to avoid or protect known tribal sites. Adverse effects on tribal resources from prescribed fire management actions would be avoided through identifying the resources prior to disturbance and protecting the resources.

Implementation of the activities under the Proposed Action would, over the long-term, decrease the probability of large wildland fires on Camp Guernsey. The Proposed Action would not alter Native American access to any identified “sacred site”.

Implementation of the Proposed Action would result in less than significant adverse effects to protected tribal resources.
3.2.8.2.2 Effects of the No Action Alternative
Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to tribal resources would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires. Coordination between Camp Guernsey and other public agencies, including Native American Indian Tribes would not occur via a written plan.

Under the No Action Alternative, tribal sites scattered throughout the training area would be placed at greater risk as heavy accumulations of fuels continue to increase and encroach on these sites. Large high-intensity fires would increase the need for the use of heavy equipment to halt the spread of fire. The use of such equipment could damage previously unknown tribal resources. In addition, under this alternative, the tribal landscape would slowly disappear as open woodlands, fields and parks, were taken over by trees. Then after a large-scale, high intensity wildland fire burned through these woodlands, a large barren treeless landscape would persist for centuries. This ecological succession has already occurred throughout much of the North Training Area.

Implementation of the No Action alternative would result in less than significant adverse effects to protected tribal resources.

3.2.8.2.3 Effects of Alternative B
Effects on protected tribal resources under Alternative B would be the same for the common elements (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]) as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Implementation of Alternative B would result in less than significant adverse effects to protected tribal resources.

3.2.9 Socioeconomics (including Health & Safety)
3.2.9.1 Affected Environment
The Town of Guernsey and the Town of Hartville are located immediately adjacent to Camp Guernsey. With the exception of the residential areas, most of the land immediately surrounding Camp Guernsey consists of agricultural land and rangeland. Ranching and agriculture uses dominate the majority of the private land holdings within the region. Historically, Platte County’s rural economy relied primarily on agriculture. In 2010, the largest employment sectors were: education, health care, and social services (18.3 percent); transportation, warehousing and utilities (15.7 percent); and agriculture, forestry, and mining (15.2 percent) (United States [U.S.] Census 2010).
The county’s labor force of more than 6,456 people is more than 64 percent employed. In Platte County in 2005, 134 jobs were provided directly by Camp Guernsey (Wyoming Center for Business & Economic Analysis, LLC 2005). The WYARNG currently employs 293 people at Camp Guernsey (Army Communities of Excellence, WYARNG 2012b). Median household income for Platte County families has increased from $33,866 in 2000 to $42,947 in 2010 (U.S. Census 2012).

Camp Guernsey has a significant influence on the Town of Guernsey and Platte County's economy. The Town and the WYARNG have initiated a cooperative effort for community development, infrastructure sharing, and new housing. The Town of Guernsey initiated a **Town of Guernsey Master Plan** in July 2008. The **Guernsey Joint-Use Airfield Airport Master Plan Report** (WYARNG 2007c) guides the WYARNG and the Town of Guernsey on the use and management of the Camp Guernsey airport for co-use as a public airport.

To comply with EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, the number of children under age 19 was determined for Platte County and compared to state and national levels. In 2010, the U.S. Census identified that there were estimated to be 1,765 children age 18 and under residing in Platte County, comprising approximately 20.4 percent of the county’s population. This compares to 24 percent of the population being children under the age of 18 in both the state of Wyoming and the nation. Children do not reside on Camp Guernsey, but do live and attend school within the Town of Guernsey which abuts the Installation's western Cantonment Area boundary.

**Health & Safety Overview** - The Platte County Sheriff’s Office provides law enforcement for the entire county except for Camp Guernsey. The Town of Guernsey has one Police Office. Installation security is maintained by state contracted security personnel who staff the main entrance gate and conduct roving patrols. The Camp Guernsey Fire Department provides fire and emergency medical response within Installation boundaries. The Guernsey Volunteer and Guernsey Rural Fire Departments located in Guernsey serve the general public. Platte County Rural Fire District 2F from Wheatland and the Glendo Rural (2F) Fire Department, both provide fire emergency medical support throughout the county. Both County-level providers are volunteer forces. Camp Guernsey maintains an unmanned medical facility which is used by military unit medics during troop training. There are two medical clinics in Guernsey; one is affiliated with the Platte County Memorial Hospital (Wheatland) and the other with Community Hospital (Torrington). Medical emergencies are transported to the Platte County Memorial Hospital, located 27 miles from Camp Guernsey in Wheatland.

Platte County has mutual aid and operating agreements and plans that incorporate federal, state, and county policies with procedures that facilitates interagency coordination throughout the county. More specifically there are mutual aid agreements between Platte County and the towns of Glendo, Guernsey, and Hartville as well as Camp Guernsey, State Forestry, and the BLM. There is no mutual aid agreement specifically between the Glendo State Park and Platte County.

The Wyoming Military Department is a signatory to the Sub-Geographic Area Annual Operating Plan (AOP) applicable to Platte, Converse, Natrona, and Goshen counties. This AOP is prepared
annually pursuant to the *Wyoming Interagency Cooperative Fire Management Agreement* and includes the USDI Bureau of Land Management (BLM) High Plains District & Wind River/Bighorn Basin District, USDA Forest Service (USFS) Medicine Bow/Routt National Forest and Thunder Basin National Grasslands, USDI US Fish & Wildlife Service (USFWS), National Park Service (NPS), Wyoming State Forestry Division (WSFD), Platte County, Converse County, Goshen County, Natrona County, Natrona County Fire Protection District, Casper Mountain Fire District, and the Wyoming Military Department-Camp Guernsey. This AOP includes, among other things, protection responsibilities and priorities, wildland suppression procedures, aviation procedures, enforcement, fuel management and prescribed fire considerations, reimbursements by protection agency, and training requirements. The AOP also includes a Platte County Directory and Dispatching Call List.

3.2.9.2 Environmental Consequences

**Impact Significance Threshold.** If an alternative would substantially alter the location and distribution of the human population, cause the population to exceed historical growth rates, or substantially affect the local housing market and vacancy rates, the effect could be significant. In addition, an alternative could have a significant adverse effect if it would create a need for new or increased fire or police protection, or medical services, beyond the current capability of the local community, or would decrease public service capacities so as to jeopardize public safety. If an alternative would be likely to result in the potential for death, serious bodily injury or illness to on-site workers or the public, the effect could be significant. If an alternative would result in disproportionate risks to children that resulted from environmental health or safety risks, the effect could be significant.

3.2.9.2.1 Effects of the Proposed Action

Large fires that threaten to leave WYARNG property could adversely affect livelihoods on adjacent private lands. These fires could also disrupt the operations of the adjacent Guernsey State Park, Glendo State Park, Register Cliff, and Oregon Trail Ruts National Historic Site. This may result in adjacent areas being closed to the public and evacuation of livestock grazing allotments. Large wildfires may also require the possible evacuation of citizens located in the communities of Guernsey, Hartville, and surrounding rural areas.

**Effects of elements common to all analyzed alternatives** (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and wildland fire use/prescribed fire in Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce the fine fuel load.
Additional coordination with other land management and fire management agencies would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would occur.

There would be an increased amount of acreage burned annually under this alternative that could create quality training scenarios for local fire districts and agency personnel. Increased opportunities for training would actually enhance the capabilities of fire suppression agencies in the region. Coordinated training events, as a result of the increased prescribed burning, could also lead to more effective responses to wildland fires when multiple agencies are dispatched.

The increase in mechanical/manual thinning of forested areas would likely create employment opportunities within the region as most of this work would be contracted out. There have been historical or current conflicts between the WYARNG and interested parties relative to socioeconomics at Camp Guernsey due to wildland fires escaping onto neighboring landowners’ properties. Under the Proposed Action, these types of conflicts have a lower chance of reoccurrence in the future due to the increase of coordinated wildland fuels management.

Long-term beneficial effects could include a reduction in the cost of suppression, an increase in payroll benefits for non-fire fuel reduction treatments, and more protection for communities at risk and their associated infrastructures and resource values. A decreased long-term potential for severe wildland fire would lead to increased firefighter and public safety and a likely reduction in loss of property (from a severe fire event) and suppression expenses.

Effects from fire or treatment procedures would result in an increase in the quantity and quality of forage, reducing costs for livestock owners to supplement feed or move stock as frequently. Over time, there would likely be fewer economic losses in the local Fire Districts from severe wildland fires. The subsequent decrease in fires that would otherwise cross land ownership boundaries onto private and county-owned land would result in an overall increase in safety for the general public.

Effects of these common elements on socio-economics would be less than significant.

**Effects of prescribed fire to manage fuel loads outside Impact Area** – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the *Annual Fire Mitigation Work Plan* (see section 2.2). NEPA analysis and documentation for proposed projects in these annual work plans will be conducted annually. Livestock grazing would typically be curtailed for one year in a burned area.

Fire is an effective tool for reducing hazard fuels, but it is also a threat to the public, firefighters, Installation staff, developed areas, and neighboring properties. The first and foremost objectives for fire management are the protection of life, property, and resources from the unacceptable effects of wildland or prescribed fire. Life and property encompasses Installation staff, firefighters, visitors as well as Installation developments and personal property of everyone.
concerned. Life and property on neighboring lands are also of concern. The paradox facing resource managers is that while fire is a threat, it is also an effective tool for reducing fire hazards.

Effects of prescribed fire on socio-economics would be less than significant.

**Effects of wildland fire use** – Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan* could occur under the Proposed Action. NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. A confine and contain strategy would be implemented if the fire continued to meet management objectives. Wildland fire use fires would be continuously monitored and Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders. Wildland fire use would not occur if the training area was being heavily used by soldiers. Livestock grazing would typically be curtailed for two years following a burn.

The wildland fire use strategy utilized under the Proposed Action would not require as many resources as would be needed to contain a wildland fire which would reduce the stresses placed on local firefighting districts.

Effects of wildland fire use on socio-economics would be less than significant.

**Effects of prescribed fire to manage natural resources** - Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan*. Additional NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. Prescribed fire is a useful tool for rangeland management that could benefit livestock, wildlife, and training. Planned prescribed burn areas may need to have no or limited grazing for a period of time before a prescribed burn so fine fuels that carry the fire can be increased. Livestock grazing would typically be curtailed for two years following a prescribed burn. However, range management and grazing lessees should benefit in the long term from increased forage production and accessibility for livestock. Properly planned and executed prescribed fires would also benefit big game and game birds, which in turn would benefit recreational hunting on Camp Guernsey. Livestock grazing would typically be curtailed for two years following a burn.

Effects of prescribed fire to manage natural resources on socio-economics would be less than significant.

There were no comments received from Camp Guernsey grazing lessees or adjacent landowners. The BLM was actively involved in the fire management planning process and no formal comments were received from this overlying and adjoining landowner. The Wyoming State Forestry Division was actively involved in the fire management planning process and no formal comments were received from the WY Office of State Lands. The Bureau of Reclamation provided no comments. Wyoming State Parks submitted no comments or concerns. No comments were received from Platte County, the Town of Guernsey, or other adjacent communities. There were no comments received from the public in relation to socio-economics. Two comment letters were received from surrounding Rural Fire Districts (see Appendix B).
The Goshen County Fire Warden had no specific comments, but he did state that mutual aid efforts of all nine Goshen County fire departments are at the ready. The Glendo Rural Fire District President, Kelly Roediger, expressed concerns with the high turnover of the Camp Guernsey Commander and Fire Chief, which results in the loss of institutional memory. He also stressed the need for cooperation with local fire districts and the loss of tax revenue as the Guard buys private land. Mr. Roediger was also concerned with reimbursement for firefighting expenses on Camp Guernsey lands. The Proposed Action would integrate wildland fire suppression and prescribed fire management as well as fire prevention within the context of an approved comprehensive plan. It would assure that all fire management goals and affected resources are considered and coordinated before actions are taken. This approved plan would help institutionalize the plans and policies for fighting fire and communicating with local fire districts. The Wyoming Military Department, a State agency, has a detailed process it follows prior to acquiring private land. All land acquisitions follow a “willing seller – willing buyer” basis. State agencies do not pay county property taxes. However, state and Guard employees do pay county taxes and the numerous military units and other agencies using Camp Guernsey help support the local economy. The Sub-Geographic Area Annual Operating Plan (AOP) described in the preceding section details agreed upon cost reimbursement procedures for firefighting expenses. Platte County is a signatory to this AOP.

Mr. Roediger expressed additional concerns in regard to dense stands of ponderosa in the NW corner of the Installation and their proximity to rocket firing points. The WYARNG is planning to widen the fuel break along Patten Creek Road in this area to mitigate this concern (see draft Camp Guernsey Fire Work Plan FY15). In addition, future fuel reduction treatments (tree thinning and possibly prescribed fire) may be incorporated into future Annual Fuel Work Plans in this area. Mr. Roediger also expressed concern with the timbered areas in the NE corner of the Installation. Currently, there are no plans to mitigate this perceived hazard. The 2012 Sawmill Canyon Fire burned a vast area between this timber and the Impact Area, leaving few standing trees. Future fuel breaks and fuel reduction treatments (tree thinning and possibly prescribed fire) may be incorporated into future Annual Fuel Work Plans in this area.

The Proposed Action would not substantially alter the location and distribution of the human population, cause the population to exceed historical growth rates, or substantially affect the local housing market and vacancy rates. In addition, implementation of the Proposed Action would not create a need for new or increased fire or police protection, or medical services, beyond the current capability of the local community, nor would it decrease public service capacities so as to jeopardize public safety. The Proposed Action would not be likely to result in the potential for death, serious bodily injury or illness to on-site workers or the public. The Proposed Action would not result in disproportionate risks to children.

Implementation of the Proposed Action would result in less than significant adverse effects to socio-economics.

3.2.9.2.2 Effects of the No Action Alternative
Under the No Action Alternative, current wildland fire management would continue without a written plan. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large
wildland fires. Under the No Action Alternative these large uncontrolled wildland fires and the associated effects on socio-economics reoccur. Determining how often Camp Guernsey could expect large wildland fires to reoccur under the No Action Alternative is very speculative. However, Camp Guernsey could expect to have large wildland fires every ten to twenty years, with the timing correlated to extended drought conditions.

Suppression efforts could provide income for support services in the local community. Wildland fires would displace livestock from foraging areas. A temporary loss of allotment use could affect permittees by decreasing revenue during the time that they are unable to utilize their allotment(s). In addition, short-term effects could include altered transportation routes, disruption of subsistence activities, and temporary increases in noise.

Continuation of current policy limits the ability to reduce the fuel hazard on Camp Guernsey with all wildfires being aggressively suppressed and limited vegetation treatments being prescribed. Coordination between Camp Guernsey, other public agencies, and adjacent landowners would not occur via a written plan. The lack of planned fire management across ownerships would result in more frequent and larger fires.

There have been historical or current conflicts between the WYARNG and interested parties relative to wildland fires escaping onto neighboring landowners’ properties. As a result, Camp Guernsey has had to compensate some adjacent landowners for losses. Under the No Action Alternative, these types of conflicts have a higher chance of reoccurrence due to the lack of coordinated wildland fuels management.

Under No Action, Camp Guernsey has not adopted a standardized training and qualification system for wildland fire management and suppression. This creates a significant safety concern for personnel that are participating in prescribed fire and wildland suppression activities without the necessary qualifications and training. The lack of coordinated management severely reduces the effectiveness of fire reporting, response, and rehabilitation.

Large-scale, high intensity wildland fires that leave WYARNG property as a result of implementing the No Action Alternative, could adversely affect livelihoods on adjacent private lands. These fires could also disrupt the operations of the adjacent Guernsey State Park, Glendo State Park, Register Cliff, and Oregon Trail Ruts National Historic Site. This may result in adjacent areas being closed to the public and evacuation of livestock grazing allotments. Large wildfires may also require the possible evacuation of citizens located in the communities of Guernsey, Hartville, and surrounding rural areas.

Implementation of the No Action Alternative could result in significant adverse effects to socio-economics.

3.2.9.2.3 Effects of Alternative B
Effects on socio-economics under Alternative B would be the same for the common elements (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area
stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details] as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Implementation of Alternative B would result in less than significant adverse effects to socio-economics.

3.2.10 Infrastructure

3.2.10.1 Affected Environment

Transportation - U.S. 26 provides access to Camp Guernsey from I-25. Wyoming State Highway 270 heads north from just east of the Cantonment Area providing access to the North Training Area. State Highway 317, also known as Lake Shore Drive, starts at U.S. 26, just west of the Platte River crossing, winds north through Guernsey State Park and over Guernsey Dam, and follows much of the eastern shoreline of Guernsey Reservoir. Lake Shore Drive then joins the gravel County Road, Emigrant Hill Road, which heads northwest from Highway 270 and runs through the middle of the North Training Area. The paved Old Guernsey Highway runs through the northeast corner of the South Training Area.

The main entrance to the Cantonment Area is located at Portugese-Philips Road. Portugese-Philips Road serves as the primary north-south routes through the Cantonment Area. South Wyoming, Fremont, Hunton, and Laramie Avenues serve as additional north-south access. Custer, Patton, Bridger, and Sublette Streets provide east-west access throughout the Cantonment Area.

Communications - Phone, internet, fiber, and cable, are installed throughout the Cantonment Area. Fixed communications lines are in limited locations in the North Training Area and South Training Area. Cellular phone access is also limited in both the North and South Training areas. Upgrades to electrical and communication networks are in early planning stages across the Installation.

Airspace - The Federal Aviation Administration (FAA) manages all airspace within the U.S. and its territories. The FAA recognizes the military’s need to conduct certain flight operations and training within airspace that is separated from that used by commercial and general aviation.

Airspace is defined in vertical and horizontal dimensions and by time. Airspace is a finite resource that must be managed to achieve equitable allocation among commercial, general aviation, and military needs. The Federal Aviation Administration has established various airspace designations to protect aircraft while operating near and between airports and while operating in airspace identified for defense-related purposes. Flight rules and air traffic control procedures govern safe operations in each type of designated airspace. Most military operations are conducted within designated airspace and follow specific procedures to maximize flight safety for both military and civil aircraft.

Controlled airspace is a generic term for the different types of airspace and defined dimensions within which air traffic control service is provided to instrument-flight-rules flights and visual flight-rules flights in accordance with the airspace classification.
Camp Guernsey has a Restricted Airspace R-7001A, B, C, up to 30,000 feet to allow for military training over the North Training Area. The Guernsey joint-use airport has a designated runway protection zone which restricts facilities from the approach to the runway. The WYARNG has established areas that restrict aircraft over flights above sensitive noise receptors (see Noise and Wildlife section).

3.2.10.2 Environmental Consequences

Impact Significance Threshold. An alternative could have a significant adverse effect on infrastructure if it would increase demand over capacity, requiring a substantial system expansion or upgrade, or if it would result in substantial system deterioration over the current condition. If an alternative would not be consistent with controlled airspace designations, the effect could be significant.

3.2.10.2.1 Effects of the Proposed Action

Effects of elements common to all analyzed alternatives (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]). Wildfire suppression, the construction and maintenance of firebreaks, mechanical fuel reduction treatments, and wildland fire use/prescribed fire in Impact Area would continue under the Proposed Action. Immediate suppression of wildfires (with the limited exception being wildfires in the Impact Area) would continue. A substantially increased focus on mechanical fuel reduction treatments would occur and a detailed plan for construction and maintenance of firebreaks/fuel breaks would be implemented. Prescribed burns in the Impact Area would be scheduled annually to reduce the fine fuel load.

Additional coordination with other land management and fire management agencies would occur under the Proposed Action. Greater internal coordination with the WYARNG Natural Resource Manager and Cultural Resource Manager would occur. Some new firebreaks would be established and maintained. Some ineffective or obsolete firebreaks would be eliminated. A substantially increased focus on mechanical fuel reduction treatments (timber thinning) would occur. Livestock grazing would typically be curtailed for two years following a wildfire or a prescribed fire.

Airspace could be affected due to smoke from prescribed or wildland fires. Smoke from prescribed burns would be minimized by conducting burns on days when smoke dispersion and wind direction will reduce effects to airspace and surrounding communities. Note: this is a requirement of the WDEQ-AQD Smoke Management Program.

Effects of these common elements on infrastructure would be less than significant.

Effects of prescribed fire to manage fuel loads outside Impact Area – Locations and projects to use prescribed fire to reduce fuel loads outside the Impact Area will be identified in the Annual Fire Mitigation Work Plan (see section 2.2). NEPA analysis and documentation for proposed projects in these annual work plans will be conducted annually.
Effects of prescribed fire on infrastructure would be less than significant.

**Effects of wildland fire use** – Allowing naturally ignited wildland fires to burn in order to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan* could occur under the Proposed Action. NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually. A confine and contain strategy would be implemented if the fire continued to meet management objectives. Wildland fire use fires would be continuously monitored and Camp Guernsey would continuously update information on fire location, size, behavior, smoke dispersal, road closures, and safety conditions, making this information available to all stakeholders.

Effects of wildland fire use on infrastructure would be less than significant.

**Effects of prescribed fire to manage natural resources** - Under the Proposed Action, prescribed fire could be used to accomplish specific resource management objectives in pre-defined designated areas outlined in the *Annual Fire Mitigation Work Plan*. Additional NEPA analysis and documentation for proposed projects in these annual work plans would be conducted annually.

Effects of prescribed fire to manage natural resources on infrastructure would be less than significant.

The greatest threat to infrastructure is a large-scale, high intensity wildland fire that could lead to the loss of buildings, training ranges, and communication systems. Under the Proposed Action wildland fire may adversely affect some infrastructure. Under the Proposed Action infrastructure would be less effected by removing accumulations of fuel from the vicinity, thereby reducing the threat of catastrophic wildland fire. Adverse effects on infrastructure from prescribed fire management actions would be avoided through identifying the infrastructure prior to disturbance and protecting it. Under the Proposed Action, the planning process would be more coordinated and efficient. All non-emergency projects (prescribed fire, fuel reduction) would be planned collaboratively, resulting in benefits to infrastructure as all efforts would be made to avoid or protect these areas. Implementation of the activities under the Proposed Action would, over the long-term, decrease the probability of large wildland fires on Camp Guernsey.

Implementation of the Proposed Action would result in less than significant adverse effects to infrastructure.

**3.2.10.2.2 Effects of the No Action Alternative**

Under the No Action Alternative, current wildland fire management would continue without a written plan. Effects to infrastructure would occur as a result of wildfire intensity and location, as well as fire management activities including suppression. Every attempt would be made to immediately suppress all wildland fires. The only prescribed burning would be in the Impact Area, Range Row, and at designated firing points. Fuel loads would continue to build to unnaturally high levels, which would result in future large wildland fires.

Continuation of current policy limits the ability to reduce the fuel hazard on Camp Guernsey with all wildfires being aggressively suppressed and limited vegetation treatments being prescribed.
Coordination between Camp Guernsey and other public agencies that own land within the Installation would not occur via a written plan. The lack of planned fire management across ownerships would result in more frequent and larger fires. Determining how often Camp Guernsey could expect large wildland fires to reoccur under the No Action Alternative is very speculative. However, Camp Guernsey could expect to have large wildland fires every ten to twenty years, with the timing correlated to extended drought conditions.

Under the No Action Alternative, infrastructure scattered throughout the training area would be placed at greater risk as heavy accumulations of fuels continue to increase and encroach on these areas. Large-scale, high intensity wildland fires that leave WYARNG property as a result of implementing the No Action Alternative, could adversely affect infrastructure on adjacent lands.

Implementation of the No Action Alternative would result in less than significant adverse effects to infrastructure.

3.2.10.2.3 Effects of Alternative B
Effects on infrastructure under Alternative B would be the same for the common elements (safety; fire operations command philosophy; fire leadership; prevention and education; fire preparedness; mechanical fuel reduction treatments; firebreaks; wildfire suppression; prescribed fire in Impact Area, Range Row, and designated firing points; wildland fire use in the Impact Area; minimal impact suppression techniques; cost effective fire operations; burned area stabilization and rehabilitation; and reviews, investigations, data and records management [see section 2.1 for details]) as detailed in the Proposed Action. Wildland fire use and prescribed burns to manage natural resources would not occur. Without these two fire management tools, fuel loads would continue to build potentially resulting in a greater threat of large wildfires.

Alternative B would result in less than significant adverse effects to infrastructure.

3.3 Resources Not Analyzed In Detail
NEPA requires that EAs “identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review, narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere” (40 CFR §1501.7(a) (3)). The following resources were not analyzed in detail because the Proposed Action, the No Action Alternative, and Alternative B would all result in no effects or negligible effects: Noise; Geology and Topography; Prime and Unique Farmland; Water Resources; Wetlands; Floodplains; Environmental Justice; and Hazardous and Toxic Materials and Wastes.

3.3.1 Noise
There are no state, or local noise ordinances at Camp Guernsey or on surrounding properties. The federal government has a law that regulates aircraft noise (49 U.S.C. 44715, Aircraft Noise Abatement Act) and the Noise Control Act (42 U.S.C. 4901-4918). These laws require federal agencies to “protect the public health and welfare to the extent he believes to be required and feasible” in respect to noise. However, they do not establish specific standards respecting noise. Environmental noise regulations usually specify a maximum outdoor noise level of 60 to 65 dB(A). The FAA has established a maximum day-night average sound level of 65 dB as being incompatible with residential communities. The WYARNG has a Statewide Operational Noise
Management Plan (SONMP) (WYARNG 2014) to guide noise management. Noise on and around Camp Guernsey results from a wide variety of both on-installation (vehicle and live fire training, military operations and military aircraft) and off-installation (nearby gravel quarries, railroad operations, and civilian aircraft operations) sources.

Camp Guernsey receives approximately five noise complaints a year from adjacent landowners. These complaints are typically attributable to aircraft noise. The WYARNG is cognizant that military aircraft operations and rocket firing have the potential to generate loud noises that may annoy people and/or disturb wildlife at sensitive times. To reduce the potential of impacting neighbors and wildlife, the WYARNG has established areas that restrict aircraft overflights above residential land uses, ranch locations, and sensitive wildlife areas. Noise abatement areas may not be overflown at altitudes below 1,500 feet AGL (see SONMP WYARNG 2014). Camp Guernsey staff also attempt to notify area residents about potential noise issues prior to operations.

Noise was dismissed from detailed analysis because effects of fire management activities on noise would be negligible. No interagency or public scoping comments were received relative to noise concerns.

3.3.2 Geology and Topography
Geology and Topography were dismissed from detailed analysis because effects of planned wildland fire management activities on geology and topography would be negligible. Camp Guernsey is not located in an area that is seismically active or that contains active faults. Platte County is in the Uniform Building Code Seismic Zone 1. Only one earthquake (intensity IV), in the 1950s, has been recorded in Platte County. Equipment use required to complete fire management projects would be localized and not frequent enough to have a significant adverse effect on geology or topography. There are no proposed facilities associated with the creation and implementation of the IWFMP that would require further study of geological features. The Proposed Action, the No Action, and Alternative B would have negligible effects on the availability of mineral resources and would not create geological hazards. There are no historical or current conflicts between the installation and various governmental agencies or interested parties relative to geology and topography. No interagency or public scoping comments were received relative to geology or topography.

3.3.3 Prime and Unique Farmland
The Farmland Protection Policy Act protects prime and unique farmlands by trying to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. The Natural Resource Conservation Service (NRCS) Soil Survey classifies land as prime or unique farmland. There are no historical or current conflicts between the installation and various governmental agencies or interested parties relative to prime and unique farmlands. The NRCS Soil Survey of Platte County, Wyoming identifies no prime and unique farmlands within the Installation boundary (See Appendix B, NRCS letter).

3.3.4 Water Resources
Water resources were dismissed from detailed analysis because the effects of planned wildfire management activities on water resources would be negligible. The No Action Alternative, the
Proposed Action, and Alternative B would not result in an unpermitted reduction in the quality (WDEQ jurisdiction) or quantity (SEO jurisdiction) of water resources. Wildland fire management activities at Camp Guernsey do not consumptively utilize surface water and therefore there would be no effects on downstream Platte River Threatened and Endangered (T&E) species (see section 3.5.6 for detailed analysis). Potential effects from soil erosion and sediment production are analyzed in detail in Section 3.5.3. Emergency fire suppression use of surface water does not require a water use permit. The alternatives presented would not affect any impaired waters on the Wyoming 303(d) list or a designated sole-source aquifer.

**Fire retardant** would be used on Camp Guernsey to suppress wildfires. Fire retardant is approximately 85 percent water and 15 percent fertilizer salts, thickening agents, coloring agents, and other ingredients such as corrosion inhibitors and stabilizers. Fire retardant slows the rate of fire spread by cooling and coating the fuels, depleting the fire of oxygen, and slowing the rate of fuel combustion with inorganic salts. Fire retardant is typically applied to fuels in front of an advancing fire, not directly onto the fire. When determined to be an appropriate suppression tactic, fire retardant may be applied to any type of landscape experiencing wildfire and would result in negligible effects at Camp Guernsey. The *Interagency Policy for Aerial and Ground Delivery of Wildland Fire Chemicals Near Waterways and Other Avoidance Areas* ([http://www.fs.fed.us/fire/retardant/interagency_policy_aerial_delivery.pdf](http://www.fs.fed.us/fire/retardant/interagency_policy_aerial_delivery.pdf)) provides direction to avoid aerial application of all wildland fire chemicals within 300ft of waterways. Camp Guernsey will follow the direction provided in this publication when using fire retardant.

There are no historical or current conflicts between the installation and various governmental agencies or interested parties relative to water resources. The Wyoming Game and Fish Department (WGFD) expressed concern over the potential for introduction of invasive aquatic species (introduced mollusks) (see Appendix B, WGFD letter). The WYARNG has addressed this concern by incorporating specific protocols and procedures in the *Integrated Pest Management Plan* (WYARNG 2013) and *the Integrated Natural Resource Management Plan* (WYARNG 2015a). These procedures will be mandated for all water-borne wildland fire management and suppression activities at Camp Guernsey. The WGFD also recommended that guidance provided in several other agency BMP manuals be utilized to minimize impacts on aquatic resources. These other agency BMP manuals are included in section 2.4. As project and site-specific wildland fire work plans are proposed separate NEPA analysis will be conducted and site specific mitigation and/or BMPs may be prescribed.

### 3.3.5 Wetlands

The term *waters of the United States* has been broadly defined by statute, regulation, and judicial interpretation to include all waters that were, are, or could be used in interstate commerce such as streams, reservoirs, lakes, and adjacent wetlands. *Wetlands* are a type of special aquatic that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Executive Order 11990, *Protection of Wetlands*, requires federal agencies to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. It also requires that agencies avoid construction or providing assistance for new construction located in wetlands, to the extent practicable.
There are wetlands at Camp Guernsey. However, wetlands were dismissed from detailed analysis because wildland fire management activities in the Proposed Action, the No Action Alternative, and Alternative B would have a negligible effect on wetlands and other waters of the U.S. None of the alternatives would result in a discharge of dredged or fill material within a waters of the United States, including wetlands, that is not authorized by the Army Corps of Engineers. There are no historical or current conflicts between the installation and various governmental agencies or interested parties relative to wetlands. No interagency or public scoping comments were received relative to wetlands.

3.3.6 Floodplains

Executive Order 11988, *Floodplain Management*, requires federal agencies to avoid, to the extent possible, adverse effects associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development. The Platte County Zoning Rules and Regulations (Platte County 2012) require prior approval before development in an area of special flood hazard as mapped by the Federal Emergency Management Agency (FEMA).

Through its Flood Hazard Mapping Program, the Federal Emergency Management Agency (FEMA) identifies flood hazards, assesses flood risks, and partners with States and communities to provide accurate flood hazard and risk data to guide them to mitigation actions. Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

A portion of the Cantonment Area is located on a terrace to the North Platte River, but stream flows in the North Platte are now highly regulated by several upstream reservoirs. This terrace is not identified by FEMA as a flood hazard and the Town of Guernsey does not regulate this area as a flood zone.

Floodplains were dismissed from detailed analysis because the fire management activities in the Proposed Action, the No Action Alternative, and Alternative B would have no effect on floodplain function. There are no historical or current conflicts between the installation and various governmental agencies or interested parties relative to floodplains. No interagency or public scoping comments were received relative to floodplains.

3.3.7 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs federal agencies to address environmental and human health conditions in minority and low-income communities. Minority persons represent approximately 4.6 percent of Platte County’s population (U.S. Census 2012). American Indian, Alaskan Native, and Asians account for most of the minority population, representing 0.8 percent of Platte County’s population. The incidence of persons in Platte County with incomes below the poverty level in 2010 was 10.3, with the percent of persons in the Town of Guernsey with incomes below the poverty level at 11.8 percent. As such, Camp Guernsey is not located in an area of high minority and/or low income populations. Low income is defined by the U.S. Census Bureau as the weighted average in 2010 for a family of four of $22,314 or for an individual of $11,344.
Environmental justice was not analyzed in detail because implementation of the Proposed Action, the No Action Alternative, and Alternative B would have no disproportionate health or environmental effects on minorities or low-income populations or communities. There are no historical or current conflicts between the installation and various governmental agencies or interested parties relative to Environmental Justice. No interagency or public scoping comments were received relative to Environmental Justice concerns.

### 3.3.8 Hazardous and Toxic Materials and Wastes.

Camp Guernsey maintains programs to manage the use and disposal of hazardous and solid wastes. These programs include: the 2013 *Camp Guernsey Spill Prevention Control and Countermeasure Plan* (SPCC) which identifies measures for preventing and responding to spills of petroleum, oils, and lubricants (POLs), hazardous materials, and hazardous wastes; the *Hazardous Materials and Hazardous Waste Management Plan* (HMHWMP) (WYARG 2013) with the objective of reducing quantity and toxicity of wastes generated at Camp Guernsey; and a *Pollution Prevention Plan* with the goal of reducing the effects of post operations on the environment. The HMHWMP provides guidance and assigns responsibility for the safe and proper methods for handling, storing, and disposing hazardous wastes. Camp Guernsey is classified as a small quantity generator monitored by the EPA under the authority of the Wyoming Environmental Quality Act, Wyoming Hazardous Waste Management Rules, and the federal Resource Conservation and Recovery Act (RCRA) as amended by the Hazardous and Solid Waste Amendments (HSWA). Camp Guernsey has developed recycling/minimization efforts to reduce the quantity of waste generated. The Installation has established procedures and policies, and assigns responsibilities associated with the generation, handling, management, and disposition of hazardous waste. The Camp Guernsey Department of Public Works provides initial and annual refresher training to representatives of various units operating at Camp Guernsey that generate hazardous wastes. The training includes specific instruction on the proper procedures for identification, handling, transport, and turn-in of hazardous wastes.

Fire retardant is the only potentially hazardous material that would be used on Camp Guernsey related to fire management. Fire retardant is approximately 85 percent water and 15 percent fertilizer salts, thickening agents, coloring agents, and other ingredients such as corrosion inhibitors and stabilizers. Fire retardant slows the rate of fire spread by cooling and coating the fuels, depleting the fire of oxygen, and slowing the rate of fuel combustion with inorganic salts. Fire retardant is typically applied to fuels in front of an advancing fire, not directly onto the fire. When determined to be an appropriate suppression tactic, fire retardant may be applied to any type of landscape experiencing wildfire and would result in negligible effects at Camp Guernsey. The *Interagency Policy for Aerial and Ground Delivery of Wildland Fire Chemicals Near Waterways and Other Avoidance Areas* (http://www.fs.fed.us/fire/retardant/interagency_policy_aerial_delivery.pdf) provides direction to avoid aerial application of all wildland fire chemicals within 300ft of waterways. Camp Guernsey will follow the direction provided in this publication when using fire retardant.

The Proposed Action, No Action Alternative, and Alternative B would result in negligible effects to, or from, hazardous and toxic materials and wastes. There are no historical or current conflicts between the installation and various governmental agencies or interested parties relative to hazardous materials or waste. No interagency or public scoping comments were received relative to hazardous and toxic material and waste concerns.
3.4 Mitigation Measures

Mitigation includes:

- **Avoiding** an impact by not taking a certain action or parts of an action;
- **Minimizing** an impact by limiting the degree or magnitude of the action and its implementation;
- **Rectifying** an impact by repairing, rehabilitating, or restoring the affected environment;
- **Reducing or eliminating** an impact over time, through preservation and maintenance operations during the life of the action; and
- **Compensating** for an impact by replacing or providing substitute resources or environments.

On January 14, 2011, the Council on Environmental Quality (CEQ) released final guidance on the “Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact” under the National Environmental Policy Act. This guidance document is not a rule or regulation, and it is not a legally binding requirement or legally enforceable. The guidance provides direction to federal agencies on establishing, implementing, and monitoring mitigation commitments in environmental assessments (EA) and environmental impact statements (EIS), and clarifies the appropriate use of mitigated Findings of No Significant Impact (FNSI). Specifically, the guidance encourages agencies to:

- Commit to mitigation in decision documents (the FNSI) when the environmental analysis is based upon such mitigation happening (by including appropriate conditions on grants, permits, or other agency approvals), and making funding or approvals for implementing the proposed action contingent on implementation of the mitigation commitments;
- Analyze the beneficial effects of mitigation measures based on your authority and expectation of resources to ensure that the mitigation is performed.
- Required mitigation requirements (Mitigated FNSI) should be carefully specified in terms of measurable performance standards, expected results, and timeframe (intended start date and duration).
- For mitigation commitments that agencies will implement directly, agencies must commit to providing or seeking funding. If it reasonably foreseeable that funding may be unavailable at any time during the life of the project, the agency should disclose in the EA the possible lack of funding and assess the resultant environmental effects. Then, based on such disclosure and assessment, the action could proceed unless the mitigation is essential to a Mitigated FNSI or necessary to comply with another legal requirement. If such disclosure and assessment is not done, then the agency should not move forward with the proposed action until funding becomes available or the lack of funding is appropriately assessed.
- Monitor the implementation and effectiveness of mitigation requirements;
- Make information on mitigation monitoring available to the public, preferably through agency web sites; and
- Remedy ineffective mitigation.

The guidance also encourages agencies to develop internal processes for post-decision monitoring to ensure the implementation and effectiveness of the mitigation. It also states that agencies may use adaptive management, which allows for the agency to take alternate mitigation actions if mitigation commitments originally made in the decision document fail to achieve projected environmental outcomes.

As introduced in section 2.2, there are four contexts to describe mitigation in a NEPA document:

1) **Design features** identified in the Proposed Action section, that are specific methods, procedures, or practices included as part of the Proposed Action to reduce or eliminate adverse effects. Best Management Practices (BMPs) and Standard Operating Procedures (SOPs) are also typically considered design features, not mitigation. For example, if the proposed action specifies that “standard BMPs include watering dirt roads to control dust will be followed”, this is a design feature, not a mitigation measure.

2) **Mitigation Alternatives** considered in the alternatives section of NEPA document that if selected as the Preferred Alternative would reduce or eliminate adverse effects. Using the previous example, if the proposed action did not include using standard BMPs such as watering roads. A reasonable alternative could be analyzed that included changes to the proposed action which did include these specific BMPs.

3) **Optional mitigation measures** identified in the environmental consequences section of an EA, not currently identified as design features, and that could be used to reduce or eliminate adverse effects to a given resource, regardless of whether or not the effects are significant in nature. Using the previous example, if watering roads to control dust is not identified as a design feature (BMP) as part of the Proposed Action. The impact analysis needs to identify it as an optional mitigation measure that could be used to mitigate air quality impacts, if voluntarily incorporated by the proponent or if incorporated into a future enabling Army legal document such as a contract, permit, lease, grant, etc...

4) **Required mitigation measures** specifically identified in the environmental consequences section of an EA that are necessary to reduce the effects of an action to below the threshold of significance, thereby avoiding the need to prepare an EIS. These type of mitigation measures must be specifically identified and incorporated into the FNSI and monitoring is required to ensure the implementation of these mitigation measures (e.g., Mitigated FNSI). These required mitigation measures should be carefully specified in terms of measurable performance standards, responsible parties, expected results, and timeframe (intended start date and duration). The State ARNG must have the authority to enforce that the mitigation measure be carried out and there must be a reasonable expectation of having the human and capital resources needed to perform the mitigation and monitoring to ensure the mitigation is effective. These required mitigation measures must be reasonable, effective, and feasible. Using the previous example again, if watering roads to control dust is determined to be a requirement to reduce a significant
air quality impact, then it must be specifically stated in the EA and in the FNSI (e.g., Mitigated FNSI). This holds true even if the measure has already been identified as a design feature.

This EA is a programmatic assessment of implementing an IWFMP at Camp Guernsey. The IWFMP is thus a BMP manual that identifies and describes the various BMPs and SOPs that can be utilized as specific fire management projects are proposed. At that time, project specific NEPA analysis will be conducted to determine whether mitigation measures, design features, and BMPs are mandatory to reduce impacts below the significance threshold or if they are simply encouraged.

Included in the Proposed Action of the IWFMP is preparation of an Annual Fire Mitigation Work Plan. Camp Guernsey Range Operations staff, Camp Guernsey Department of Public Works, Camp Guernsey Fire Department staff, and the Construction & Facilities Management Office (CFMO) Environmental Management Division will meet quarterly to plan and then implement detailed site specific fire mitigation projects for the coming year (e.g., prescribed burn plans, mechanical fuel reductions, new fire breaks, wildland fire use areas, etc.). The projects detailed within this Annual Fire Mitigation Work Plan will then be subject to further NEPA Analysis (a REC for activities adequately assessed as part of this Programmatic EA or for those activities covered by a categorical exclusion; or an EA which tiers off of this Programmatic EA for activities not adequately assessed in the programmatic analysis). The timing of future project-specific environmental analyses will be conducted as close as possible to the point of making real and irrevocable commitments to a project. Section 2.2 presents a listing of various additional BMP manuals that detail specific management practices that could be applied to minimize impacts on a project specific basis.

Specific measures to mitigate effects to below the significance threshold would not be required for the Proposed Action because no significant impacts are projected.

3.5 Cumulative Effects
As defined by CEQ Regulations at 40 CFR Part 1508.7, cumulative impacts are those that “result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, without regard to the agency (Federal or non-Federal) or individual who undertakes such other actions.” Cumulative impact analysis captures the effects that result from the Proposed Action in combination with the effects of other actions in the Proposed Action’s region of influence.

The following past, present, and reasonably foreseeable actions may occur in the vicinity of Camp Guernsey:

- The Camp Guernsey Master Plan (2013) details the construction of numerous new buildings in the Cantonment Area.
- Road upgrades throughout the Installation to support new and future training ranges.
- Perimeter fencing upgrades.
• Expansion of the current Impact Area to provide necessary capacity to receive long-range rocket (multiple launch rocket systems (MLRS) and high mobility artillery rocket systems (HIMARS)) and increased artillery use.

• Infantry Platoon Battle Course – This new range would be used to train troops in tactical movement techniques and mission-oriented training exercises. The range would likely be constructed in the North Training Area.

• Potential future land purchases of private parcels located within the Camp Guernsey boundaries or adjacent to it.

• The Wyoming State Parks Division is currently negotiating with the WYARNG to acquire additional acreage in the Warm Springs Area.

• The BLM currently manages several tracks of land within the Installation boundary. The WYARNG and BLM are currently negotiating the transfer of management of these lands to the WYARNG as they are currently isolated and inaccessible to the public.

• The WYARNG and the Town of Guernsey may execute future land exchanges.

• While no significant growth directly adjacent to the Installation boundary is occurring, or is anticipated, the WYARNG and Town of Guernsey continue to collaboratively plan for future development. Projects such as joint airport planning and other regional development plans ensure future development that is compatible with an active military installation.

• The 2008 Platte County Master Plan calls for future residential development in the Town of Wheatland into areas currently used as irrigated agricultural lands as well as for future residential development in areas around the exterior of Camp Guernsey. The County Master Plan indicates a potential for future conflicts in the expansion of residential areas in those areas where the WYARNG is planning future expansions.

• Several oil industry-related actions have recently occurred or are proposed for the Camp Guernsey vicinity, Platte County, and eastern Wyoming. The Wyoming Pipeline Authority (https://www.wyopipeline.com/projects;2012) is the regulatory oversight and planning authority for the state of Wyoming. Recent and proposed actions currently listed are: the Meritage Midstream Oil to Rail loading facility south of Gillette, Wyoming; the Highland Crude oil 460 mile pipeline from North Dakota to Guernsey; a Genesis Oil company Oil to Rail facility north of Douglas, Wyoming and a proposed 88 Oil LLC crude oil loading terminal and three additional rail loops south of Guernsey.

• Several large scale wind energy projects are also proposed within Wyoming and the Platte County area. Wyoming Wind and Power is proposing a 300 turbine (900 Mega-watt) wind farm near Wheatland and Chugwater, south of the South Training Area. The turbines would be primarily within Platte County, six miles south of Guernsey. To support the wind farm, a 180 mile, 900 Mega-watt electrical transmission inter tie is proposed from Wheatland, Wyoming to Brush, Colorado.

• Continued and increased noxious/invasive weed infestation.

• Continued human-caused and natural ignitions of wildland fire.
3.5.1 Cumulative Effects within the Area

Because landownership in Platte County encompass lands managed by several entities, the effects of wildland fire, fuels treatments, and general fire management are very seldom boundary-specific. Camp Guernsey is located within an area the majority of the lands are owned by private ranchers and used for livestock grazing. Past actions and the present continuation of fire management activities on these adjacent lands do not include management of fire as a natural process. Past and present fire management activities encourage aggressive fire suppression, minimal fuels treatments, and no wildland fire use. As summarized throughout this EA, scientists and natural resource specialists now agree that fire is a critical natural process that helps maintain healthy ecosystems. Past fire management policies and actions now appear to have contributed to overall ponderosa pine/juniper expansion and the introduction of exotic annual weeds. Cumulative effects of past and present actions on resources include a buildup of hazardous fuels, a reduction in understory and declines in diversity and health of vegetative communities. Combined, these cumulative effects have compromised air, water, soil, and visual resources; have increased the threat of, and resulted in severe wildland fires; and have created a greater fire risk for landowners and adjacent communities. If fire management goals and objectives remain as they have in the past, these impacts could consistently multiply and would cumulatively affect resources already impacted by other actions.

Continued long-term suppression of wildland fire would contribute to the continuing trend of fuels buildup, exacerbating the threat of severe wildland fire and potentially damaging biologic, cultural, or scenic resources. Large-scale implementation of objectives detailed in the National Fire Plan by adjacent landowners and other federal agencies may reduce fuels buildup throughout the region, improve habitat, and reduce invasive/non-native weeds. Because fire is a process that can operate on a large spatial scale, these types of fire management activities by other landowners may affect entire landscapes that include Camp Guernsey lands.

3.5.2 Cumulative Effects of the Proposed Action

In general, the goals and objectives of the Proposed Action are designed to create intentional, long-term beneficial cumulative impacts to most resources. Management considerations concerning the use of wildland fire, implementing fuels treatments, and working with local partners are all objectives developed with the underlying long-term goal of restoring wildland fire as an integral and beneficial ecosystem tool. Fuels management objectives include the protection of human life and property through the reduction of hazardous fuels, but also focus on moving landscapes toward desired future condition. Utilizing the Proposed Action to integrate the Wildland Fire Management Goals stated in section 1.2 into current management practices would advance resources toward a desired future condition and would result in long-term cumulative benefits to the ecosystem and training lands.

A general reduction in large-scale events of uncontrolled wildland fire is expected from the effects of implementing the Camp Guernsey IWFMP.

3.5.3 Inter-relationship of Cumulative Effects

The past, present, or reasonably foreseeable future actions are not expected to have an adverse cumulative effect in conjunction with the implementation of the Proposed Action. Measures included in the INRMP would provide guidance to protect Camp Guernsey’s natural resources.
while implementing the IWFMP. Likewise, measures in the ICRMP would protect cultural resources and Tribal resources. Project-specific NEPA analysis tiered off of this Programmatic EA will be prepared for all future wildland fire management projects.

Approval and implementation of the Proposed Action would result in less than significant adverse cumulative effects as all fire and related management activities will be coordinated with multiple entities both internally and with adjacent landowners and neighboring local, state, and federal agencies resulting in more strategic cross-boundary implementation of actions. Fire management activities including training exercises would be planned ahead of time in order to avoid potential effects associated with seasonal weather conditions and will be conducted within pre-determined conditions. More strategic and frequent vegetation management activities for the purposes of reducing fuel loads will help reduce the potentially negative effects of naturally occurring wildland fires. Wildland fire use, when conducted under specific conditions (i.e. minimal risk), is a very cost-effective tool to manage fuel loads. Furthermore, the Proposed Action will result in improved coordination and training of fire management personnel and formalization of fire-management and training procedures, which reduces the potential for accidents and ultimately helps prevent wildfires ignited on Camp Guernsey lands from spreading on to adjacent ownerships. While implementation of the Proposed Action will reduce the frequency of ignitions escaping initial attack and the probability of damage to resources from wildland fires, it does not eliminate the potential occurrence of uncontrolled wildfires.
4.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS

The Proposed Action is to approve and implement an Integrated Wildland Fire Management Plan (IWFMP) at Camp Guernsey. The proposed action would integrate all wildland fire management and prescribed fire management tools as well as fire prevention activities within the context of an approved comprehensive plan. It would ensure that all fire management goals and affected resources are considered and coordinated before actions are taken. The Proposed Action would provide flexibility in the management and use of both wildland fires and prescribed fires to reduce hazardous fuel loads. The Proposed Action would also allow wildland fires to burn in designated areas under prescribed conditions and allow the use of prescribed fires to manage natural resources. Under the No Action Alternative the WYARNG would not approve or implement an IWFMP and would continue to manage wildland fires without an agreed upon coordinated approach. Alternative B would incorporate current management that uses prescribed fire to reduce fuel loads in the Impact Area and at firing points with expanded use of prescribed fire outside the Impact Area to reduce fuel loads. However, wildland fire use and prescribed fire to manage natural resources would not be allowed.

4.1 Comparison of the Environmental Consequences of the Alternatives

Implementation of both the Proposed Action and Alternative B would result in no significant adverse environmental effects. The No Action alternative, continue with current wildland fire management activities, could result in significant adverse effects to land use, air quality, vegetation, and socio-economics. Table 4-1 summarizes by resource area the projected significance of effects.

Table 4-1. Summary of Environmental Effects

<table>
<thead>
<tr>
<th>Resource</th>
<th>Proposed Action</th>
<th>No Action Alternative</th>
<th>Alternative B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Air Quality</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Noise</td>
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<td>○</td>
<td>○</td>
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<tr>
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<td>○</td>
</tr>
<tr>
<td>Soils</td>
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<td>●</td>
<td>●</td>
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<tr>
<td>Prime and Unique Farmland</td>
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<td>○</td>
<td>○</td>
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<tr>
<td>Water Resources</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>Wetlands</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Floodplains</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Vegetation</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Wildlife</td>
<td>●</td>
<td>●</td>
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<td>Threatened &amp; Endangered Species</td>
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<td>Cultural Resources</td>
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<tr>
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<td>Hazardous and Toxic Materials and Wastes</td>
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<td>○</td>
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Key:  
● = Significant adverse effect.  
● = Less than significant adverse effect.  
○ = No adverse effect or negligible adverse effect.
4.2 Conclusions
The Proposed Action would integrate wildland fire suppression and prescribed fire management as well as fire prevention within the context of an approved comprehensive plan. It would assure that all fire management goals and affected resources are considered and coordinated before actions are taken. The Proposed Action would not result in significant adverse environmental effects, and mitigation measures would not be required. The Proposed Action is the WYARNG’s preferred alternative. A Finding of No Significant Impact is appropriate.
5.0 REFERENCES

Appendix A contains additional References for the related NEPA, environmental, and other documents and processes used in preparation of this EA. Section 1.7 contains additional References for the Regulatory Framework addressed in this EA.


Heimbuck, B. 2013. Communication with Scott Benson WYARNG.


6.0 **LIST OF PREPARERS**

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