# ENVIRONMENTAL ASSESSMENT

# GRAZING PERMIT RENEWAL FOR COW CAMP, HORSEBRUSH, AND PINE BUTTE ALLOTMENTS

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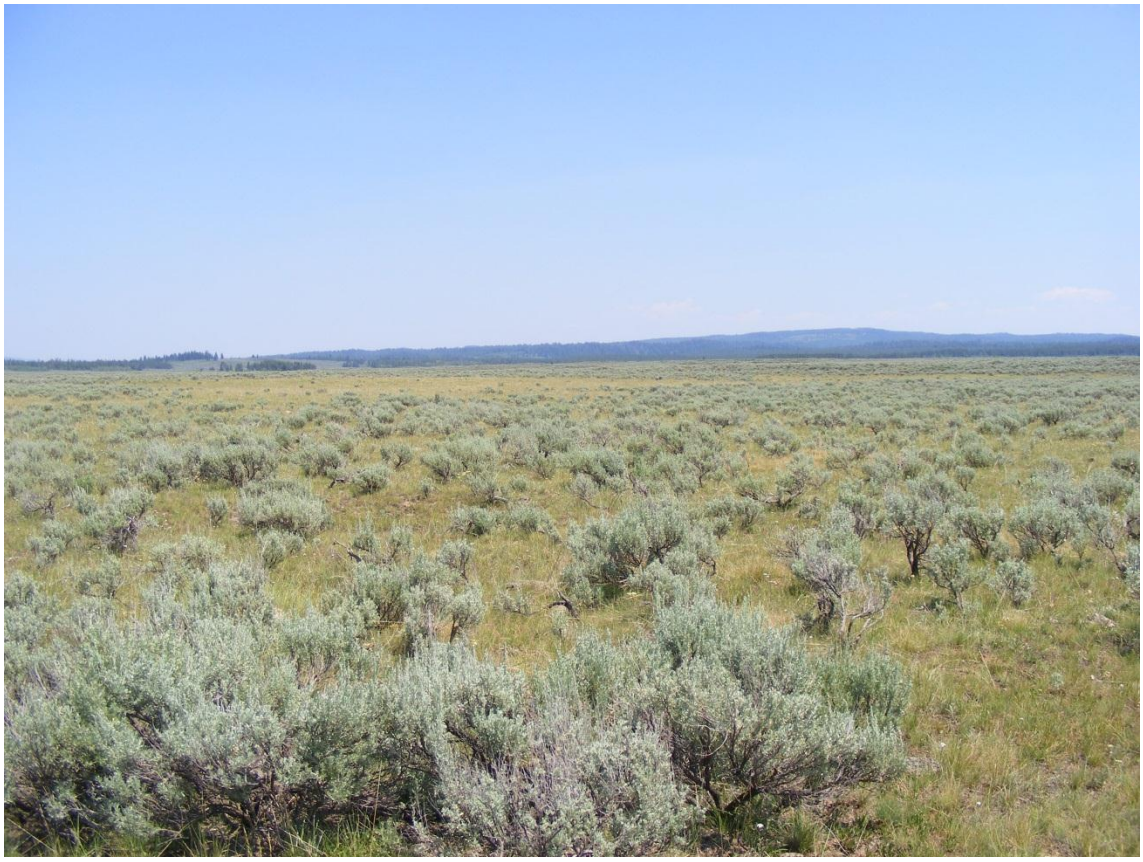

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**August 2013**

## CHAPTER 1 - INTRODUCTION:

### Background

There are several authorities which mandate or allow the Bureau of Land Management (BLM) to authorize livestock grazing on public lands as part of multiple-use management of natural resources. Livestock grazing is an accepted and valid use of public lands under the Taylor Grazing Act of 1934, the Federal Land Policy and Management Act (FLPMA) of 1976, and the Public Rangelands Improvement Act (PRIA) of 1978. This Environmental Assessment (EA) is prepared, pursuant to the National Environmental Policy Act (NEPA) of 1969, to address the request for continued livestock grazing on public lands in the Upper Snake Field Office.

Cow Camp Allotment

The Cow Camp Allotment is located 5 miles east of Hamer, Idaho in Jefferson County. The allotment includes 240 acres of BLM land and 126 acres of private land. The allotment consist of one pasture with one water source. The water source is a well located on private land. The permittee is authorized to run 40 cattle from May 1st to May 31st each year.

Horsebrush Allotment

The Horsebrush Allotment is located 5 miles east of Hamer, Idaho in Jefferson County. The allotment includes 4,821 acres of BLM land and 160 acres of private land. The allotment is divided into two pastures. There are two water sources located in the allotment. One well is located in the North Pasture on private land, while the second well is located on BLM land in the center of the allotment between the North and South Pastures. There are two grazing authorizations in the allotment. One permittee is authorized to run 860 cattle from May 1st to May 31st each year, while the other permittee is authorized to run 1,000 sheep from May 1st to May 6th.

Pine Butte Allotment

The Pine Butte Allotment is located 6 miles south of Kilgore, Idaho in Clark County. The allotment includes 10,561 acres of BLM land, 6,573 acres of State land, and 6,583 acres of private land. The allotment is divided five pastures with varying amounts of public lands. All of the water sources in the allotment are located on private land. The permittee is authorized to graze 795 cattle from June 1st to October 15th , as well as 822 sheep from June 1st to September 26th each year.

### Purpose and Need for Action

The Medicine Lodge Resource Management Plan (RMP) identifies the Cow Camp, Horsebrush, and Pine Butte Allotments as available for domestic livestock grazing. Where consistent with the goals and objectives of RMP, and Idaho's Standards for Rangeland Health and Guidelines for Livestock Grazing Management (1997), it is BLM policy to authorize allocation of forage for livestock grazing to qualified operators. The purpose of the proposed action is to authorize livestock grazing consistent with BLM policy and in a manner that maintains or improves project area resource conditions and achieves the objectives and desired conditions described in the

Medicine Lodge RMP. The analysis and authorization are needed because the current permits are expiring, and one permittee has applied for a renewal with changes in livestock management. While all of the applicable standards were found to be meeting in the Cow Camp and Pine Butte Allotments, the allotment evaluation for Horsebrush, as described below, found that not all standards were met. The Evaluation for the Horsebrush Allotment dated December 2012, identified that standards 4 and 8 of the Idaho Standards for Rangeland Health were not being met.

- *Standard 4 (Native Plant Communities): The majority of the native plant communities within the allotment have shown a downward trend in ecological condition between 1982 and 2012. Approximately 23% or 1,100 acres of the native plant communities in the Horsebrush Allotment are meeting the native plant community standard, while the remaining 77% or 3,710 acres are not being maintained in healthy, productive condition.*
- *Standard 8 (Threatened and Endangered Plants and Animals): The allotment doesn't provide habitats suitable to maintain viable populations of special statues species, of which one indicator is native plant communities maintained or improved to ensure proper functioning of ecological processes and continued productivity and diversity of native plant species. The native plant communities, in the allotment, are not being maintained and would therefore not meet the standard relative to Threatened and Endangered plants and animals. Approximately 77% or 3,710 of the allotment doesn't meet the Standard 8.*

The Evaluation also indicated that livestock management in the Horsebrush Allotment is not in conformance with the Guidelines for Livestock Grazing Management.

- Guideline 8 – *Apply grazing management practices that maintain or promote the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate, and landform.*

- Guideline 9 – *Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.*

- Guideline 12 - *Apply grazing management practices and/or facilities that maintain or promote the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.*

**Location**

The Cow Camp and Horsebrush Allotments lie with Jefferson County, while the Pine Butte Allotment lies with Clark County (Figure 1). The Cow Camp and Horsebrush Allotments are located in Townships 6 and 7 North, Ranges 37 East. The Horsebrush Allotment is divided into two pastures (Figures 2). The Pine Butte Allotment is located in Township 11 and 12 North, Ranges 39 and 40 East (Figure 1). The allotment is divided five pastures with varying amounts of public lands (Figure 3).

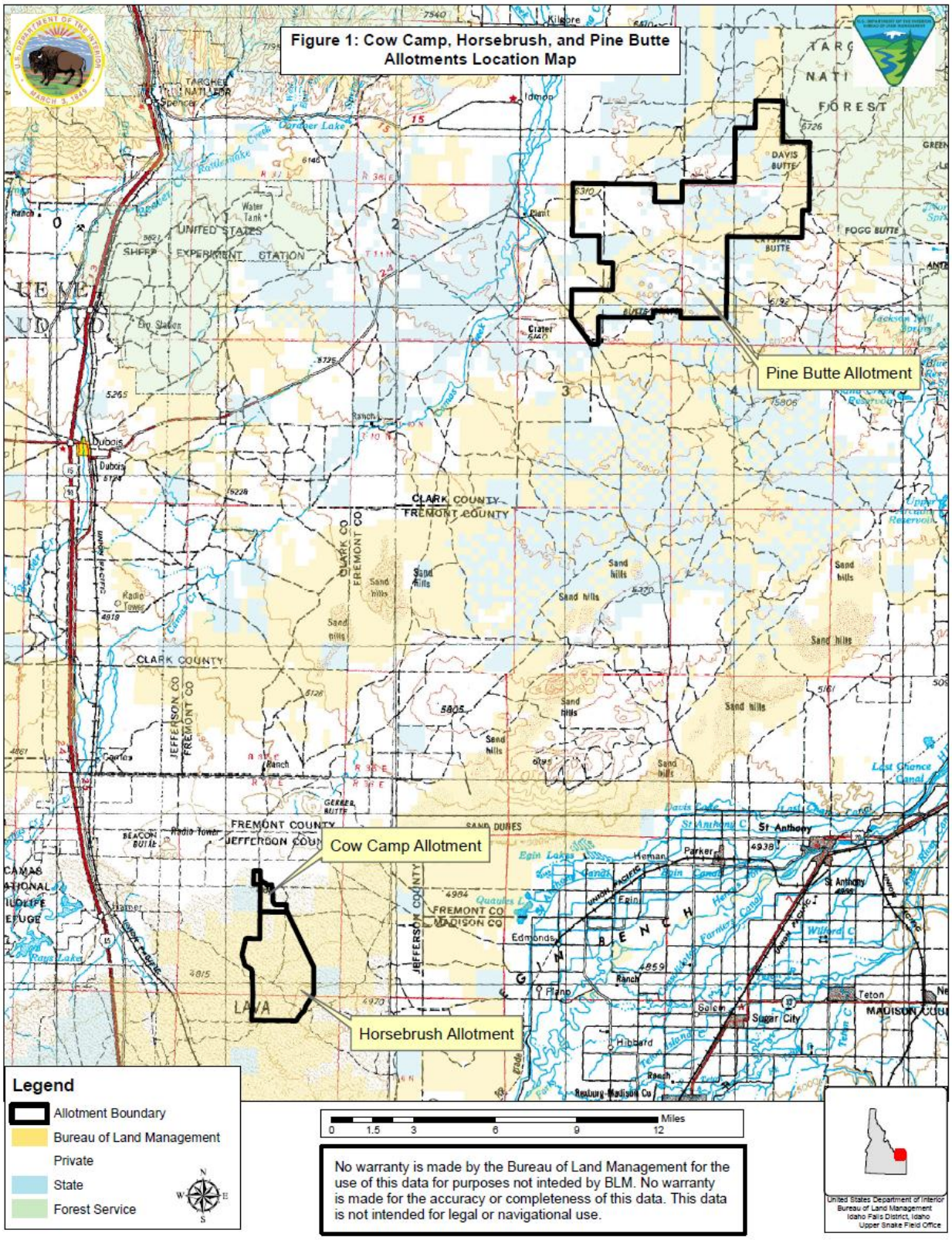
Figure 1: Cow Camp, Horsebrush, and Pine Butte Allotments Location Map
Pine Butte Allotment
Cow Camp Allotment
Horsebrush Allotment
Legend
Allotment Boundary
Bureau of Land Management
Private
State
Forest Service
Miles
0 1.5 3 6 9 12
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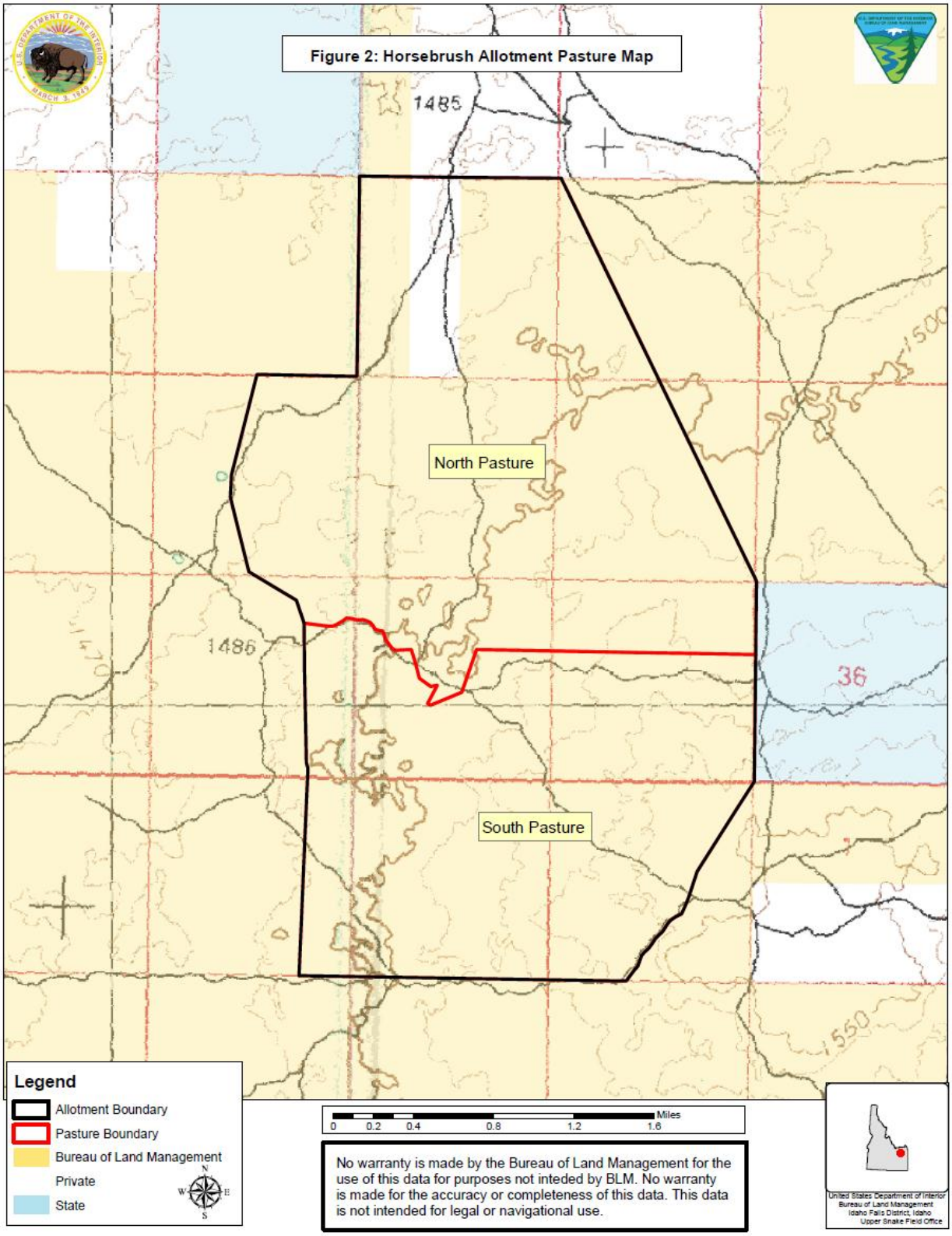
Figure 2: Horsebrush Allotment Pasture Map
1485
1500
North Pasture
1486
36
South Pasture
1550
Legend
Allotment Boundary
Pasture Boundary
Bureau of Land Management
Private
State
N
W
E
S
Miles
0
0.2
0.4
0.8
1.2
1.6
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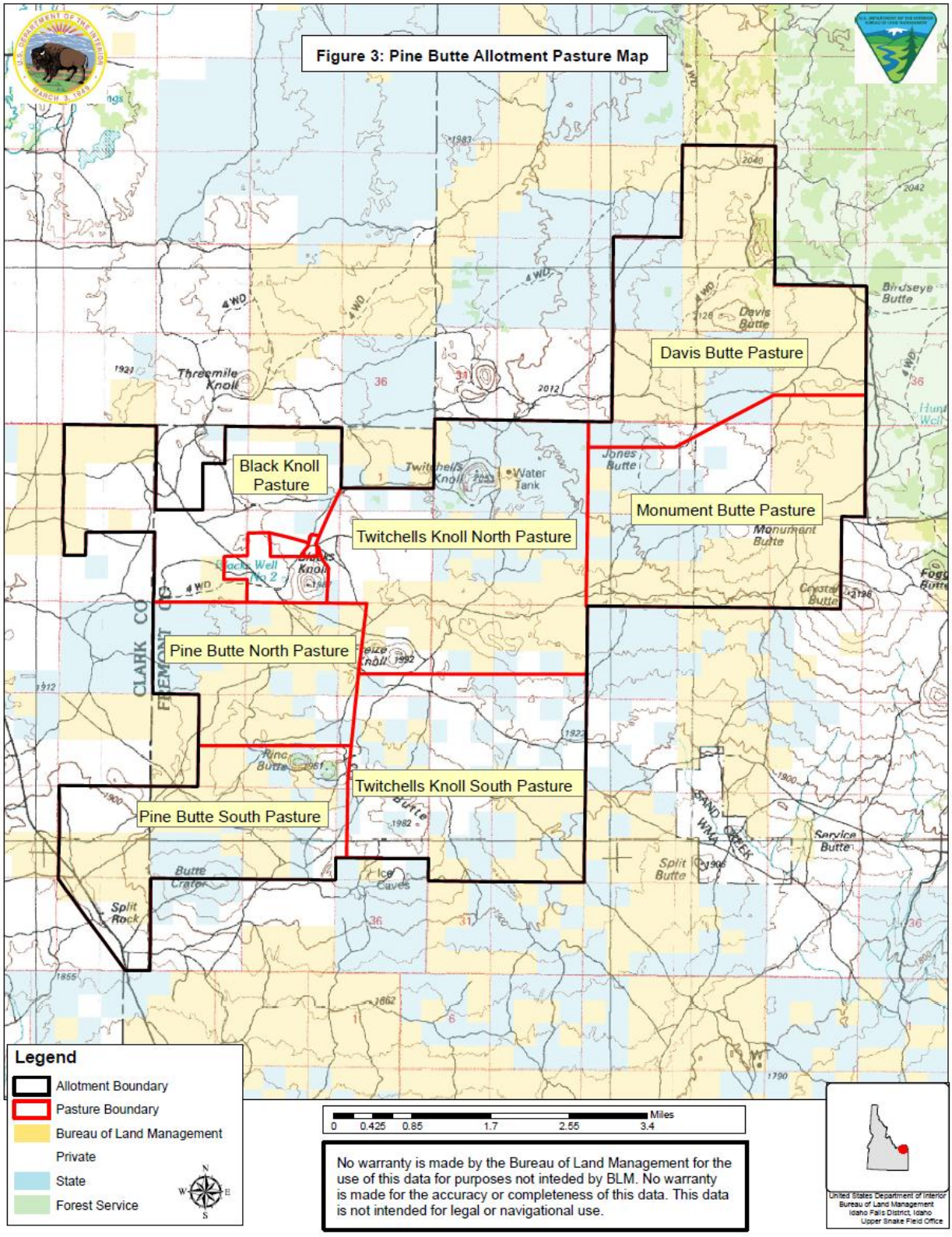
Figure 3: Pine Butte Allotment Pasture Map
Davis Butte Pasture
Black Knoll Pasture
Twitchells Knoll North Pasture
Monument Butte Pasture
Pine Butte North Pasture
Twitchells Knoll South Pasture
Pine Butte South Pasture
Legend
Allotment Boundary
Pasture Boundary
Bureau of Land Management
Private
State
Forest Service
Miles
0 0.425 0.85 1.7 2.55 3.4
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**Conformance with Land Use Plan**

The Proposed Action and alternatives have been reviewed for conformance with the Medicine Lodge RMP, as amended by the Fire Fuels, and Related Vegetation Management Direction Plan Amendment (FMDA). The actions are in conformance with the RMP decisions to:

Medicine Lodge RMP 1985:

> The watershed management objectives in the Medicine Lodge RMP states that soils will be managed to maintain productivity and to minimize erosion to no more than five tons per acres per year, except for some areas of local sand dune.
>
> The management objectives identified in the Medicine Lodge RMP is to maintain or improve existing perennial forage plants, maintain soil stability, stabilize areas currently in downward trend, and increase availability of perennial forage plants.

FMDA 2008:

> Maintain, protect, and expand sage grouse source habitat. Management Action – Treat areas within source habitats that have low resiliency (i.e. areas characterized by low species diversity, undesirable composition, and dead or decadent sagebrush).

**Relationship to Statutes, Regulations or Other Plans**

The 1868 Fort Bridger Treaty, between the United States and the Shoshone and Bannock Tribes, reserves the Tribes right to hunt, fish, gather, and exercise other traditional uses and practices on unoccupied federal lands. Under the treaty, the federal government has a unique trust relationship with the Shoshone-Bannock Tribes. BLM has a responsibility and obligation to consider and consult on potential effects to natural resources related to the Tribes treaty rights or cultural use.

Grazing administration exclusive of Alaska is governed under the Federal Code of Regulations 43 CFR 4100 – Grazing Administration. The purpose is to provide uniform guidance for administration of grazing on public lands.

On August 12, 1997, Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management were approved by the Secretary of the Interior. Subsequently, livestock management practices must be in conformance with the approved standards and guidelines.

6840 – Special Status Species Management Manual. This manual establishes policy of management of species listed or proposed for listing pursuant to the Endangered Species Act and Bureau sensitive species which are found on BLM-administered lands.

Greater Sage-Grouse Interim Management Policies and Procedures (Instruction Memorandum No. 2012-043). The IM provides interim conservation policies and procedures to the BLM field

officials to be applied to ongoing and proposed authorizations and activities that affect the Greater Sage-Grouse and its habitat.

A Report on National Greater Sage-Grouse Conservation Measures: To ensure BLM management actions are effective and based on the best available science, the National Policy Team created a National Technical Team (NTT) in August of 2011. The BLM's objective for chartering this planning strategy was to develop new or revised regulatory mechanisms, through Resource Management Plans (RMPs), to conserve and restore the greater sage-grouse and its habitat on BLM-administered lands on a range-wide basis over the long term.

The Upper Snake Local Working Group's Plan for Increasing Sage-Grouse Populations (USLWG 2009) and the Conservation Plan for Greater Sage-Grouse in Idaho (ISGAC 2006). These plans provide local and state specific guidance to manage sage grouse and sage grouse habitats.

A Report from U.S. Fish and Wildlife Service titled: *Greater Sage-grouse Conservation Objectives*. This report delineates reasonable objectives, based upon the best scientific and commercial data available at the time of its release, for the conservation and survival of greater sage-grouse. The report also serves as guidance to federal land management agencies, state sage-grouse teams, and others in focusing efforts to achieve effective conservation for this species.

The Cow Camp and Pine Butte Allotments were evaluated in 2012 to assess whether the allotments are meeting requirements of the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (ISRH). In December 2012, an Evaluation Report of Achieving Standards for Rangeland Health was issued for the allotments. The Evaluation Report found that Standards 1, 4, and 8 are being met. Livestock management practices within the Cow Camp and Pine Butte Allotments conform to all applicable Idaho Guidelines for Livestock Grazing Management. Standards 2, 3, 5, 6, and 7 are not applicable to these allotments.

An Evaluation Report of Achieving ISRH was issued for the Horsebrush Allotment in December of 2012. The report found that Standard 1is being met in the allotment. Standards 4 and 8 are not being met on approximately 3,710 acres or 77% of the allotment. Appendix B, Allotment Determination, describes that current livestock management is a significant factor in the allotment not meeting these standards. Standards 2, 3, 5, 6, and 7 are not applicable in the allotment.

**Public Contact and Issue Identification.**

In the spring of 2012, the Upper Snake Field Office sent a letter to the permittees, interested publics, and other agencies inviting them to participate in the field assessment for the Cow Camp, Horsebrush, and Pine Butte Allotments. A permittee and Idaho Department of Fish and Game (IDFG) staff participated in the field assessment. In November 2012, the Allotment Assessments was sent to the aforementioned parties, which included a request for any additional allotment specific data that they wished to be considered in the Evaluation Report. Additional

information was provided by a permittee and incorporated in the Evaluation Report. In December 2012, the Upper Snake Field Office sent the allotment Evaluation Report and potential alternatives for the allotments to the parties and they were invited to identify issues and alternatives. Comments were received from both of the permittees and were considered in the analysis. Aside for these comments, no other parties identified issues, alternatives, or otherwise provided comments.

## CHAPTER 2 – NO ACTION AND ALTERNATIVES

### Alternative A (No Action) - Issue Unmodified Grazing Permit

Under a No Action alternative, the Upper Snake Field Manager would authorize continued livestock grazing under the same terms and conditions and the same management guidelines as the current permits.

Alternative A includes the following:

Mandatory Terms and Conditions

Pine Butte Grazing, LLC.

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Cow Camp | 40 | Cattle | 5/1 | 5/31 | 100% | Active | 41 |
| Horsebrush | 860 | Cattle | 5/1 | 5/31 | 97%* | Active | 823 |
| Pine Butte | 795 | Cattle | 6/1 | 10/15 | 45%** | Active | 1,611 |
| Pine Butte | 822 | Sheep | 6/1 | 9/26 | 45%** | Active | 287 |

*% PL = Percent public land, and accounts for the unfenced state and/or private land that the permittee owns or controls within the allotment. The permittee is credited for 25AUMs for controlling 160 acres of unfenced private land that is run in conjunction with the Horsebrush Allotment. The 25 AUMs are reflected in the reduced Percent Public Land (%PL) figure.

**The permittee is credited for 912 AUMs for controlling 6,573 acres of unfenced State land and 914 AUMs for controlling 6,583 acres of private land that is run in conjunction with the Pine Butte Allotment. The 1,826 AUMs are reflected in the reduced Percent PL% figure.

| Allotment | Active AUMs | Suspended AUMs | Grazing Preference |
|---|---|---|---|
| Cow Camp | 41 | 0 | 41 |
| Horsebrush | 835 | 116 | 951 |
| Pine Butte | 1,896 | 0 | 1,896 |

John Siddoway

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Horsebrush | 989 | Sheep | 5/1 | 5/6 | 100% | Active | 39 |

| Allotment | Active AUMs | Suspended AUMs | Grazing Preference |
|---|---|---|---|
| Horsebrush | 40 | 14 | 54 |

**Other Terms and Conditions for Alternative A**

The following Other Terms and Conditions would be included as part of the grazing permit under Alternatives A in accordance with 43 CFR 4130.3-2.

1. Range improvements must be maintained to BLM standards by the turnout dates for each allotment on this permit. All livestock water troughs must have a functional wildlife escape ramp and be appropriately floated. Installation and maintenance of wildlife escape ramps are the responsibility of the permittee.

**Alternative B (Proposed Action): Issue Modified Grazing Permits**

Actions in this alternative include changes in the season of use and grazing system in the Cow Camp and Horsebrush Allotments. The proposed changes in the Pine Butte include a change in the season of use, the implementation of a grazing system, the conversion of sheep AUMs to cattle AUMs, the drilling of a well, and the construction of pasture fences.

The Evaluation Report did not identify a need for changes in livestock management in the Cow Camp and Pine Butte Allotments. The Determination for the Horsebrush Allotment found that current livestock grazing management practices were a contributing factor in the allotment not meeting Standards 4 and 8 of ISRH (Appendix B). Livestock operators within the allotments have requested several changes in management. Under Alternative B, the field manager would authorize continued livestock grazing with changes identified below:

Alternative B includes the following changes:

**Cow Camp Allotment**

Authorized Use Change:

1. Change the season of use from 5/1 – 5/31 to 4/20 – 5/31. The permittee would be authorized to graze no more than 53 yearlings for 31 days within the 42 day season of use. The change in the season of use would allow for flexibility to adjust grazing in light of range and pasture readiness.

2. Authorized yearling cattle in the allotment. In considering forage consumptions versus adult cattle or cow/calf pair, a conversion factor of 0.75/AUM would be used (Valentine, 1990). Therefore, 40 cattle would equate to 53 yearlings, consuming 41 AUMs. However, under 43 CFR 4130.8-1, a full grazing fee shall be charged for each animal over 6 months of age. Thus 53 yearlings for 31 days use would be charged for 54 AUMs, though they would only remove forage equivalent to 41 AUMs.

Projects:

**3.** None.

Grazing Plan:

**4.** The annual bill schedule for the Cow Camp Allotment would be as follows:

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Cow Camp | 53 | Yearlings | 5/1 | 5/31 | 100% | Active | 54 |

Upon prior approval from the Upper Snake Field Office, the permittee may be authorized to adjust the season of use within the permit dates of 4/20 to 5/31 not to exceed thirty-one days.

Mandatory Terms and Conditions

**5.** Permitted livestock use within the Cow Camp Allotment would be as follows:

Yearlings

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Cow Camp | 53* | Yearling | 4/20 | 5/31 | 100% | Adaptive | 54 |

* The permittee would be authorized to graze no more than 53 yearlings for 31 days within the 42 day season of use.

## Horsebrush Allotment

Authorized Use Change:

**1.** Reduce authorized use in the allotment by 39% from 862 AUMs to 688. The reduction appears to be a decrease of 20% in authorized use, but due to the change in Livestock Kind, the result would be approximately 39% less biomass removal annually.

**2.** Authorized yearling cattle in the allotment. Although yearling cattle consume less forage than a cow/calf pair, under 43 CFR 4130.8-1, a full grazing fee shall be charged for each animal over 6 months of age. So although 668 yearlings would be authorized for 31 days for 660 AUMs, using the 0.75/AUM conversion factor identified above, forage removal would be equivalent to adult cows or cow/calf pair utilizing 495 AUMs.

**3.** Change the season of use on the sheep permit from 5/1 – 5/6 to 5/1 – 12/15. Sheep use would be authorized for up to four days within the season of use. The operator would be required to notify BLM prior to any authorized sheep use on an annual basis.

Projects:

**4.** None.

Grazing Plan:

**5.** Implement two-pasture grazing rotation for cattle.

| | May 1st – May 15th | May 16th - May 31st |
|---|---|---|
| 2013 | South | North |
| 2014 | North | South |

*repeat after 2014

Mandatory Terms and Conditions

**6.** Permitted livestock use within the Horsebrush Allotment would be as follows:

Yearling

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Horsebrush | 668 | Yearlings | 5/1 | 5/31 | 97%* | Adaptive | 660 |

*The permittee is credited for 25AUMs for controlling 160 acres of unfenced private land that is run in conjunction with the Horsebrush Allotment. The 25 AUMs are reflected in the reduced Percent Public Land (%PL) figure.

Sheep

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Horsebrush | 1000 | Sheep | 5/1 | 12/15 | 100% | Adaptive | 28 |

Upon prior approval from the Upper Snake Field Office, the permittee may be authorized to adjust the season of use within the permit dates of 5/1 to 12/15 not to exceed four days.

**Other Terms and Conditions for Alternative B**

The following Other Terms and Conditions would be included as part of the grazing permit under Alternatives BA in accordance with 43 CFR 4130.3-2.

**1**. Average utilization would not exceed 40% of the annual growth on the native forage species in the Horsebrush Allotment.

**Pine Butte Allotment**

Authorized Use Change:

1. Change the livestock type from sheep to cattle. The total active AUMs in the Pine Butte Allotment would be reduced from 287 to 144 AUMs as a result of the conversion.

2. Change the season of use from 6/1 – 10/15 to 6/1 – 10/30. The permittee would be authorized to graze no more than 1,153 yearlings for 137 days within the 152 day season of use. The fifteen day extension would allow for flexibility to adjust grazing in light of range and pasture readiness.

3. Change the authorized livestock kind from sheep and cattle to yearling cattle. Authorized yearling cattle in the allotment. In considering forage consumptions versus adult cattle or cow/calf pair, a conversion factor of 0.75/AUM would be used (Valentine, 1990). Therefore, 866 cattle would equate to 1,153 yearlings, consuming 1,755 AUMs. However, under 43 CFR 4130.8-1, a full grazing fee shall be charged for each animal over 6 months of age. Thus 1,153 yearlings for 137 days within the 152 day season of use would be charged for 2,337 AUMs, though they would only remove forage equivalent to 1,755 AUMs.

Projects (Figure 4):

4. Drill a well in the center of Davis Butte Pasture.

5. Remove an existing fence (~1.5 miles long) located on the west side of the Red Road and construct a new fence on the east side of the Red Road. The Red Road is a highly travelled road and livestock are hit by vehicles on an annual basis. Realigning the fence on the east side would increase public safety. Approximately 0.6 miles of the relocated fence would be on BLM, while the remaining part of the relocated fence would be on private land. A four wire fence would be constructed according to BLM wildlife fencing specifications. The four wire fence would consist of three strands of barbed wire and one strand of smooth wire. The wire spacing would be 16 inches, 24 inches, 30 inches, and 42 inches from the ground with smooth wire on bottom to facilitate antelope passage underneath. Spacing would be 16.5' between "T" posts. A wire stay would be placed on the fence wire midway between steel "T" posts. Gates would also be added at appropriate locations.

6. Construct ~1.5 miles of fence dividing the Pine Butte Pasture into Pine Butte North and Pine Butte South Pastures. The fence would divide the pasture into two smaller pastures. Approximately 0.75 miles would be constructed on BLM, while the remaining part of the

fence would be constructed on private and state land. The fence would be a three strand standard fence which consists of two strands of barbed wire spaced at 38 inches, 26 inches, and 16 inches from ground level. Spacing would be 16.5' between "T" posts. A wire stay would be placed on the fence wire midway between steel "T" posts.

**7.** Construction of the projects described above would not be authorized between March 1 and June 30 so as to not disturb nesting bird species in the area.

**8.** Based on research of sage grouse fence strikes and their relationship to topographic features of the landscape, a risk model was developed by the Idaho BLM State Office. The two fences were assessed and based on the model predictions these fences are at low risk for sage grouse collisions. However, if sage grouse fence strikes are documented in the future on these new or existing pasture or allotment fences, the fences would be modified to improve visibility in order to minimize sage grouse strikes.

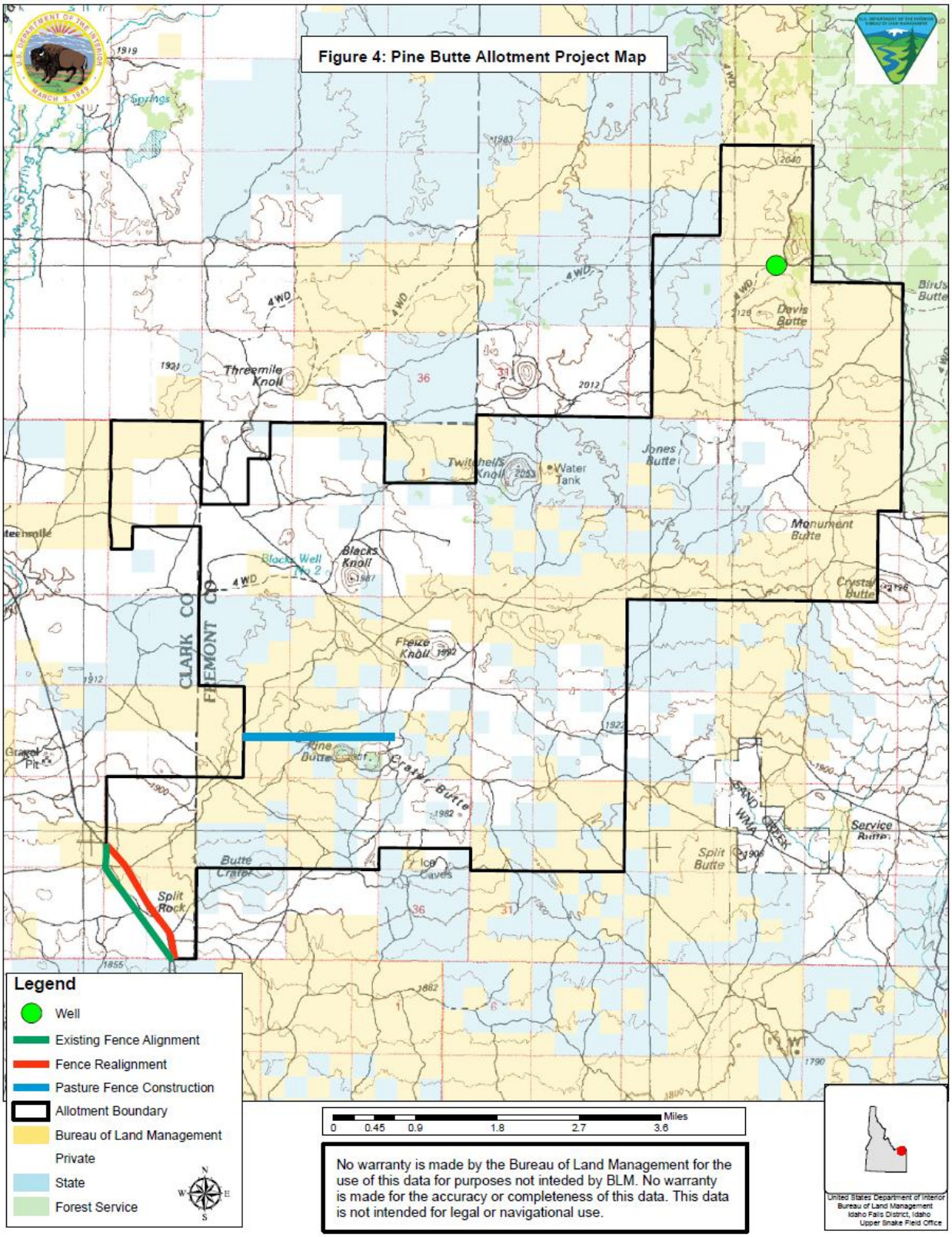
Figure 4: Pine Butte Allotment Project Map
Threemile Knoll
Davis Butte
Twitchell's Knoll
Water Tank
Jones Butte
Monument Butte
Crystal Butte
Blacks Knoll
Black Well No 2
Freize Knoll
CLARK CO
FREMONT CO
Pine Butte
Crater Butte
Gravel Pit
Butte Crater
Ice Caves
Split Rock
Split Butte
Service Butte
SAND CREEK WMA
4 WD
Legend
Well
Existing Fence Alignment
Fence Realignment
Pasture Fence Construction
Allotment Boundary
Bureau of Land Management
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0 0.45 0.9 1.8 2.7 3.6
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Grazing Plan:

**9.** Implement seven pasture grazing rotation.

| **2014** | |
|---|---|
| **Pastures** | **Dates** |
| Blacks Knoll | 6/1 - 6/9 |
| Twitchells North | 6/10 - 7/4 |
| Pine Butte North | 7/5 – 7/14 |
| Pine Butte South | 7/15 – 7/24 |
| Twitchells South | 7/25 – 8/19 |
| Monument Butte | 8/20 – 9/14 |
| Davis Butte | 9/15 – 10/10 |
| Blacks Knoll | 10/11 – 10/15 |

| **2015** | |
|---|---|
| **Pastures** | **Dates** |
| Pine Butte North | 6/1 – 6/10 |
| Pine Butte South | 6/11 – 6/20 |
| Twitchells South | 6/21 – 7/16 |
| Monument Butte | 7/17 – 8/13 |
| Davis Butte | 8/14 – 9/7 |
| Twitchells North | 9/8 – 10/3 |
| Blacks Knoll | 10/4 -10/15 |

| **2016** | |
|---|---|
| **Pastures** | **Dates** |
| Blacks Knoll | 6/1 - 6/10 |
| Twitchells North | 6/10 - 7/6 |
| Davis Butte | 7/9 – 8/3 |
| Monument Butte | 8/4 – 8/28 |
| Twitchells South | 8/29 – 9/23 |
| Pine Butte South | 9/24 – 10/3 |
| Pine Butte North | 10/4 – 10/15 |

| **2017*** | |
|---|---|
| **Pastures** | **Dates** |
| Pine Butte South | 6/1 - 6/10 |
| Twitchells South | 6/11 – 7/6 |
| Twitchells North | 7/7 – 8/1 |
| Davis Butte | 8/2 – 8/29 |
| Monument Butte | 8/30 – 9/24 |
| Pine Butte North | 9/25 – 10/3 |
| Blacks Knoll | 10/4 – 10/15 |

*Rotation Repeated after 2016

**10.** The annual bill schedule for the Pine Butte Allotment would be as follows:

Yearlings

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Pine Butte | 1,153 | Yearlings | 6/1 | 10/15 | 45%* | Active | 2,337 |

*The permittee is credited for 912 AUMs for controlling 6,573 acres of unfenced State land and 914 AUMs for controlling 6,583 acres of private land that is run in conjunction with the Pine Butte Allotment. The 1,826 AUMs are reflected in the reduced Percent PL% figure.

Mandatory Terms and Conditions

**11.** Permitted livestock use within the Pine Butte Allotment would be as follows:

Yearlings

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Pine Butte | 1,153 | Yearlings | 6/1 | 10/30 | 45% | Adaptive | 2,337 |

**Alternative C: Adjust Season of Use**

Alternative C includes an adjustment in season of use in the Cow Camp and Pine Butte Allotments. Under this alternative, the Upper Snake Field Manager would authorize continued grazing within the allotment with changes discussed below.

Alternative C includes the following changes:

**Cow Camp Allotment**

Authorized Use Change:

**1.** Change the season of use from 5/1 – 5/31 to 4/20 – 5/31. The permittee would be authorized to graze no more than 40 cattle for 31 days within the 42 day season of use. The change in the season of use would allow for flexibility to adjust grazing in light of range and pasture readiness.

Projects:

**2.** None.

Grazing Plan:

**3.** The annual bill schedule for the Cow Camp Allotment would be as follows:

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL* | Type of Use | AUMs** |
|---|---|---|---|---|---|---|---|
| Cow Camp | 40 | Cattle | 5/1 | 5/31 | 100% | Active | 41 |

Upon prior approval from the Upper Snake Field Office, the permittee may be authorized to adjust the season of use within the permit dates of 4/20 to 5/31.

Mandatory Terms and Conditions

**4.** Permitted livestock use within the Cow Camp Allotment would be as follows:

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Cow Camp | 30 | Cattle | 4/20 | 5/31 | 100% | Active | 41 |

* The permittee would be authorized to graze no more than 40 cattle for 31 days within the 42 day season of use.

**Horsebrush Allotment**

Authorized Use Change:

**1.** Reduce authorized use in the allotment by 39% from 862 AUMs to 522 AUMs.

**2.** Change the season of use on the sheep permit from 5/1 – 5/6 to 5/1 – 12/15. Sheep use would be authorized for up to four days within the season of use. The operator would be required to notify BLM prior to any authorized sheep use on an annual basis.

Projects:

**3.** None.

Grazing Plan:

**4.** Grazing rotation would be the same as Alternative B.

Mandatory Terms and Conditions

**5.** Permitted livestock use within the Horsebrush Allotment would be as follows:

Cattle Permit:

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Horsebrush | 500 | Cattle | 5/1 | 5/31 | 97% | Active | 494 |

Sheep Permit:

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Horsebrush | 1000 | Sheep | 5/1 | 12/15 | 100% | Adaptive | 28 |

**Other Terms and Conditions for Alternative C**

The following Other Terms and Conditions would be included as part of the grazing permit under Alternatives C in accordance with 43 CFR 4130.3-2.

**1**. Average utilization would not exceed 40% of the annual growth on the native forage species in the Horsebrush Allotment.

**Pine Butte Allotment**

Authorized Use Change:

**1.** Change the season of use from 6/1 – 10/15 to 6/1 – 10/30. The permittee would be authorized to graze no more than 866 cattle for 137 days within the 152 day season of use. The fifteen day extension would allow for flexibility to adjust grazing in light of range and pasture readiness.

**2.** Change the livestock type from sheep to cattle. The total active AUMs in the Pine Butte Allotment would be reduced from 287 to 144 AUMs as a result of the conversion.

Projects (Figure 4):

**3.** All proposed projects are the same as Alternative B.

Grazing Plan:

**4.** Grazing rotation would be the same as Alternative B.

**5.** The annual bill schedule for the Pine Butte Allotment would be as follows:

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Pine Butte | 866 | Cattle | 6/1 | 10/15 | 45% | Active | 1,755 |

Upon prior approval from the Upper Snake Field Office, the permittee may be authorized to adjust the season of use within the permit dates of 4/20 to 5/31.

Mandatory Terms and Conditions

**6.** Permitted livestock use within the Pine Butte Allotment would be as follows:

| Allotment Name | Lvstk# | Lvstk Kind | Begin | End | %PL | Type of Use | AUMs |
|---|---|---|---|---|---|---|---|
| Pine Butte | 775 | Cattle | 6/1 | 10/30 | 45% | Active | 1,755 |

* The permittee would be authorized to graze no more than 866 cattle for 137 days within the 152 day season of use.

**Alternative D (No Grazing):**

Under a No Grazing Alternative, the Upper Snake Field Manager would discontinue all livestock grazing on public lands in the Cow Camp, Horsebrush, and Pine Butte Allotments for a 10 year period from 5/1/2013 to 4/30/2023. The permittee would retain their preference in the allotment, but would not be authorized to graze.

**Other Terms and Conditions Common to Alternatives B, and C**

The following other Terms and Conditions would be included as part of the grazing permit under Alternatives B, and C in accordance with 43 CFR 4130.3-2.

1. Authorized use would be made as described under the approved grazing plan for the Cow Camp, Horsebrush, and Pine Butte Allotments.

2. Range improvements must be maintained to BLM standards by the turnout dates for each allotment on this permit. All livestock water troughs must have a functional wildlife escape ramp and be appropriately floated. Installation and maintenance of wildlife escape ramps are the responsibility of the permittee.

3. Distribution of livestock salt and mineral supplements would be at least ¼ mile from the nearest water source.

4. In connection with allotment operations under this authorization, if any human remains, cultural, archaeological, historical, paleontological, or scientific objects and sites are discovered, the permittee shall stop operations in the immediate area of the discovery, protect such resources, and immediately notify the BLM Authorized Officer (AO) of the discovery. The immediate area of the discovery must be protected until the operator is notified to resume operations by the AO.

**Grazing Use Indicators and Criteria**

The BLM will monitor the following attributes to determine whether the allotment continues to meet or make significant progress towards meeting the ISRH.

1. *Upland Utilization* – Utilization studies would be conducted using approved BLM methods in key upland areas and use areas would be mapped by pasture. Average utilization in the Cow Camp and Pine Butte Allotments should be no more than 50% of the annual growth of available forage species in the grazed pastures (Technical Reference 1734-3, 1999).

2. *Upland Trend* – Trend studies would be conducted in the uplands using approved BLM methods in key areas. One photo plot would be established at each key area. Long-term trend studies would be conducted using approved BLM methods (Technical Reference 1734-4, 1999).

3. *Sage Grouse Habitats* – Grazing use levels in pastures with sage grouse habitat would be monitored to evaluate if the grazing system is resulting in maintenance or improvement of vegetative characteristics needed for suitable habitat in accordance with the Upper Snake Local Working Group's Plan for Increasing Sage Grouse Populations (USLWG, 2009), 2006 Conservation Plan for Greater Sage Grouse in Idaho (ISGAC, 2006), and Instruction Memorandum No. 2012-043 - Greater Sage-Grouse Interim Management Policies and Procedures.

## CHAPTER 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter provides a description of the general environmental setting and resources within that setting that could be affected by the Alternative A, B, C, and D. In addition, the section presents an analysis of the direct and indirect impacts likely to result from the implementation of the four alternatives.

### General Setting

Cow Camp Allotment

The general topography of the allotment is level with some gently undulating slopes. The average elevation in the Cow Camp Allotment is 4,860 feet above sea level. Basin big sagebrush (*Artemisia tridentata ssp. tridentata*) dominates the overstory in the allotment, while Indian ricegrass (*Acnatherum hymenoides*) and needle and thread grass (*Hesperostipa comata*) dominates the understory. Average annual precipitation ranges from 8 to14 inches with the greatest portion falling as snow and early spring rain. Approximately 50 percent of the annual precipitation occurs during the plant growing season. Summers are hot and dry.

Horsebrush Allotment

The general topography of the allotment is level with some gently undulating slopes. The average elevation in the Horsebrush Allotment is 4,900 feet above sea level. Basin big sagebrush (*Artemisia tridentata ssp. tridentata*) and Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis)* dominate the overstory in the allotment, while Indian ricegrass (*Acnatherum hymenoides*), needle and thread grass (*Hesperostipa comata*), bluebunch wheatgrass (*Pseudoroegneria spicata*) dominate the understory. Average annual precipitation of this site ranges from 8 to 14 inches with the greatest portion falling as snow and early spring

rain. Approximately 50 percent comes during the plant growing season. Summers are hot and dry.

Pine Butte Allotment

The general relief of the allotment is characterized by flat to rolling plains, lava outcrops, lava flows, and other volcanic extrusions. Five large butte formations are located within the allotment. Elevation in the allotment ranges from 6,100 feet to 6,974 to above seas level (Davis Butte). Mountain big sagebrush (*Artemisia tridentata ssp. vasenyana*) dominates the overstory in the allotment, while bluebunch wheatgrass (*Pseudoroegneria spicata*) and Idaho fescue (*Festuca idahoensis*) dominate the understory. The native vegetation communities also include pockets of quaking aspen (*Populus tremuloides*), chokecherry (*Prunus virginiana*), and shiny leaf ceanothus (*Ceanothus spp.*). Average annual precipitation of this site ranges from 16 to 22 inches with approximately 40 percent occurring during the plant growth period from May to September.

**Resources Considered in the Impact Analysis:**

The results of the site-specific assessment indicate that not all of the resources considered are present and/or would be impacted by the Alternative A, B, C, and D (Table 1). Direct and indirect impacts on those resources that are present and impacted are discussed in the following narratives.

***Table 1 - Resources Considered in the Impact Analysis*.***

| Resource | Resource Status | Rationale |
|---|---|---|
| Access | Present, Not Impacted | The proposed action and alternatives would not result in changes in access to the area. |
| Air Quality | Present, Not Impacted | The implementation of the proposed action and alternatives would not result in the production of emission or particulate matter above incidental levels. |
| Areas of Critical Environmental Concern (ACECs) | Not Present | The proposed project area is not located within or near an ACEC. |
| Cultural Resource | Present | Impacts are disclosed under **Environmental Consequences** |
| Economic and Social Values | Present | Impacts are disclosed under **Environmental Consequences** |
| Environmental Justice | Not Present | There are no minority or low income populations residing near the proposed project area. |
| Existing and Potential Land Uses | Present, Not Impacted | The proposed action and alternatives would not affect the areas current and likely future use as grazing allotments. |
| Fisheries | Not Present | There are no fisheries present in the allotments. |
| Floodplains | Not Present | There are no floodplains located in the allotments. |
| Forest Resources | Not Present | There are no forest resources present in the allotments. |
| Invasive, Non-Native Species | Present | Impacts are disclosed under **Environmental Consequences** |
| Mineral Resources | Present, Not Impacted | The proposed action and alternatives would have no impact on mineral resources within the area. |
| Migratory Birds | Present | Impacts are disclosed under **Environmental Consequences** |
| Native American | Not Present | There are no known ceremonial sites or resources associated |

| *Table 1 - Resources Considered in the Impact Analysis*.* | | |
|---|---|---|
| Resource | Resource Status | Rationale |
| Religious Concerns | | with ceremonial practices in the project area. |
| Paleontological Resources | Not Present | There are no known paleontological resources located in the area. |
| Prime and Unique Farmlands | Not Present | There are no prime or unique farmlands located within the allotments. |
| Soil Resources | Present | Impacts are disclosed under **Environmental Consequences** |
| Threatened, Endangered, and Sensitive Plants | Not Present | There are no known threatened, endangered, and sensitive plants located in the project area. |
| Threatened, Endangered, and Sensitive Animals | Present | Impacts are disclosed under **Environmental Consequences** |
| Threatened, Endangered, and Sensitive Fish | Not Present | There are no threatened, endangered, and sensitive fish located in the project area. |
| Recreational Use | Present, Not Impacted | The proposed action and alternatives would have no measurable impact on recreational use in the three allotments. |
| Tribal Treaty Rights and Interests | Present, Not Impacted | The proposed action and alternatives would have no effect on the tribes' access to use the area to exercise their treaty rights and would have no known effect on resources they use for traditional purposes. |
| Vegetation | Present | Impacts are disclosed under **Environmental Consequences** |
| Visual Resources | Present | Impacts are disclosed under **Environmental Consequences** |
| Wastes, Hazardous and Solid | Not Present | There are no solid or hazardous wastes in the project area and none would be created during the implementation of the proposed action, and other alternatives. |
| Water Quality (Surface and Ground) | Not Present | There are no water quality issues identified in the allotments. |
| Wetland and Riparian Zones | Not Present | There are no wetland and riparian zones located in the project area. |
| Wild and Scenic Rivers | Not Present | There are no designated wild and scenic rivers near the project area. |
| Wild Horse and Burro HMAs | Not Present | There are no wild horse and burro HMAs in the region. |
| Wilderness | Not Present | There are no wilderness areas or WSAs within the proposed project area. |
| Wildlife Resources | Present | Impacts are disclosed under **Environmental Consequences** |

## Cultural Resources

Affected Environment

To evaluate the Cow Camp, Horsebrush, and Pine Butte Allotments for cultural resource values, a Class I records search was conducted using a Geographical Information System (GIS) inventory and site databases to determine previously surveyed acres and sites recorded within the allotment boundary.

One previous inventory has been conducted within the Cow Camp, Horsebrush, and Pine Butte Allotments. A Class II inventory was conducted on approximately 1,670 acres (approximately 11% of BLM administered land).

There are two known historic properties located on BLM administered land within the allotments boundary. The two sites are lithic and tool scatters and are recommended potentially eligible for inclusion to the National Register of Historic Places (NRHP) under criterion D.

Environmental Consequences

*Alternative A – No Action*

Livestock grazing has the potential to directly impact historic properties primarily through trampling which can modify the horizontal and vertical distribution of artifacts and impact resource integrity. Livestock impacts to cultural resources located within the Cow Camp, Horsebrush, and Pine Butte Allotments are generally limited, with activity mainly focused at congregation areas. In areas where livestock is more dispersed, it can be predicted that impacts will be mainly surficial, causing no stratigraphic mixing, but perhaps resulting in horizontal displacement of artifacts. There are no known historic properties located within 200 meters of any trough location in the three allotments.

Permit renewal in the Cow Camp, Horsebrush, and Pine Butte Allotments would have no adverse effect on known historic properties listed or eligible for listing on the National Register of Historic Places (NRHP).

*Alternative B – Proposed Action*

Impacts to cultural resources would be similar to those presented under Alternative A; however, changes in the season of use and authorized use, as well as the construction of range improvements may have direct impacts on cultural resources.

Modifications to the season of use for the Cow Camp Allotment could put livestock on the allotment ten days earlier, when the ground may be wet and livestock trampling could cause more vertical displacement of artifacts, impacting resource integrity. Modifications to the authorized use in the Horsebrush Allotment at a decrease of 39%could impact cultural resources by decreasing the amount of trampling that could occur in congregation areas. A decrease in active AUMs in the Pine Butte Allotment as a result of the change in livestock kind from sheep to yearling cattle could also result in similar impacts to cultural resources.

The construction of range improvements including a well and approximately 1.35 miles of fence on BLM administered lands could directly impact cultural resources through ground disturbance. Prior to any ground-disturbing activities, the proposed range improvements would be subject to Section 106 review and any adverse effects to historic properties would be avoided or mitigated though consultation with the Idaho SHPO and affected tribes.

*Alternative C*

Under Alternative C, cultural resource impacts would be the same as Alternative B.

*Alternative D - No Grazing*

This alternative would eliminate all livestock threats of damage to historic properties within the Cow Camp, Horsebrush, and Pine Butte allotments for 10 years.

**Economic and Social Values**

Affected Environment

Two measures of economic impacts used in studies exploring impacts to livestock operations due to changes in federal grazing permits and leases are herd reduction and forage substitution (Rowe and Bartlett, 2001). Herd reduction may be a better indicator of operation efficiency rather than direct economic impact at the level of the individual operator (Rowe and Bartlett, 2001).
The impact on any single ranch operation of a reduction in public land AUMs may be enormous, depending on the flexibility of its nonfederal forage base and other factors (Harp et al, 2000).
The impacts of herd reductions resulting from federal land management policy changes that reduce federal land AUMs have been estimated at the community and county level (Harp et al, 2000), however, these estimates are based on evenly distributed federal land AUM reductions at a scale beyond the allotment level. Based on recent USDA cattle market reports (USDA, 2012) the average recent market steer price was $750 or $75 per AUM assuming a 10 AUM input. The average recent market price for replacement cows was $1100 or $110 per AUM assuming 12 AUMs input. Therefore the change in gross revenue for the operators may range from $75 to $110 per AUM. The average recent market price for ewe lambs was $196 (ASIA, 2011). Assuming an input of 8 AUMs and recognizing one cattle AUM is equivalent to 5 sheep, the return equivalent to cattle is $123 AUM. Therefore the change in gross revenue for the operators may range from $75 to $110 per AUM. Forage replacement has also been used as a proxy indicator of economic impact. Forage replacement values may range in cost from replacement from private pasture to replacement from hay versus the annual cost of forage on public land which was $1.35 per AUM in 2011. Average private pasture cost in Idaho in 2011 was $12.60/AUM and average local hay prices were $100/AUM. Therefore the forage substitution cost annually would range from $11.25 to $98.65 per AUM.

Additional costs to livestock operations associated with public lands grazing may include construction and maintenance of range improvement projects, transportation costs, and operating cost associated with herd maintenance and management. The cost or impact on the individual operator is difficult to quantify and is highly variable depending upon their specific situation. Some costs would occur on private grazing lands as well and are therefore not associated specifically with public land grazing.

Environmental Consequences

*Alternative A – No Action*

Alternative A would result in no changes in the mandatory terms and conditions for livestock grazing in the Cow Camp, Horsebrush, and Pine Butte Allotments. Therefore there would be no change in the economic and social value from Alternative A, which is the baseline for addressing economic and social values.

*Alternative B – Proposed Action*

Under Alternative B, there would be a livestock kind change from cow/calf pairs to yearlings in the Cow Camp Allotment. In the Pine Butte Allotment, there would be a livestock kind change on a portion of the permit from sheep to cattle. Since the permittee requested the conversion, it is expected that there would be an economic or social impact benefit.

A 174 AUM reduction in authorized use levels would occur in the Horsebrush Allotment which would impact the two operators authorized to graze in the allotment. The forage substitution cost to the permittees under Alternative B would range from approximately $1,958 to $17,165 annually. If the herds are reduced as a result of decreased forage availability, the decreased gross revenue may range from $13,050 to $19,140 annually.

The proposed well in the Pine Butte Allotment would result in additional cost for implementation. In the short term, the installation of the well, the construction of the pasture fence in the Pine Butte Pastures, and moving the allotment boundary fence from the west side of the Red Road to the east side of the road would increase the social and economic impact to the permittee. In the long term, the impacts would diminish because the fence and well would increase livestock distribution in the allotment allowing for more uniform distribution of available forage in the Pine Butte North and South Pastures. Moving the fence on the eastside of the Red Road would benefit the permittee because it would substantially reduce the potential of the vehicle/livestock conflicts on the Red Road. In addition to lowering the permittee's potential livestock replacement cost, the benefit to the safety of the general public would increase.

*Alternative C*

Under Alternative C, economic and social impacts to the permittee would be the similar to Alternative A. The amount of authorized AUMs in the allotments would remain the same as Alternative A.

*Alternative D – No Grazing*

Under Alternative D, the authorized use would be reduced by 2,801 AUMs. The forage substitution cost to the permittees under Alternative D would range from approximately $31,511 to $276,319 each year, for the next ten years. If the herds are reduced as a result of decreased forage availability, the decreased gross revenue through herd reductions would range from approximately $210,075 to $308,110.

Due to the large amount of Idaho State lands and private lands within the Pine Butte Allotment, the permittee in this allotment may choose to construct additional fencing in order to graze livestock on these lands without risk of unauthorized use of the public lands during the 10 year period. This would result in addition economic impact on the permittee.

**Invasive, Non-Native Species**

Affected Environment

Noxious weed monitoring and treatment records for the public lands within the Cow Camp and Horsebrush Allotments report occurrences of musk thistle (*Carduus nutans*) and Russian knapweed (*Acroptilon repens*). There have been no reported occurrences of noxious weeds in the Pine Butte Allotment. The large majority of the reported infestations of invasive, non-native species occur along the road systems within the allotments. Cheatgrass (*Bromus tectorum*) was observed along the roadways and on the rocky outcrops in the Cow Camp and Horsebrush Allotments. The Upper Snake Field Office and cooperating agencies actively inventory, monitor, and treat occurrences of invasive non-native species within the field office area using the Standard Operating Procedures outlined in the Programmatic Environmental Assessment for Integrated Weed Management for the Upper Snake Field Office and Pocatello Field Office (USDI-BLM 2009b).

Environmental Consequences

Livestock are one vector in the Cow Camp, Horsebrush, and Pine Butte Allotments that could disperse invasive, non-native species. Other potential vectors in the area include but are not limited to vehicles, wind, recreationists, waterways, and wildlife, including birds.

*Alternative A – No Action*

The potential impacts of invasive, non-native species found in or near the allotments include degradation of native habitat. Seeds of these undesirable species may be dispersed by wind, water, animals, or humans. Under Alternative A, livestock would continue to be authorized in the allotments. The native upland habitats in the Cow Camp and Pine Butte Allotments were found to be meeting Idaho Standards for Rangeland Health. By maintaining and/or improving the ecological health of the current plant communities in allotments, the opportunity for expansion of invasive, non-native species would be reduced. However, a portion of the upland native plant community in the Horsebrush Allotment was evaluated and found to not be meeting Standard 4 of ISRH, and under Alternative A, would be expected to continue to not meet the standard. While occurrences of invasive non-native species would continue to be inventoried and treated within the field office, the potential for establishment or expansion of invasive species would remain higher in this area compared to communities in which conditions meet the plant community health standard.

*Alternative B – Proposed Action*

Under Alternative B, the potential impacts of invasive, non-native species could be comparable to Alternative A. Despite the change in the kind of livestock authorized in the allotments, livestock as a vector of spreading invasive, non-native species would be similar to Alternative A. In the Pine Butte Allotment, approximately three miles of pasture boundary fences and one well/trough would be constructed. Constructing the two pasture fences would result in approximately 1.5 acres of disturbance of which 0.75 acres of ground disturbance would occur on public land that would be vulnerable to new weed infestations, but the likelihood of that occurring is unlikely due to the current condition of the native vegetation in the allotment. The limited ground disturbance associated with the construction of the pasture fences could potentially increase the opportunity for establishment and/or expansion of invasive, non-native species. In addition to the fences, a new well and trough location would be constructed in northern part of Davis Butte Pasture. The project could potentially impact 0.5 acres. Native vegetation adjacent to the new well would be utilized heavier on an annual basis making it more susceptible to invasive species establishment. However, all project areas would be monitored closely for new occurrences of noxious weeds. All new and existing infestations would continue to be aggressively treated. Since there were no projects proposed in the Cow Camp and Horsebrush Allotments, the likelihood of invasive species increasing or establishing in disturbed areas associated with projects would not occur.

The reduction in authorized use in the Horsebrush Allotment would result in significant progress towards meeting Standards 4 and 8 over time as ecological condition improves. Improved ecological condition would reduce the potential for establishment or expansion on invasive, non-native species in the allotment. Continuing to monitor and treat known infestations in the allotments would ensure that Standards 4 and 8 would continue to meet or make significant progress towards meeting standards in the future.

*Alternative C*

Under Alternative C, the impacts associated with non-native, invasive species would be similar to Alternative B. The only difference is that the permittee would be authorized to run cow/calf pairs instead of yearling cattle. The amount of authorized AUMs in the allotments would be less under Alternative C than Alternative B.

*Alternative D – No Grazing*

Under Alternative D, no livestock grazing would be authorized in the allotments for 10 years. The potential establishment or expansion of invasive, non-native species would be less than the other alternative described above due to the removal of one of these vectors.

**Migratory Birds**

Affected Environment

The diverse habitat within Cow Camp, Horsebrush, and Pine Butte Allotments provide habitat for a variety of migratory birds including chipping sparrow, green-tailed towhee, western meadowlark, sage thrasher, vesper sparrow, dark-eyed junco, mourning dove, rock wren, Bullock's oriole, western tanager and mountain bluebirds and a couple of migratory raptors (e.g., northern harrier, Swainson's hawk). These species are found in all habitat types including patches of Douglas fir found in the Pine Butte Allotment.

Birds generally do not respond to the presence of grazing livestock but to the impacts on vegetation as a result of grazing. The principal means by which livestock grazing impacts migratory bird populations is by altering habitat structure and food availability. Livestock have the potential to directly impact migratory bird species by reducing, at least temporarily, required understory grasses and forbs used for foraging, nesting and cover from predators. Cattle compact soil by hoof action, removal of plant materials, and indirectly reducing water infiltration, all of which can result in decreased vegetation density (Saab et al. 1995). Songbirds show the full range of responses to grazing. For example, the western meadowlark appears to respond negatively; while mourning dove, loggerhead shrike, and sage thrasher may be unresponsive or show mixed responses to grazing (Bock et al. 1993). Similar to songbirds, migratory raptors also show a range of responses to grazing with some species (e.g., northern harrier) requiring increased ground cover and other species (e.g., burrowing owl) responding positively to reduced ground cover or bare ground (Saab et al. 1995).

Environmental Consequences

*Alternative A – No Action*

Under Alternative A, grazing on Cow Camp, Horsebrush, and Pine Butte Allotments would continue at the same timing and intensity levels as currently authorized. The allotments were evaluated and the plant communities in the Pine Butte and Cow Camp Allotments were found to be meeting rangeland health standards, while the Horsebrush Allotment was found to be not meeting standards. There is little trend information on migratory birds available for these allotments; however, as the Pine Butte and Cow Camp Allotments are meeting rangeland health standards it is expected that habitat requirements (e.g., cover, food, space) of migratory birds are being met and would continue to be met under Alternative A. Habitats within the Horsebrush Allotment are currently in a downward trend and continued grazing under the existing permit would likely continue that trend in areas where repeated heavy utilization occurs during the growing period of bunchgrasses occurs.

The two pastures within the Horsebrush Allotment would continue to be grazed the entire growing season each year with no grazing rotation and at a level resulting in large areas of heavy utilization, which would result in a further reduction of vigor and health of grasses and forbs. This would leave open spaces available for colonization of noxious/invasive weeds further

reducing habitat available for migratory birds. Under Alternative A, the Horsebrush Allotment would not make progress towards meeting Standards 4 and 8, while the Pine Butte and Cow Camp Allotments would continue to meet these standards. Under Alternative A, the Horsebrush Allotment would not provide suitable habitat to maintain populations of migratory birds.

*Alternative B – Proposed Action*

Actions under Alternative B include changing the Livestock Kind from cattle to yearling cattle on all allotments. In addition, changes in the season of use and grazing system in the Cow Camp and Horsebrush Allotments would be implemented. The proposed changes in the Pine Butte include a change in the season of use, the implementation of a grazing system, conversion of Livestock Kind from sheep to yearling cattle, drilling of a well, and the construction of a pasture fence.

Cow Camp

Alternative B proposes to change the season of use from 5/1 – 5/31 to 4/20 – 5/31. The permittee would be authorized to graze no more than 53 yearlings for 31 days within the 42 day season of use. The change in the season of use would allow for flexibility to adjust grazing in light of range and pasture readiness. The impacts of grazing the allotment 10 days earlier in the spring than under Alternative A is likely minimal. Grazing of native habitats would be completed when migratory birds are arriving from their winter habitats. If any nests failed due to trampling or other disturbance from livestock there would be an adequate amount of time available for a re-nesting attempt.

Horsebrush

Under Alternative B, a two-pasture grazing rotation would be implemented. This system would provide an opportunity for plants to produce seeds, establish seedlings, and restore vigor as well as provide some structure and cover for wildlife going into the winter season. Direct short term impacts would be reduced disturbance of nesting and breeding habitat for migratory birds in about half of the allotment each year. When livestock leave the spring pastures at the end of May, some migratory birds would have an opportunity for undisturbed re-nesting attempts by individuals that may have experienced nest failure.

Also proposed under Alternative B is a decrease in authorized use from 823 to 660 AUMs for cattle in the allotment. Further, the Livestock Kind would be changed from cattle to yearling cattle. As discussed in Chapter 2, although yearling cattle consume approximately 75% of the forage amount in a month compared to cow with calf, the grazing regulations require that cattle over 6 months of age be charged a full AUM. Thus, while it appears to be a decrease of 20% in authorized use, due to the change in Livestock Kind, the result would be approximately 39% less biomass removal annually compared to Alternative A. This would result in an increase in herbaceous cover in both pastures after grazing as compared to Alternative A. This would reverse the downward ecological trend seen in both pastures in turn increasing grass and forb

cover and increasing nesting cover and foraging habitat for migratory birds over the life of the permit. The reduction in AUMs would result in lighter utilization levels in both pastures, which would reduce the likelihood of direct disturbance of migratory bird nests by livestock.

A change the season of use on the sheep permit from 5/1 – 5/6 to 5/1 – 12/15 would be implemented under Alternative B. Authorized sheep use would be reduce from 39 AUMs to 28 AUMs, a 39% reduction consistent with the reduction in authorized cattle use. Sheep use would be authorized for up to four days within the season of use. As authorized sheep use is approximately 4% of the total authorized use in the allotment, grazing native habitats later into the year than proposed under Alternative A would have no measurable impact on native plants. The flexibility proposed under Alternative B allows for limited sheep grazing to occur outside the critical nesting seasons for migratory birds which would slightly reduce the potential for direct disturbance of nests.

Pine Butte

Under Alternative B, the fall grazing season would be lengthened by 15 days and the livestock kind would be changed from cow/calf pairs to yearling cattle. The total amount of the authorized AUMs in the allotment would increase from 1,755 to 2,337 AUMs. As discussed in Chapter 2, although yearling cattle consume approximately 75% of the forage amount in a month compared to cow with calf, the grazing regulations require that cattle over 6 months of age be charged a full AUM. Thus, while it appears to be an increase of 24% in authorized use, due to the change in Livestock Kind, the result would be that the same amount of biomass removal would be equivalent to Alternative A. Most migratory birds leave the area in the fall and are not directly impacted by fall grazing. The fall livestock grazing use indirectly impacts migratory birds by reducing the amount of residual herbaceous vegetation available as forage or cover for migratory birds and their prey bases during the following spring. Because the allotment is currently meeting rangeland health standards, the herbaceous species in Pine Butte Allotment would be expected to maintain their vigor and productivity to provide suitable foraging and cover habitat for migratory birds.

Under Alternative B, 287 AUMs authorized for sheep use would be converted to 192 AUMs authorized for yearling cattle within the allotment. The conversion to cattle would alter the grazing use patterns and the plant species utilized, while the reduced AUMs would result in slightly lighter amount of use throughout the allotment. Livestock distribution can vary greatly between sheep and cattle use. Sheep can be herded more easily by a herder in order to use the area that are not typically used by cattle due to increased topography or distance from available water. Sheep tend to utilize forbs in the months of April and May, while the cattle tend to utilize the grasses. During the later months, as available forbs become less abundant, sheep adjust their grazing to include more shrubs. Cattle will eat shrubs but prefer grasses and forbs.

The addition of a well in the center of the Davis Butte Pasture would remove 0.25 acres of nesting habitat for grass and ground nesting birds while providing nesting and perching habitat for migratory raptors and perching for song birds. The construction would occur outside the

nesting season, which would reduce the potential for disturbance or destruction of existing nests. Other impacts would be a short term displacement of migratory birds and the removal or modification of habitat at the time of construction.

Under Alternative B, an existing fence approximately1.5 miles long located on the west side of the Red Road would be removed and a new fence would be constructed on the east side of the Red Road. The Red Road is a highly travelled road and livestock get hit by vehicles on an annual basis. Realigning the fence on the east side would increase public safety. Approximately 0.6 miles would be moved on BLM, while the remaining part of the fence would be moved on private land. Also proposed under Alternative B is 1.5 miles of new fence in the existing Pine Butte Pastures, dividing the pasture into two smaller pastures. Approximately 0.75 miles would be constructed on BLM, while the remaining part of the fence would be constructed on private and state land. The fence, a three wire fence, would be constructed according to BLM wildlife fencing specifications. Impacts associated with these projects include short term temporary displacement of migratory birds in the area. The first project would produce no net gain of fence on the landscape, while the second project would add an additional 1.5 miles of new fence, which would increase perches for hunting, singing and territorial displays which may increase fitness and mating potential. It may also increase their visibility to potential predators. Further impacts would be potential fence strikes resulting in injury or possible mortality of individual birds, more likely larger birds such as hawks and owls. As both fences would be built outside of the nesting season (3/1-6/30), there is little concern of disturbance or destruction of nests or nestlings. If fence strikes are documented in the future on new or existing pasture or allotment fences, these fences would be modified to improve visibility in order to minimize strikes.

Under Alternative B, a seven pasture deferred rotation grazing system would be implemented. The deferred rotation grazing system would allow for some dormant season grazing within the allotment, and improve breeding habitat for migratory birds in the long-term by strengthening understory grasses and forbs. Deferred-rotational grazing systems are beneficial to many migratory bird species because they provide pastures free of disturbance during nesting and other critical seasons (Holechek et al. 1982). The vegetation quality requirements for migratory bird species within the Pine Butte Allotment would continue to be met under this alternative.

*Alternative C*

Potential impacts on migratory birds would be similar to Alternative B. The difference would be that under Alternative C, there would be no conversion from cattle to yearling cattle. The improved dispersion and use across topographic features of the allotments with yearling cattle compared to older cattle or cow/calf pairs would not be realized under Alternative C. Reductions in authorized use in the Horsebrush Allotment would still occur and overall the Cow Camp and Pine Butte Allotments would continue to provide for the habitat needs of a variety of migratory birds, while condition in the Horsebrush Allotment would make significant progress toward meeting standards, providing the desired habitat characteristics for migratory birds.

*Alternative D – No Grazing*

Impacts to migratory birds from no grazing would vary by species as discussed under Alternative A. In general, understory cover of grasses and forbs would increase, with improvement in size and vigor of preferred forage species. Seed production would likely increase, further providing increased cover and forage. There would be no potential displacement or disturbance of migratory birds during critical breeding, nesting and brood-rearing seasons.

As residual herbaceous and litter cover increases, the continuity of fine fuels would increase, thereby increasing the risk of a larger and more severe wildfire than would likely occur if the allotments were grazed as described in Alternatives A, B, or C. Wildfires would reduce the sagebrush cover in the allotments which could be detrimental to sagebrush obligate species.

**Soil Resources**

Affected Environment

The soils across the Cow Camp and Horsebrush Allotments range from sandy to coarse loamy soils. Two soil series dominate the Cow Camp Allotment. The Grassy Butte soil series consists of very deep excessively drained soils, while the Modkin soil series consists of moderately deep, well drained soils. Both soil series were formed of wind deposits. Soils in the Horsebrush Allotment consist of three dominant soil series and one minor series. The three dominant soil series are the Bondranch, Mathon, and Grassy Butte. The Mathon series is a deep, well-drained soil formed in wind deposits partially of basaltic origin. The Bondranch soil series are well-drained soils found on level to rolling basalt plains. These soils are also formed in wind deposits and residuum over basalt bedrock. The Grassy Butte soil series is very deep, excessively drained soils formed in wind material. The minor soil series found in the Horsebrush Allotment is the Modkin series. The series consists of moderately deep, well-drained soils found on basalt plains.

The soils across the Pine Butte Allotment range from fine loamy to loamy soils. The allotment consists of five soil series: Pine Butte, Crystal Butte, Vadnais, Hagenbarth, and Katseanes. Of the five soil series, Hagenbarth, Vadnais, and Katseanes are the dominate series found in the allotment. The Hagenbarth series consist of deep, well drained soils formed on basalt plains, terraces, and foothills. The Vadnais series is moderately deep, well drained soils formed in loess and eolian sand influenced by local alluvium. The third dominant series in the allotment is the Katseanes series. This series consist of shallow, well drained soils formed in loess influenced by valley alluvium. The remaining two (Crystal Butte and Pine Butte) series are very deep, well drained soils formed in loess.

Environmental Consequences

The potential impacts to soils from livestock grazing include soil compaction and a reduction in the amount and distribution of ground cover resulting in accelerating erosion as evidenced by rills, pedestals, and flow patterns. Soil compaction by heavy objects, including trailing by livestock, has the potential to penetrate and compact soil material to depths of 15 to 20 inches,

depending upon soil composition, particle size, and moisture content. Generally, the soils in the allotment will have increased moisture levels in the spring compared with the summer or fall. The soil from the surface to a depth of four to six inches is typically released from compaction by frost action. The deeper soil compaction that is not affected by frost action may remain in the soil for years. Soil compaction resulting from intensive livestock use, such as along trails and next to water sites, is estimated to occur on less than one percent of the allotment area. Deep soil compaction restricts root growth and reduces soil productivity.

*Alternative A – No Action*

Under Alternative A, soil surface disturbance and compaction would not increase. Soil compaction resulting from livestock use, such as along trails and next to water sites, is estimated to occur on less than one percent of the allotments area. Under this alternative, soil conditions in the Cow Camp, Horsebrush, and Pine Butte Allotments would continue to support water infiltration and permeability rates appropriate to site potential. Vegetative cover on the Cow Camp and Pine Butte Allotments under Alternative A would continue to be sufficient to protect against wind and water erosion, while the reduced vegetative composition in the Horsebrush makes the allotment more vulnerable to both wind and water erosion.

*Alternative B – Proposed Action*

Under Alternative B, the amount of soil disturbance associated with the construction of the two pasture fences and the well/trough in the Davis Butte Pasture would be minimal. The amount of ground disturbance from the combination of the projects would account for approximately 1.25 acres. The construction of the two pasture fences in the Pine Butte Allotment would disturb approximately 0.75 acres. Increased soil surface disturbance and compaction would be expected in a narrow area adjacent to the new fences, as livestock commonly trail along fences more intensively. The construction of the well and trough could potentially account for 0.5 acres of soil disturbance in the northeast part of the allotment. Since vegetation around the well project would be utilized heavier, the potential for erosion and soil compaction would be greater closer to the well/trough location and decrease as distance from the project increases. The increase in compaction would occur on a small area of the total acreage of public lands and would not be a critical factor in achieving rangeland health. Because cattle are concentrated, livestock trailing has an increased potential to result in deep compaction; however, as described this occurs primarily along existing roads. The allotment would continue to support water infiltration and permeability rates appropriate to site potential.

*Alternative C*

Under Alternative C, the impacts associated with soil resources would be very similar to Alternative B. The only difference is that the permittee would be authorized to run cattle, commonly cow/calf pairs, instead of yearling cattle.

*Alternative D – No Grazing*

Under Alternative D, the impacts to soil resources would be less than under any of the other alternatives described above. No livestock use would be authorized in the allotments for a period of 10 years under this alternative. Deep soil compaction resulting from intensive livestock use, such as trails and next to water sites, would no longer occur on the allotments area. The limited soil compaction related to livestock use in the portion of the soil profile which is typically released annually through frost action, would not be subject to repeated compaction. Elimination of livestock use for the duration of the permit may reduce the areas affected by deep soil compaction. Deep soil compaction would persist but would likely decrease over time due to the course nature of the substrate. Soil conditions on the allotment as a whole would continue to support water infiltration and permeability rates appropriate to site potential.

**Threatened, Endangered, and Sensitive Animals**

Affected Environment

All data known to the USFO, including data from the Idaho Conservation Data Center and the Idaho Department of Fish and Game, has been considered to identify any species currently listed under the Endangered Species Act (ESA) or any other special status species. There are no known occurrences of Threatened or Endangered species within five miles of the allotments within the last ten years. One federal candidate species and eight species of sensitive animals have been identified as occurring or potentially occurring within five miles of the renewing allotment within the last ten years (Table 2). Species not occupying seasonal ranges or not expected to occur within the Cow Camp, Horsebrush, and Pine Butte Allotments are excluded from discussion.

**Table 2 -** Special Status Species Occurrence within the allotments

| Species | Status[a] | Occurrence | Rationale |
|---|---|---|---|
| Greater Sage-Grouse (*Centrocerus urophasianus*) | C | Present | Preliminary Priority Habitat |
| Prairie Falcon (*Falco mexicanus*) | S | Present | Forages throughout the allotment. Nest sites not identified. |
| Ferruginous Hawk (*Buteo regalis*) | S | Present | Breeding territories within allotment. |
| Brewer's Sparrow (*Spizella breweri*) | S | Present | Breeding habitat |
| Sage Sparrow (*Amphispiza belli)* | S | Present | Breeding habitat |
| Loggerhead Shrike (*Lanius ludovicianus*) | S | Potential | Potential breeding habitat present |
| Townsend's big-eared bat | S | Potential | Potential foraging habitat |

| Species | Status[a] | Occurrence | Rationale |
|---|---|---|---|
| (*Corynorhinus townsendii*) | | | |
| Piute Ground Squirrel (*Spermophilus mollis artemisae*) | S | Potential | Potential habitat present |
| Pygmy Rabbit (*Brachylagus idahoensis*) | S | Present | Potential habitat |

Status Codes: C=Federal Candidate Species, S=BLM Sensitive Species, T=Federal Threatened Species

On March 23, 2010 the U.S. Fish and Wildlife Service determined that listing of the greater sage-grouse (hereinafter referred to as sage grouse) range-wide was warranted but precluded by higher listing actions (75 FR 55). Habitat for sage grouse within the BLM is currently managed under Instruction Memorandum No. 2012-043 - Greater Sage-Grouse Interim Management Policies and Procedures. Locally, management actions also follow the Upper Snake Local Working Group's Plan for Increasing Sage Grouse Populations (USLWG 2009) and the Conservation Plan for Greater Sage Grouse in Idaho (ISGAC 2006). Although Idaho populations have shown increases in the past ten years they have not reached levels attained in the late 1960s or early 1970s. Long term sage grouse population averages continue to indicate a declining population trend (Connelly et al. 2004).

Sage grouse within the allotments are considered part of the Snake-Salmon-Beaverhead ID population whose trend, as indicated by average number of males per lek, has declined by 57% from 1965–1969 to 2000-2007 (Garton et al. 2011). However, this population has been stable since 1992, fluctuating around 5,000 males (Garton et al. 2011). Garton et al. (2011) conclude through their population analysis that the Snake-Salmon-Beaverhead ID population has a zero percent chance of dropping below a minimum viable population of 500 males in the next 100 years.

The Pine Butte, Horsebrush, and Cow Camp Allotments are contained within IDFG reporting Zone 6. The five-year baseline from 1996-2000 in the Big Desert was 14.8 males per lek and 23.4 males per active lek. The current three-year average males per lek are 15.1, which is over 105.6% of the baseline period. The current three-year average for males on active leks is 23.4, which is 100% of the average males for active leks of the baseline period (IDFG, 2012). This data indicates a very stable population.

Sage grouse require large tracts of relatively continuous sagebrush cover throughout the entire year (Pehrson and Sowell 2011). In general, the Preliminary Priority Habitat (PPH) designation is based on sage grouse populations as identified in *Sage-grouse Priority and General Areas in Idaho* (BLM 2011 and Makela and Major 2011). In particular, PPH is based on combined high male lek attendance, high lek density and high lek connectivity. Areas designated as PPH may include areas of non-habitat. Impacts in these areas result in impacts to sage grouse population centers and movement corridors. In addition, the Pine Butte, Horsebrush, and Cow Camp Allotments are identified as key sage-grouse habitat (Makela and Major 2011) which is described as large-scale, intact sagebrush steppe areas with the potential for small inclusions of

perennial grasslands, either native or introduced, or other habitats (e.g., mountain mahogany) to be present.

There is one lek of undetermined status within the Pine Butte Allotment. There are no identified leks in the Horsebrush or Cow Camp Allotments. However, there are thirteen occupied and nine undetermined leks within five miles of the three allotments combined.

Habitat diversity within these allotments also provides for a variety of other special status species including loggerhead shrike, pygmy rabbit, and sagebrush obligate species of Brewer's and sage sparrows. There is little information about trends for special status species within these allotments but as there is suitable nesting, foraging and cover habitat available (Walker 2004, Rotenberry et al. 1999, Vander Haegen 2003, Martin and Carlson 1998, Stebbins 2003, Janson 2002, IDFG 2005 and Carpenter 1952) it is likely they would be found during appropriate surveys.

West Nile virus has been identified as a threat to sage grouse populations (USFWS, 2010). Incidences of West Nile virus peaked in eastern Idaho in 2007. There has been a very low incidence of West Nile Virus in the counties within or adjacent to the Upper Snake Field Office area in the last four years (USDI-USGS, 2013). West Nile virus is spread primarily through contact with infected mosquitoes. Creating additional water sources (i.e. trough locations) may increase the distribution and abundance of mosquitoes that contribute to the spread of the West Nile virus if they have attributes beneficial to mosquitoes. These attributes include those that create shallow water depths, shade during the heat of the day, and vegetation and debris cover that provides shelter from predators of mosquitoes (Zau et al. 2006). Livestock watering facilities can become breeding habitat for mosquitoes if water is left stagnant long enough to become warm, and grow algae or other vegetation. While in use, livestock watering troughs do not hold standing water. Instead, there is a regulated flow of cold water from a well or storage tank, which livestock drink from throughout the day. The potential for standing water at livestock troughs occurs once the livestock leave, and fresh water is not being added to the trough. When troughs are no longer in use, they should be drained so that they do not become a breeding area for mosquitoes.

Environmental Consequences

Direct impacts of livestock grazing on habitat used by special status species may include nest or burrow trampling and the removal of vegetation that could otherwise be used for food or cover. Indirect impacts on habitat used by wildlife can occur if livestock grazing alters the vegetation composition, which can be beneficial or adverse depending upon the specific special status species and results of the impact. In general, native vegetation communities in late-seral to potential natural community (PNC) condition provide habitat conditions suitable to the largest number of native special status species.

Livestock grazing can have direct and indirect impacts on sage-grouse during nesting. Direct impacts may include flushing or disturbing hens incubating eggs or trampling of nests or grouse,

which is considered rare (Beever and Aldridge 2011). Indirect impacts include the removal of vegetation used for scent, visual and physical barriers to potential predators by nesting sage-grouse (DeLong et al. 1995). Poorly managed livestock grazing can alter plant community composition and distribution of desirable vegetation species and facilitate invasive species establishment. Livestock management practices that provide for the sustainability of perennial grasses and forbs generally maintain or minimally impact sage-grouse habitat (ISGAC 2006).

Grass height and cover are considered important factors for sage-grouse nest sites (Connelly et al. 2000). Taller herbaceous vegetation surrounding a nest likely influences the success of nesting sage-grouse (Wik 2002, DeLong et al. 1995). Livestock grazing can remove herbaceous vegetation used for cover by nesting sage-grouse. In sagebrush habitats cattle graze herbaceous vegetation in shrub interspaces, and begin foraging on vegetation beneath shrubs as interspace plants are depleted. Under light to moderate utilization levels, cattle use of sub-canopy vegetation has been documented as negligible (France et al. 2008). The degree of impact that livestock grazing has on sage-grouse nesting habitat is dependent on timing, intensity of use, vegetation composition, and other factors (ISGAC 2006). Nest success is not considered to be a widespread problem in Idaho with an average success rate of 49% (Connelly et al. 2004).

Livestock grazing may impact prairie falcons and ferruginous hawks indirectly by changing the vegetative composition in ways that influence prey species. Grazing reduces vegetative cover, at least temporarily, which increases exposure of prey species resulting in increased predation. Periodic rest or deferment of grazing allows small rodent populations to recover and produce increased numbers when compared to continuous grazing, thereby increasing the prey base (Douglass and Frisina 1993).

Impacts to pygmy rabbits could be positive or negative, while impacts to Piute ground squirrels are likely negative. Livestock use may result in increased sagebrush cover or density that would provide additional forage and cover for pygmy rabbits; however this may also result in decreased grass and forb cover that are important components of both species' diets (Thines et al. 2004). The potential for loss of habitat diversity and productivity is high in areas that receive repeated heavy utilization. Pastures receiving heavy use during the growing season would result in reduced forbs and grasses reducing habitat quality for both pygmy rabbits and Piute ground squirrels during the spring and summer.

Impacts to other special status species such as Brewer's sparrow, sage sparrow, and loggerhead shrike are discussed under the **Migratory Bird** section of this analysis.

*Alternative A – No Action*

Under Alternative A, grazing would continue at the same timing and intensity levels as currently authorized. Grazing would continue to occur during important sage-grouse breeding and nesting seasons, potentially impacting sage-grouse through the reduction of understory grass and forb height and cover and resulting in reduced nesting success or increased nest and chick predation.

Impacts to other sensitive bird species would be similar to those discussed under **Migratory Birds**

Movement by livestock may result in the collapse or filling in of entries into pygmy rabbit burrows, though this has not been documented in these allotments. This would not remove habitat but may result in increased energy use by pygmy rabbits as they would have to reopen the burrow. Townsend's big-eared bats roost in caves during the summer. There would be no direct impacts expected to Townsend's big-eared bats as livestock would not be expected to enter caves.

Disturbed areas along roads, troughs, fences, and cattleguards, as well as rocky outcrops provide habitat for Piute ground squirrels. Direct impacts to Piute ground squirrels from grazing include trampling and collapse of existing burrows, and removal of vegetation they may use for forage.

Impacts to sensitive species from grazing are expected to be minimal in the Pine Butte and Cow Camp Allotments. It is expected that habitat conditions and native plant composition would be maintained and would continue to meet the needs of special status species. The Horsebrush Allotment would be expected to continue a downward trend in ecological conditions under the existing permit and grazing plan. This would continue to reduce the availability of habitat characteristics suitable to maintain special statues species.

*Alternative B – Proposed Action*

Actions proposed under Alternative B include changes in the season of use and implementation of a grazing system in the Cow Camp and Horsebrush Allotments. The proposed changes in the Pine Butte Allotment include a change in the season of use, the implementation of a grazing system, conversion from sheep to yearling cattle, drilling of a well, and the construction of pasture fences.

Common to all allotments under Alternative B is a proposed change livestock kind on the grazing permit from cattle, commonly cow/calf, to yearling cattle. Yearling cattle utilize pastures more uniformly over variable terrain than cows with calves. In general, due to this greater dispersion throughout the allotment the uplands could see more use in areas that have receive light to no grazing in the past, while concentration areas that received heavier use in the past may see less use. The uplands in the Pine Butte and Cow Camp Allotment are healthy and are expected to maintain or improve the existing condition regardless of livestock kind. While the change in livestock kind would have little influence on the Horsebrush Allotment, the reduction in authorized use discussed below would lead to significant progress toward meeting Standards 4 and 8.

<u>Cow Camp</u>

Alternative B proposes to change the season of use from 5/1 – 5/31 to 4/20 – 5/31. The permittee would be authorized to graze no more than 53 yearlings for 31 days within the 42 day

season of use. The change in the season of use would allow for flexibility to adjust grazing in light of range and pasture readiness. The impacts of grazing the allotment 10 days earlier in the spring than under Alternative A is likely minimal as the amount of forage removed, considering the change from cattle to yearling cattle, would be comparable to Alternative A. Grazing of native habitats would be completed when sensitive bird species are arriving from their winter habitats, which may limit the potential of nest disturbance.

Horsebrush

Under Alternative B, a two-pasture grazing rotation would be implemented. This system would provide an opportunity for plants to produce seeds, establish seedlings, and restore vigor as well as provide some structure and cover for wildlife going into the winter season. Direct short term impacts would be reduced disturbance of nesting and breeding habitat for special status species in about half of the allotment each year. Impacts to other sensitive bird species would be similar to those discussed under Alternative B in under **Migratory Birds**.

Also proposed under Alternative B a decrease in authorized use by an equivalent of 39% compared to Alternative A. This would result in an increase in herbaceous cover in both pastures after grazing as compared to Alternative A. This would reverse the downward ecological trend seen in both pastures and increase grass and forb cover throughout the allotment, which would increase nesting, cover, and foraging habitat for sensitive species over the life of the permit. The reduction in AUMs would result in lighter utilization levels in both pastures, which would reduce the likelihood of direct disturbance of sage grouse nests by livestock.

A change the season of use on the sheep permit from 5/1 – 5/6 to 5/1 – 12/15 would be implemented under Alternative B. Authorized sheep use would be reduced from 39 AUMs to 28 AUMs, a 39% reduction consistent with the reduction in authorized cattle use. Sheep use would be authorized for up to four days within the season of use. As authorized sheep use is approximately 4% of the total authorized use in the allotment, grazing native habitats later into the year than proposed under Alternative A would have no measurable impact on native plants. The flexibility proposed under Alternative B allows for limited sheep grazing to occur outside the critical nesting seasons for migratory birds which would slightly reduce the potential for direct disturbance of nests.

Pine Butte

Under Alternative B, the fall grazing season would be lengthened by 15 days and the livestock kind would be changed from cow/calf pairs to yearling cattle. The total amount of the authorized AUMs in the allotment would increase from 1,755 to 2,337 AUMs. As discussed in Chapter 2, although yearling cattle consume approximately 75% of the forage amount in a month compared to cow with calf, the grazing regulations require that cattle over 6 months of age be charged a full AUM. Thus while it appears to be an increase of 24% in authorized use, due to the change in Livestock Kind, the result would be that the same amount of biomass removal would be equivalent to Alternative A. Most migratory birds leave the area in the fall and are not directly

impacted by fall grazing. The fall livestock grazing use indirectly impacts migratory birds by reducing the amount of residual herbaceous vegetation available as forage or cover for migratory birds and their prey bases during the following spring. Because the allotment is currently meeting rangeland health standards, the herbaceous species in Pine Butte Allotment would be expected to maintain their vigor and productivity to provide suitable foraging and cover habitat for migratory birds.

Under Alternative B, 287 AUMs authorized for sheep use would be converted to 192 AUMs authorized for yearling cattle within the allotment. The conversion to cattle would alter the grazing use patterns and the plant species utilized, while the reduced AUMs would result in slightly lighter amount of use throughout the allotment. The addition of a well in the center of the Davis Butte Pasture would remove 0.25 acres of nesting habitat for grass and ground nesting birds while providing nesting and perching habitat for migratory raptors and perching for song birds. The construction would occur outside the nesting season, which would reduce the potential for disturbance or destruction of existing nests. Other impacts would be a short term displacement of migratory birds and the removal or modification of habitat at the time of construction.

Under Alternative B, an existing fence approximately1.5 miles long located on the west side of the Red Road would be removed and a new fence would be constructed on the east side of the Red Road. The Red Road is a highly travelled road and livestock get hit by vehicles on an annual basis. Realigning the fence on the east side would increase public safety. Approximately 0.6 miles would be moved on BLM, while the remaining part of the fence would be moved on private land. Also proposed under Alternative B is 1.5 miles of new fence in the existing Pine Butte Pastures, dividing the pasture into two smaller pastures. Approximately 0.75 miles would be constructed on BLM, while the remaining part of the fence would be constructed on private and state land. The fence, a three wire fence, would be constructed according to BLM wildlife fencing specifications. Impacts associated with these projects include short term temporary displacement of migratory birds in the area. The first project would produce no net gain of fence on the landscape, while the second project would add an additional 1.5 miles of new fence, which would increase perches for hunting, singing and territorial displays which may increase fitness and mating potential. It may also increase their visibility to potential predators. Further impacts would be potential fence strikes resulting in injury or possible mortality of individual birds, more likely larger birds such as hawks and owls. As both fences would be built outside of the nesting season (3/1-6/30) there is little concern of disturbance or destruction of nests or nestlings. If fence strikes are documented in the future on new or existing pasture or allotment fences, these fences would be modified to improve visibility in order to minimize strikes.

Under Alternative B, a seven pasture deferred rotation grazing system would be implemented. The deferred rotation grazing system would allow for some dormant season grazing within the allotment, and improve breeding habitat for migratory birds in the long-term by strengthening understory grasses and forbs. Deferred-rotational grazing systems are beneficial to many migratory bird species because they provide pastures free of disturbance during nesting and other

critical seasons (Holechek et al. 1982). The vegetation quality requirements for migratory bird species within the Pine Butte Allotment would continue to be met under this alternative.

*Alternative C*

Common to all allotments as proposed under Alternative C would be the change livestock kind on the grazing permit, which would remain a cow/calf permit instead of a yearling permit as discussed in Alternative B. Less dispersion throughout the allotment by cow/calf pairs would leave areas of very light to no use, while concentration areas that received heavier use in the past may still see that same use. Slightly more soil compaction would take place as more cattle would be on the ground as compared to Alterative B.

All authorized use, livestock kind, reductions in AUMs and sheep to cattle AUM changes remain the same as proposed under alternative B.

*Alternative D – No Grazing*

Impacts to sensitive bird species from no grazing would vary by species as discussed under **Migratory Birds**. In general, understory cover (e.g., grasses and forbs) would increase in size and vigor with seed set occurring annually providing increased cover and forage. There would be no displacement or disturbance of sensitive bird species during critical breeding, nesting and brood-rearing seasons. Browsing of woody plant species would be minimal and potentially increase nesting habitat for cavity and tree nesting species. Impacts to burrowing species would be a lack of disturbance or potential crushing or collapsing of burrows. Impacts to special status species from lack of water troughs and wildlife escape ramps would be similar to those discussed under **Migratory Birds.**

**Vegetation**

Affected Environment

There is one primary ecological site found that can be found in both the Cow Camp and Horsebrush Allotments: basin big sagebrush / needle and thread grass / Indian ricegrass ecological site. Other common species across the allotment include green rabbitbrush (*Chrysothamnus viscidiflorus*), antelope bitterbrush (*Purshia tridentata*), sand dropseed (*Sporobolus cryptandrus*), squirreltail (*Elymus elymoides*), and western wheatgrass (*Pascopyrum smithii*). Numerous species of forbs were also observed throughout the allotment. A Wyoming big sagebrush / bluebunch wheatgrass ecological site is the other dominate range site found in the Horsebrush Allotment. Average annual production of the native plant communities in the allotment are highly variable depending on the amount and timing of precipitation, among other factors. Annual production for the basin big sagebrush site varies from 500 lbs/acre in unfavorable years, 750 lbs/acre in average years, to 1,000 lbs/acre in favorable years based on Natural Resource Conservation Service (NRCS) ecological site descriptions, while the Wyoming big sagebrush site varies from 400 lbs/acres in unfavorable years, 750 lbs/acre in average years,

and 1,200 lbs/acre in favorable years.

In the Pine Butte Allotment, there is one primary ecological site: a mountain big sagebrush / bluebunch wheatgrass / Idaho fescue ecological site. Other common species across the allotment include antelope bitterbrush (*Purshia tridentata*), green rabbitbrush (*Chrysothamnus viscidiflorus*), chokecherry, shiny leaf ceanothus, oniongrass (*Melica bulbosa*), junegrass (*Koeleria macrantha*), and Letterman's needlegrass (*Achnatherum lettermanii*). Numerous species of forbs were also observed throughout the allotment. Average annual productions of the native plant communities in the allotment are highly variable depending on the amount and timing of precipitation and soil depth. Annual production on the loamy sites varies from 1,300 lbs/acre in unfavorable years, 2,000 lbs/acre in average years, 2,400 lbs/acre in favorable years based on Natural Resource Conservation Service (NRCS) ecological site descriptions, while the shallow fractured loam sites produced 300 lbs/acres in unfavorable years, 600 lbs/acre in average years, and 850 lbs/acre in favorable years.

The following upland plant species are the ones most likely to be directly affected by livestock grazing in the Cow Camp, Horsebrush, and Pine Butte Allotments: western wheatgrass, bluebunch wheatgrass, Junegrass, Indian ricegrass, Nevada bluegrass (*Poa nevadensis*), Sandberg's bluegrass, squirreltail, Idaho fescue, Letterman's needlegrass, oniongrass, and needle and thread grass. Many annuals and perennial forbs are present and would receive grazing pressure.

Field assessments were conducted across the native range in all three allotments using techniques described in Interpreting Indicators of Rangeland Health – Technical Reference 1734-6 (BLM 2005).

Cow Camp Allotment

A Native Plant Community Assessment was conducted in the allotment in the spring of 2012. The assessment rated eight of the nine indicators of biotic integrity in the allotment had none to slight departure from site potential. The indicator for Functional/Structural Groups was rated in the slight to moderate departure category because the amount of Indian ricegrass appeared reduced relative to site potential. Forb composition also appeared to be slightly reduced, which may have been associated with the below average spring moisture received in 2012.

A step-point cover transect was completed in the allotment during the field assessment. The results of the cover surveys are summarized in Table 3. Step-point cover data was not previously collected in the allotment.

**Table 3.** Foliar Cover Summary for the Cow Camp Allotment

| | Ground Cover % | Foliar Cover % |
|---|---|---|
| | | |
| **Perennial grasses** | | 16% |
| **Annual grasses** | | 9% |
| **Forbs** | | 3% |
| **Sagebrush** | | 25% |
| **Decadent Shrubs** | | 0 |
| **Dead Shrubs** | | 0 |
| **Other Shrubs** | | 6.5% |
| **Total Vegetative Cover** | | 47.5% |
| | | |
| **Litter** | 25.5% | |
| **Bare Ground** | 25.5% | |
| **Microbiotic Crust** | 1.5% | |
| **Rock** | 0 | |
| **Gravel** | 0 | |

Horsebrush Allotment

Two field site evaluations were conducted in the Horsebrush Allotment. The first Native Plant Community Assessment was conducted in the North Pasture. The assessment rated five of the nine indicators as none to slight departure from site potential. The indicator for Functional/Structural Groups was rated in the slight to moderate departure category because the large bunchgrasses were in low vigor and the amount of cover expected for the grass species was reduced compared to site potential. The forb cover was also lower than what is expected for the site, though the below average precipitation in 2012 was a contributing factor. The Plant Mortality/Decadence indicator was rated in the moderate departure category because the interdisciplinary team observed dead and/or decadent basin big sagebrush, antelope bitterbrush, and green rabbitbrush plants in the North Pasture. The reduction in the large bunchgrass and forb composition in North Pasture was a factor in rating Annual Production indicator as slight to moderate departure. Approximately 55 to 75 percent of the total pounds per acre of biomass produced on this range site come from large bunchgrasses and forb species. The Reproductive Capability of Perennial Plants indicator was rated in the slight to moderate departure category because perennial plant reproduction appears reduced.

The second field evaluation was conducted in the South Pasture. The assessment rated five of the nine indicators as none to slight departure. The reduced rating for Functional/Structural Groups and the Annual Production indicators were directly correlated to the low grass and forb composition in the pasture relative to site potential. Approximately 60 to 85 percent of the compositions by weight on the Wyoming big sagebrush / bluebunch wheatgrass ecological site is expected to be composed of grass and forb species. Similar to the North Pasture, the Plant Mortality/Decadence indicator was rated in the slight to moderate departure category. Dead and

Decadent basin big sagebrush plants were observed scattered throughout the South Pasture. The Invasive Plants indicator was rated in the slight to moderate departure category because the assessment team observed one large diffuse knapweed (*Centaurea diffusa*) at an old salting location.

A step-point cover transect was completed in both pastures during the field assessment in the Horsebrush Allotment. The results of the cover surveys are summarized in Table 4. Step-point cover data was not previously collected in the allotment.

**Table 4 –** Step-point Cover Summary

| | North Pasture | | South Pasture | |
|---|---|---|---|---|
| | **Ground Cover %** | **Foliar Cover %** | **Ground Cover %** | **Foliar Cover %** |
| | | | | |
| **Perennial grasses** | | 10.5% | | 21% |
| **Annual grasses** | | 2.5% | | 5.5% |
| **Forbs** | | 5% | | 1.5% |
| **Sagebrush** | | 16.5% | | 15% |
| **Decadent Shrubs** | | 1.5% | | 1% |
| **Dead Shrubs** | | 4.5% | | |
| **Other Shrubs** | | 6.5% | | 10% |
| **Total Vegetative Cover** | | 39.5% | | 45.5% |
| | | | | |
| **Litter** | 28.5% | | 22.5% | |
| **Bare Ground** | 20.5% | | 19.5% | |
| **Microbiotic Crust** | 11.5% | | 11% | |
| **Rock** | | | 1% | |
| **Gravel** | | | | |

A utilization pattern map was completed in the allotment in 2012. Grazing utilization was mapped in five categories: none use – 0 to 5%, slight use – 6 to 20%, light use – 21 to 40%, moderate use – 41 to 60%, heavy use – 61 to 80%, and severe use – 81 to 100%. Utilization patterns within the two pastures varied mainly due to the herd size in each pasture. In 2012, the North Pasture was utilized by approximately 300 cattle for one month, while the South Pasture used by 100 cattle for one month. No sheep utilization was observed during utilization mapping. The North Pasture exhibit approximately 78% heavy use and 22% moderate use. The total amount of the utilization in the South Pasture was considerably lower than the North Pasture. Approximately 69% of the pasture exhibited light use, 25% moderate use, and 6% heavy use.

Ecological Site Inventory (ESI) is a long term trend monitoring method that uses vegetation composition by weight to determine a site's ecological condition relative to NRCS ecological site descriptions. ESI sites are rated as early seral (zero to 25 percent), mid-seral (26 to 50 percent), late seral (51 to 75 percent), or potential natural community (76 to 100 percent), based on how closely a given site matches its corresponding ecological site description. Changes in composition by weight within lifeform classes of less than five percent are considered static,

while a change of five percent or more from the previous ESI is considered a downward or upward trend in ecological condition, depending on the direction of the change.

In 1982 ESI data was collected from 4 sites in the Horsebrush Allotment. Of the 4 sites inventoried, one of the sites was at potential natural community (PNC), two of the sites were in later-seral condition, and one was in mid-seral condition. In 1993, three of the sites were in late-seral condition, while the remaining site was in mid-seral condition. In 2012, two of the sites were in late-seral condition and two sites were in mid-seral condition. Table 5 is a summary of the four ESI sites in the Horsebrush Allotment.

**Table 5 –** Summary of ESI ratings

| | Ecological Site Score by Year | | |
|---|---|---|---|
| Site Name | 1982 | 1993 | 2012 |
| TM-1 Total | **53** | **44** | **43** |
| Grass Comp.* | 20 | 14 | 15 |
| Forb Comp. | 5 | 2 | 0 |
| Shrub Comp. | 28 | 28 | 28 |
| | | | |
| TM-2 Total | **70** | **69** | **58** |
| Grass Comp. | 31 | 25 | 15 |
| Forb Comp. | 1 | 3 | 5 |
| Shrub Comp. | 38 | 41 | 38 |
| | | | |
| TM-3 Total | **41** | **56** | **31** |
| Grass Comp. | 10 | 26 | 5 |
| Forb Comp | 5 | 1 | 0 |
| Shrub Comp. | 26 | 29 | 26 |
| | | | |
| TM-4 Total | **78** | **69** | **51** |
| Grass Comp. | 45 | 24 | 20 |
| Forb Comp. | 3 | 6 | 1 |
| Shrub Comp. | 30 | 39 | 30 |

*Comp. – refers to Composition by weight

Based on vegetation composition data collected at the four sites in 2012, the general trend in the Horsebrush Allotment is downward. TM-1 had an initial downward trend from 1982 to 1993, but leveled out and became static from 1993 to 2012. TM-2 has exhibited a downward trend from 1982 to 2012. The downward trend on this location is largely due to the decrease in perennial grass composition. TM-3 has fluctuated greatly over the past thirty years. The site initially showed an upward trend from 1982 to 1993 followed by a downward trend from 1993 to 2012. Once again the downward trend on the site is largely due to the decreasing amount of perennial grass composition. Similar to the two previous ESI locations, TM-4 has exhibited a downward trend from 1982 to 2012.

Pine Butte Allotment

Four field evaluations were conducted in native plant communities in Pine Butte Allotment. The majority of the indicators were rated as none to slight departure from site potential, with a few exceptions. The indicator for Functional/Structural Groups was rated in the slight to moderate departure category in Field 3 because the Idaho fescue composition in the field is slightly lower than what is expected for the site potential. In addition to the decrease in Idaho fescue composition, the mountain big sagebrush composition in the field is approximately two times higher than expected for the range site. The slight reduction in Idaho fescue can be partial attributed to the increase in mountain big sagebrush cover. The Plant Mortality/Decadence indicator was rated in the slight to moderate category because a large area in Field 4 appeared to have some form of shrub manipulation project completed in the past. The reduction in the Idaho fescue composition in Field 3 was the main factor why the Litter Amount indicator was rated in the slight to moderate category. Approximately twenty-five percent of the total pounds per acre produced on this range site are expected to come from Idaho fescue. The Annual Production indicator was rated as slight to moderate departure from site potential because of the dry spring and summer the area experienced in the 2012. The dry weather affected the amount of growth on the grass and forbs species in the Pine Butte Allotment.

Five step-point cover transects were completed during the field assessment in the Pine Butte Allotment. The results of the cover surveys are summarized in Table 6. Step-point cover data was not previously collected in the allotment.

**Table 6 -** Foliar Cover Summary

| | **Field 4 Site 1** | | **Field 4 Site 2** | | **Field 3** | | **Field 5 Site 1** | | **Field 5 Site 2** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Ground Cover %** | **Foliar Cover %** | **Ground Cover %** | **Foliar Cover %** | **Ground Cover %** | **Foliar Cover %** | **Ground Cover %** | **Foliar Cover %** | **Ground Cover %** | **Foliar Cover %** |
| | | | | | | | | | | |
| **Perennial grasses** | | 44% | | 46% | | 39% | | 40.5% | | 33% |
| **Annual grasses** | | -- | | -- | | -- | | -- | | -- |
| **Forbs** | | 20% | | 24% | | 17% | | 29.5% | | 19% |
| **Sagebrush** | | 20% | | 14% | | 30% | | 28% | | 16% |
| **Decadent Shrubs** | | 0.5% | | 1.5% | | -- | | 0.5% | | -- |
| **Other Shrubs** | | 17% | | -- | | -- | | 9% | | -- |
| **Total Vegetative Cover** | | 81.5% | | 67.5% | | 65% | | 79% | | 61.5% |
| | | | | | | | | | | |
| **Litter** | 13% | | 22.5% | | 17.5% | | 11% | | 13% | |
| **Bare Ground** | 4.5% | | 9.5% | | 15.5% | | 7% | | 15.5% | |

| | Field 4 Site 1 | | Field 4 Site 2 | | Field 3 | | Field 5 Site 1 | | Field 5 Site 2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Crust** | -- | | 0.5% | | 2% | | 2.5% | | 5.5% | |
| **Rock** | 1% | | -- | | -- | | 0.5% | | 4.5% | |
| **Gravel** | -- | | -- | | -- | | -- | | -- | |

ESI was conducted on Pine Butte Allotment on six sites in 1982 and 1994. Three sites are in the Field 3, one site is in Field 1, and two sites are in Field 5. In 1982, three sites were in late-seral ecological condition and three sites were in mid-seral condition. In 1994, four sites were in late-seral ecological condition and two sites were at mid-seral condition. The apparent ecological trend on the six sites found in the Pine Butte Allotment between 1982 and 1994 was four sites in an upward trend and two sites in a static trend.

Environmental Consequences

Direct and indirect impacts to vegetation result from herbage removal or damage by foraging animals. Appropriate grazing or utilization levels can have the effect of stimulating plants, resulting in increased plant production if energy reserves are adequate. If the amount of grazing use or utilization is high for a given year, or especially for a sequence of years, the composition of the vegetative community may become modified as the more desirable, and more utilized species lose vigor and decrease in density throughout the site. The Evaluation for the Cow Camp and Pine Butte Allotments found that the native plant communities were meeting all applicable standards for Rangeland Health, while the Horsebrush Allotment was found to be not meeting standard 4 and 8.

Rangeland livestock eat grass-dominated diets in all seasons of the year although forbs make up a higher percentage of sheep diets compared to cattle and horses. Sheep have been documented to consume greater amounts of shrubs in the winter when other, more nutritious, forage sources are not as readily available. Generally, livestock diet of sagebrush is less than 10% (Crawford et al. 2004, Ngugi et al. 1992). Poorly managed livestock grazing can negatively impact soil and site stability, biotic integrity and hydrological function in sagebrush-steppe rangelands. Properly managed livestock grazing can allow rangeland plants to build their root systems and increase nutrient storage, leading to increased survival and more robust plants, as well as increased forage production (McGinty et al. 2009). Native sagebrush grassland communities that have been altered by wildfire and/or non-native seedings can benefit from livestock grazing. Livestock grazing can facilitate sagebrush establishment and proliferation, particularly in non-native seedings (Frischknecht and Harris 1968, Angell 1997). Livestock can be an effective tool used to promote shrub establishment in rangelands impacted by wildfire. Densities of sagebrush and other shrubs can be increased when sagebrush communities are grazed in the spring and summer (Launchbaugh 2012).

Drought is a recurring, unpredictable, environmental feature. Drought has been defined by the Society of Range Management as: "(1) a prolonged chronic shortage of water, as compared to the norm, often associated with high temperatures and winds during spring, summer, and fall; and (2) a period without precipitation during which the soil water content is reduced to such an

extent that plants suffer from lack of water." Impacts associated with drought can be widespread. All plants and animal species depend on water. When drought occurs, available forage for consumption as well as habitat can be damaged. Potential environmental impacts include but are not limited to: loss or destruction of fish and wildlife habitat, lowering of water levels in reservoirs, lakes, ponds, loss of wetlands, and more wildfires. Some additional impacts include wind and water erosion of soils, reduced shoot and leaf growth, reduction in seed head development, induced senescence, and plant death.

*Alternative A – No Action*

Under Alternative A, there would be no change in the existing livestock grazing management for the allotments. The Cow Camp and Pine Butte Allotments, which was previously identified as meeting the ISRH, would be expected to continue to meet the applicable standards. The level of herbage removal by authorized livestock on an annual basis would not alter the condition of the native plant communities within the allotment. The allotments would continue to provide a diversity of native plant species in healthy condition.

The Horsebrush Canyon Allotment was identified as not meeting Standards 4 and 8 of the ISRH. Authorized livestock grazing management has resulting in repeated heavy utilization on large areas of the allotment, which has resulted in a decline in ecological condition in the native plant communities. The allotment was previously identified, in 2000, as meeting applicable ISRH. Under Alternative A, the native plant communities would be expected to continue to decline in species diversity and production.

*Alternative B – Proposed Action*

<u>Cow Camp Allotment</u>

Under Alternative B, the permittee would be authorized to graze 31 days within a 42 day spring season of use. The season of use would be extended by ten days. Lengthening the season of use would allow for management flexibility in the Cow Camp Allotment. This would allow the permittee the ability to adjust spring grazing in light of range and pasture readiness annually upon request and approval of the BLM. The total amount of the authorized AUMs in the allotment would increase from 41 to 54 AUMs. As discussed in Chapter 2, although yearling cattle consume approximately 75% of the forage amount in a month compared to cow with calf, the grazing regulations require that cattle over 6 months of age be charged a full AUM. Thus while it appears to be an increase of 24% in authorized use, due to the change in Livestock Kind, the result would be that the same amount of biomass removal would be equivalent to both Alternative A and C. The native plant communities in the Cow Camp Allotment would continue to meet standards for Rangeland Health.

Horsebrush Allotment

Currently, there is no formalized grazing system in the Horsebrush Allotment. Under the deferred grazing rotation in Alternative B, one of the two pastures would receive early grazing season deferment every year. Deferred rotational grazing provides an opportunity for preferred plants and areas to maintain or gain vigor as plants have the opportunity to store carbohydrates and set seed every other year. With the combination of the grazing rotation and the equivalent of a 39 percent reduction compared to Alternative A, the amount of authorized use for the uplands in the Horsebrush Allotment would be appropriate for the site potential and would not expect to result in a further loss of site productivity. Plant litter accumulation and standing dead matter after grazing on any given year would be sufficient to allow decomposition and leave onsite nutrients for cycling. Under Alternative B, the allotment would move toward meeting ISRH.

Under Alternative B, the season of use on the sheep permit would be extended from 5/1-5/6 to 5/1-12/15. Despite the longer season of use, the permittee would only be authorized up to four days of use within the season of use. The four days of use would allow for two different bands of sheep trailing through the allotment in the spring and the same bands trailing back in the fall.

Pine Butte Allotment

Under Alternative B, the permittee would be authorized to graze 137 days within a 152 day spring season of use. The season of use would be extended by fifteen days in the late fall. Lengthening the season of use would allow for management flexibility in the Pine Butte Allotment. This would allow the permittees the ability to adjust grazing in light of range and pasture readiness annually upon request and approval of the BLM. The total amount of the authorized AUMs in the allotment would increase from 1,755 to 2,337 AUMs. As discussed in Chapter 2, although yearling cattle consume approximately 75% of the forage amount in a month compared to cow with calf, the grazing regulations require that cattle over 6 months of age be charged a full AUM. Thus while it appears to be an increase of 24% in authorized use, due to the change in Livestock Kind, the result would be that the same amount of biomass removal would be equivalent to both Alternative A and C. The native plant communities in the Pine Butte Allotment would continue to meet standards for Rangeland Health.

Alternative B would convert the existing sheep use (287AUMs) to yearling cattle use. As a result, the AUMs associated with the sheep to yearling cattle conversion would be reduced to 192. The conversion to cattle would alter the grazing use patterns and the plant species utilized, but the higher stocking rate because of the livestock kind conversion. The main difference between the two kinds of livestock is the yearlings typically utilize pastures more uniformly over variable terrain than cow/calf pairs (Bailey and Rittenhouse, 1989). This could increase utilization in portions of the allotment that have not been typically utilized by the cow/calf pairs. Since the allotment is meeting standards for rangeland health, the uplands would continue to maintain or improve the existing condition under either option.

Currently, there is no formalized grazing system in the Pine Butte Allotment. Under the deferred grazing rotation in Alternative B, four of the eight pastures would receive early grazing season deferment every year. Deferred rotational grazing provides an opportunity for preferred plants and areas to maintain or gain vigor as plants have the opportunity to store carbohydrates and set seed every other year. Under the proposed grazing rotation, all of the pastures would receive growing season rest once every two years. With the addition of a formal grazing rotation, the native plant communities in the Pine Butte Allotment would continue to meet standards for rangeland health.

In order to implement the eight pasture deferred grazing rotation, a boundary and pasture fence between the Pine Butte North and South Pastures would be constructed. The 1.5 mile fence would both ensure control of livestock as well as allow for the establishment of a deferred grazing rotation in the allotment. In addition to the 1.5 mile pasture fence, another 1.5 mile stretch of fence would be removed and moved on the east side of the Red Road. Approximately 0.6 miles of the fence would actually be constructed on BLM. The remaining portion of the fence would be constructed on the permittee's private land. Moving the fence on the east side of the road would increase public safety by reducing the potential livestock vehicle conflict. Increased utilization and trampling of the vegetation would be expected in a narrow area adjacent to the new fences, as livestock commonly trail along fences more intensively, but the impacts would lessen as distance from water increases.

A new well in the Davis Butte Pasture would provide an additional water source in the pasture. Vegetation around the new well and trough would be utilized heavier due to the short distance to water, but with declining use as distance from water increased. The new well would distribute livestock in the pasture by providing an additional permanent water source in the Davis Butte Pasture. The vegetation affected by this change in livestock distribution would be found in roughly the ¼ mile radius around each trough.

The amount of authorized use in the Pine Butte Allotment is appropriate for the site potential and is not expected to result in a loss of site productivity. Plant litter accumulation and standing dead matter after grazing on any given year is sufficient to allow decomposition and leave onsite nutrients for cycling. Alternative B would ensure that the allotment would continue to meet standards for rangeland health. Alternative B would maintain or improve the ecological condition of the allotment.

Since the conversion factor takes into account the amount of forage consumed by the two types of livestock, the total amount of forage consumed in the allotment would be similar under both scenarios. The main difference between the two kinds of livestock is the yearlings typically utilize pastures more uniformly over variable terrain than cow/calf pairs. This could increase utilization in portions of the allotment that have not been typically utilized by the cow/calf pairs. Since the allotment is meeting standards for rangeland health, the uplands would continue to maintain or improve the existing condition under yearling cattle option.

*Alternative C*

The impacts in Alternative C would be the same as Alternative B, except for the difference in type of livestock authorized in the Cow Camp, Horsebrush, and Pine Butte Allotments. Cow/calf pairs would be authorized in the allotments instead of yearling cattle. The main difference between the two kinds of livestock is that cow/calf pairs typically utilize pastures less uniformly over variable terrain than yearlings. This could increase utilization in those portions of the allotment that are closer to established water sources because the cow/calf pairs don't distribute as far away from water as yearling cattle.

Under Alternative C, there amount of authorized AUMs in the Cow Camp Allotments would remain the same as Alternative A. Authorized AUMs in the Pine Butte Allotment would be reduced by 143 AUMs due to the conversion from sheep use to cattle use for a portion of the permit. The Cow Camp and Pine Butte Allotments, which was previously identified as meeting the ISRH, would be expected to continue to meet the applicable standards. The level of herbage removal by authorized livestock on an annual basis would not alter the condition of the native plant communities within the allotment. The allotments would continue to provide a diversity of native plant species in healthy condition. The implementation of the two pasture rotation and the 39 percent reduction in authorized AUMs in the Horsebrush Allotment would aid in the allotment making significant progress toward meeting rangeland health.

*Alternative D – No Grazing*

Under Alternative D, no livestock grazing would be authorized within the allotments for a period of 10 years, from 2013 to 2023. The potential impacts on vegetation, including herbage removal or damage by livestock, would be removed from the allotment for a ten year period. The potential for higher than desired utilization levels in preferred areas, which may lead to changes in compositions of the vegetative communities, would be removed. Increased biomass would be left on-site throughout the allotments, increasing the amount of residual cover and litter. The Cow Camp and Pine Butte Allotments were meeting standards and would continue to meet standards for native plant community health and seeding health under Alternative D. Under Alternative D, areas in lower ecological condition in the Horsebrush Allotment would improve over time with the removal of livestock. Davies et al. (2010) found that moderate livestock grazing decreased wildfire risk in sagebrush grasslands, as compared to long-term livestock grazing exclusion. Davies et al. also suggest that potential wildfires in moderately grazed sagebrush steppe would have decreased size, severity, and continuity as compared to non-grazed sagebrush rangelands. Wildfires would reduce the sagebrush cover in the allotments which could be detrimental to sagebrush obligate species such as sage grouse.

**Visual Resources**

Pine Butte Allotment

Affected Environment

The public lands managed by the USFO have been divided into four Visual Resource Management (VRM) classes to help manage and reduce impacts to the visual resources. The Pine Butte Allotment is within a VRM Class II. The objective of a VRM Class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The landscape in the Pine Butte Allotment has minimal elevation changes and has lava rock outcrops incorporated throughout. The vegetation over the entire allotment is predominately sagebrush and grasses, creating a smooth and even texture with earth tone colors (i.e., light greens and browns). The continuous and even landscape creates the feeling of openness. There are very little roads and structures that break-up the landscape features in the allotment. The unpaved Red Road travels through the very southeastern tip of the allotment and receives vehicle traffic from visitors traveling from St. Anthony to Kilgore or Dubois, Idaho. There are existing livestock management fences, water storage tanks, and troughs within this allotment.

*Alternative A – No Action*

Under Alternative A, there are no impacts to visual resources since there are no proposed projects.

*Alternative B – Proposed Action*

Under Alternative B, there are multiple proposed fence projects that would be constructed. The proposed fence projects throughout the allotment create an indistinct form, a weak line, are subtle in color, and have a uniform texture. These landscape characteristics, coupled with the topography and vegetation in the allotment, allow the proposed fences to blend in with the natural environment and not attract the attention of the casual observer. Therefore, the fence projects proposed under Alterative B would meet VRM Class II objectives.
The new well would be in an area where improvements blend in with the surrounding line, form and texture of the visual environment. Visibly the well would not attract the attention of the casual observer and would meet VRM Class II objectives.

*Alternative C*

Impacts associated with VRM would be same as Alternative B.

*Alternative D – No Grazing*

Under Alternative C, there are no impacts to visual resources since there are no proposed projects for livestock grazing.

**Wildlife Resources**

Affected Environment

Horsebrush, Cow Camp and the southern half of Pine Butte Allotments lie in IDFG Game Management Unit (GMU) 60A, while the Northern half of Pine Butte lies in IDFG GMU 60. These allotments are important to big game providing crucial winter elk habitat. While the units are not designated as crucial moose, mule deer, and pronghorn habitat, use by these species within these allotments are relatively common. In this area elk numbers are relatively stable (IDFG 2010a), but moose numbers fluctuate annually with a general observation of declining numbers (IDFG 2009a), trend counts of mule deer populations in the mid-2000s were at or slightly higher than the highs observed in the 1960s (IDFG 2010b) and pronghorn herds are of relatively high density (IDFG 2009b).

Evidence of use by a variety of small mammals, including coyotes, voles, and ground squirrels was observed. Reptiles such as short-horned lizard and western fence lizards are also likely to use these allotments. There is no trend data available for resident birds, small mammals or reptiles within these areas. Townsend's big-eared bat and small-footed myotis are known to use the general area where these allotments occur, and additional bat species such as Little brown, Yuma myotis, Long-eared, Silver-haired may use the area during breeding and pup-rearing seasons.

Environmental Consequences

Livestock grazing can have direct and indirect impacts on wildlife habitat. Direct impacts include the removal and/or trampling of vegetation that would otherwise be used for food and cover. Livestock-wildlife interactions may result in wildlife displacement or disease transmission. Indirect impacts result from changes in plant community composition, structure, and productivity which together largely determine wildlife habitat suitability.

*Alternative A – No Action*

Under Alternative A, grazing on Pine Butte, Horsebrush, and Cow Camp Allotments would continue at the same timing and intensity levels as currently authorized. The allotments were evaluated and the plant communities in the Pine Butte and Cow Camp Allotments were found to be meeting rangeland health standards, while the Horsebrush Allotment was found to be not meeting standards. It is expected that habitat requirements for wildlife such as cover, food, space in the Pine Butte and Cow Camp Allotments are being met and would continue to be met under Alternative A. Habitats within the Horsebrush Allotment are currently in a downward trend and

continued grazing under the existing permit and grazing plan would likely continue that trend in areas where repeated heavy utilization during the growing period of bunchgrasses occurs.

Under Alternative A, the Horsebrush Allotment would not provide suitable habitat to maintain populations of big game and other general wildlife.

*Alternative B – Proposed Action*

Actions proposed under Alternative B include changes in the season of use, grazing system, and livestock kind. The proposed changes in the Pine Butte also include projects consisting of drilling of a well, and the construction of pasture fences.

Cow Camp Allotment

Alternative B proposes to change the season of use from 5/1 – 5/31 to 4/20 – 5/31. The impacts of grazing the allotment up to 10 days earlier in the spring than under Alternative A is likely minimal. Grazing of native habitats would be completed prior to nesting, fawning, and calving seasons for most species, which would limit the potential of disturbance.

Horsebrush Allotment

Under Alternative B, a two-pastures grazing rotation would be implemented. This system would provide an opportunity for plants to produce seeds, establish seedlings, and restore vigor as well as provide some structure and cover for wildlife going into the winter season. Direct short term impacts would be reduced disturbance of nesting/breeding, fawning and calving habitat for wildlife in about half of the allotment each year.

Under Alternative B, a decrease in authorized use by the equivalent of 39% would be implemented. This would result in an increase in herbaceous cover in both pastures after grazing compared to Alternative A. This would reverse the downward ecological trend seen in both pastures and increase grass and forb cover throughout the allotment in turn increasing nesting cover, and foraging habitat for wildlife over the life of the permit. The reduction in AUMs would result in lighter utilization levels in both pastures, which would reduce the likelihood of direct disturbance of wildlife by livestock.

A change the season of use on the sheep permit from 5/1 – 5/6 to 5/1 – 12/15 would be implemented under Alternative B. Sheep use would be authorized for up to four days within the season of use. This extension would allow for flexibility to adjust grazing in light of range and pasture readiness. Grazing native habitats later into the year than proposed under Alternative A would have no measurable impact on native plants The flexibility proposed under Alternative B allows for grazing to occur outside the critical seasons for wildlife species. By potentially decreasing the amount of spring use and leaving flexibility for increasing the amount of fall use, potential for nest failures would be less likely compared to Alternative A.

Pine Butte Allotment

Under Alternative B, the fall grazing season would be lengthened by 15 days, but the total amount of use would remain the same as measured by authorized AUMs. The lengthening of the fall grazing season, however, may potentially allow for livestock to be present in the allotment at the same time as wintering big game. Wildlife species sensitive to the presence of livestock and associated human activity may be temporarily displaced. However, the latest that livestock would be authorized in the allotment is October 30, which is prior to most of the winter use by wildlife.

Alternative B would convert the existing sheep use of 287 AUMs to 192 AUMs authorized for yearling cattle. As a result, the AUMs associated with the sheep to cattle conversion would be reduced. The conversion to yearling cattle would alter the grazing use patterns and the plant species utilized, while the reduced stocking rate would result in slightly lighter amount of use throughout the allotment.

The addition of a well in the center of the Davis Butte Pasture would remove approximately 0.25 acres of habitat for wildlife species while providing nesting and perching habitat for raptors and perching for song birds. The construction would occur outside the critical nesting, breeding, fawning and calving for wildlife species, which would reduce the potential for disturbance. Other impacts would be short term and direct due and would temporarily displace wildlife in the vicinity of construction activities.

Also proposed under Alternative B are two fencing projects the first consists of moving an existing fence from the west side of Red Road to the east side. The second would consist of building 1.5 miles of new fence to create the Pine Butte North and South Pastures. The fence would divide the pasture into two smaller pastures. Approximately 0.75 miles would be constructed on BLM, while the remaining part of the fence would be constructed on private and state land. Fences would be built to BLM standards which are wildlife friendly, and will allow passage of big game.

In Alternative B, a seven pasture deferred rotation grazing system would be implemented. The deferred rotation grazing system would allow for some dormant season grazing within the allotment, and improve breeding/nesting, fawning and calving habitat for wildlife species in the long-term by strengthening understory grasses and forbs. Deferred-rotational grazing systems are beneficial to many wildlife species because they provide pastures free of disturbance during nesting and other critical seasons (Holechek et al. 1982). The vegetation quality requirements for wildlife within the Pine Butte Allotment would continue to be met under this alternative.

*Alternative C*

Impacts to wildlife under Alternative C would be similar to those described under Alternative B except the change of livestock kind on the grazing permit from cattle to yearling cattle would not occur. Less dispersion throughout the allotment by cow/calf pairs would leave areas of very light to no use, while concentration areas that received heavier use in the past may still see that

same use. Slightly more soil compaction would take place as more cattle would be on the ground as compared to Alterative B.

*Alternative D - No Grazing*

Impacts to wildlife species from removing livestock grazing would be positive. There would be no competition between big game and livestock for forage, cover and space. Understory cover of grasses and forbs would increase in size and vigor with seed set occurring annually providing increased cover and forage for resident bird species, small mammals and reptiles. Browsing of woody plant species would be minimal and potentially increase browse for big game and nesting habitat for cavity and tree nesting species.

There would be impacts to big game from the lack of maintained water troughs and wildlife escape ramps as adequate free-flowing water available is limited across all allotments. Impacts to small mammals and resident bird species would be similar to those discussed under **Migratory Birds.**

## CHAPTER 4 - CUMULATIVE IMPACTS

This section of the document discloses the incremental impact that Alternatives A, B, C, and D are likely to have when considered in the context of impacts associated with past, present, and reasonably foreseeable future actions that have occurred, or are likely to occur, in the area.

The Cumulative Impact Assessment Area (CIAA) for this analysis includes Sand Creek, the Red Road area, the sands/Juniper Mountain area, and the area west of the Menan Buttes. This area is called the Sand Creek CIAA. The CIAA consists of approximately 598,096 acres located in portions of Jefferson, Madison, Clark, and Fremont Counties. Unless otherwise noted, this landscape unit defines the bounds of the cumulative analysis for the resources affected by the Proposed Action and alternatives. This landscape unit was selected as the unit of analysis based on 4$^{th}$ level hydrologic unit boundaries within the Upper Snake Field Office area, then modified using major highways and ownership boundaries to create a continuous unit of associated land uses and plant communities. Cow Camp and Horsebrush Allotments are located at the southwest central part of the CIAA, while the Pine Butte Allotment is located in the north central part of the CIAA. The three allotments make up about five percent of the total acres and about six percent of the BLM acres in the CIAA (Figure 5).

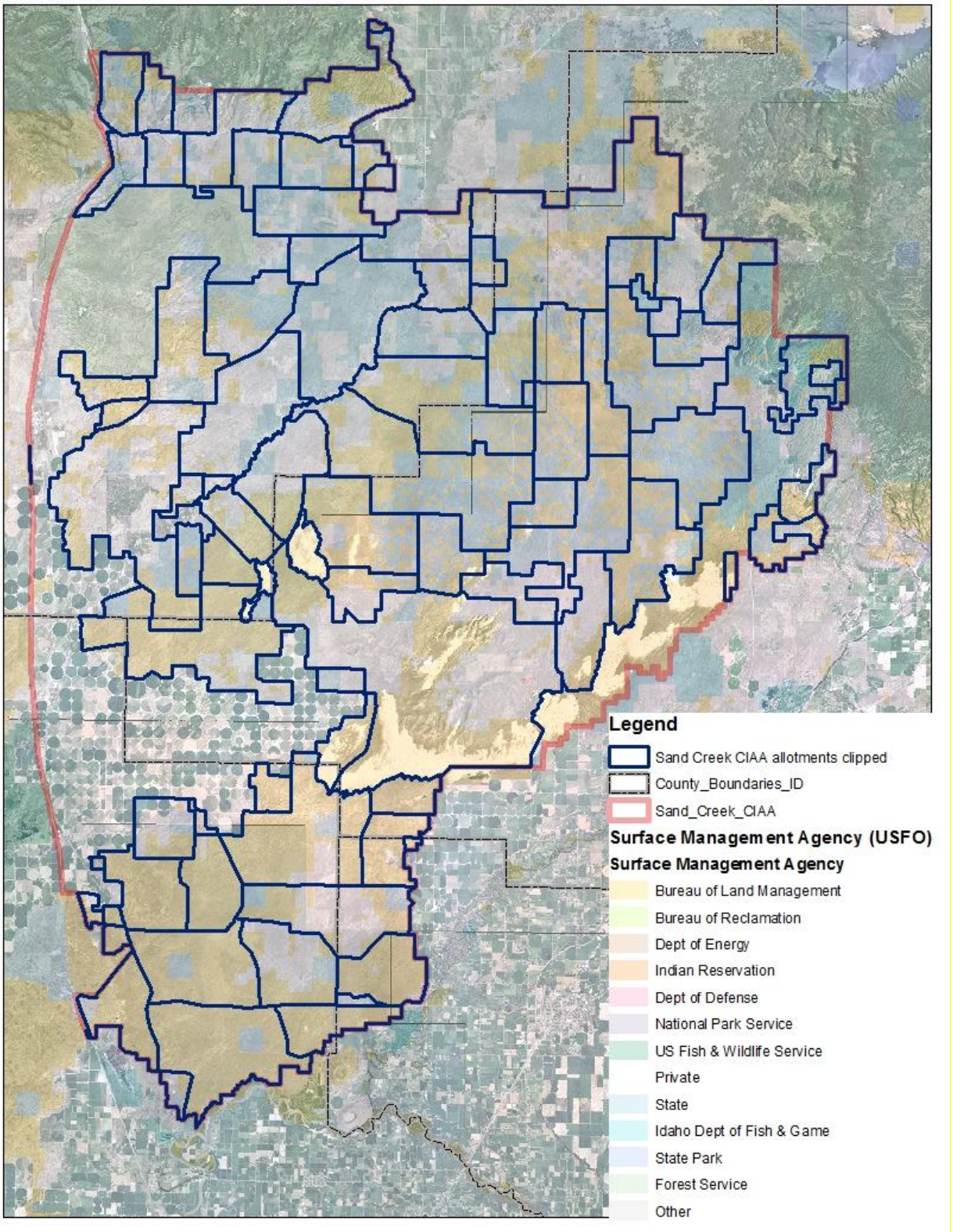
**Table 7. Surface Management Status within the Sand Creek CIAA.**

| Land Status | Acres |
|---|---|
| Bureau of Land Management | 241,546 acres |
| Private Property | 216,987 acres |
| Idaho State Lands | 101,273 acres |
| U.S. Sheep Experiment Station | 25,751 acres |
| Idaho Fish and Game Lands | 12,027 acres |

The CIAA includes BLM lands with special designations, including two Areas of Critical Environmental Concern (ACECs), a Research Natural Area (RNA), a Wilderness Study Area

(WSA), and two Special Recreation Management Areas (SRMAs). The Snake River ACEC and Snake River SRMA encompass the same acreage within the CIAA. The Nine Mile Knoll ACEC, the St. Anthony Sand Dunes RNA, the Sand Mountain WSA, and the St. Anthony Sand Dunes SRMA all overlap somewhat. The Snake River ACEC includes a large acreage along the length of the South Fork and Henry's Fork of the Snake River, and the Snake River past the confluence of the South and Henry's Forks. There are about 1,326 acres of the Snake River ACEC in the southern end of the Sand Creek CIAA. The Nine Mile Knoll ACEC includes the area between the sands and the Henry's Fork of the Snake River. There are about 40,135 acres of the Nine Mile Knoll ACEC within the Sand Creek CIAA. The St. Anthony Sand Dunes RNA also lies within the Sand Creek CIAA, encompassing about 1,823 acres of unconsolidated sands. The Sand Mountain WSA also covers about 20,308 acres of the area around the sand dunes. The Snake River SRMA includes about 1,331 acres in the southern end of the Sand Creek CIAA, and the St. Anthony Sand Dunes SRMA includes about 28,610 acres around the sand dunes within the Sand Creek CIAA.

**Figure 5: Sand Creek Cumulative Impact Assessment Area.**



Except for the areas that have been cultivated for agriculture, this landscape unit includes a large continuous, ecologically unique landscape consisting of a substantial proportion of vegetation influenced by sandy to loamy soil textures, punctuated by lava flows with Basin and mountain big sagebrush and threetip sagebrush vegetative communities. The southern, western, and central portions of the CIAA are dominated by sandy soils that extend north and east to the unconsolidated sands near Juniper Mountain. These sandy ecological sites are dominated by basin big sagebrush with an understory of needle-and-thread and Indian ricegrass. As the sandy substrates give way to shallow lavas, craters, and loamy soils to the north and east, the basin big sagebrush gives way to mountain big sagebrush vegetation, with an understory of Idaho fescue and bluebunch wheatgrass. The northwest portion of the CIAA has a substantial component of threetip sagebrush vegetation over loamy or gravelly loam soils, with an understory of bluebunch wheatgrass, needle-and-thread, and Indian ricegrass.

A number of general habitat types or classifications are found across the CIAA. Table 8 lists the acres within each cover classification based on the landscape classification map used for the Upper Snake Field Office Analysis of Management Situation (AMS).

**Table 8. Habitat Types or Vegetation Classifications within the Sand Creek CIAA.**

| Habitat Types or Vegetation Classifications | Acres |
|---|---|
| Agriculture | 56,538 acres |
| Annual Grasslands | 2,706 acres |
| Bedrock-Cliffs-Scree | 1,876 acres |
| Forest | 2,765 acres |
| Perennial Grasslands | 43,466 acres |
| Riparian-Wetland, including open water | 5,486 acres |
| Sagebrush and Desert Shrublands | 452,108 acres |
| Shrublands, including juniper and mountain mahogany | 2,347 acres |
| Unconsolidated Sands | 21,391 acres |
| Urban and industrial/excavation areas | 5,056 acres |

This area ranges widely in its actual and available precipitation coinciding with the range in soil textures and elevation gradient from the southwest end to the northeast end of this CIAA. The lowest precipitation areas occur near Hamer, at 8-10 inches of precipitation per year. The highest precipitation areas in the CIAA occur on the northeast edge of the CIAA, on the edge of Big Bend Ridge near Island Park. This uppermost edge of the CIAA receives 28-32 inches of precipitation per year. About 20 percent of the CIAA receives 12 inches or less per year, about 31 percent of the CIAA receives between 12 and 16 inches of precipitation per year, about 26 percent of the CIAA receives between 16 and 20 inches of precipitation per year, and about 23 percent of the CIAA receives more than 20 inches of precipitation per year.

***Past and Present Actions***

Past and present actions that have occurred in the watershed have impacted the human environment to varying degrees. These actions include agricultural development, infrastructural

development, vegetation management, wildfire, and livestock grazing (Table 9). Although these actions probably do not account for all of the impacts that have or are likely to occur in the Sand Creek CIAA, GIS analysis, agency records, and professional judgment suggest that they have contributed to the vast majority of cumulative impacts that have occurred in the assessment area.

**Table 9. Past and Present Actions within the Sand Creek CIAA.**

| Type of Activity | Past and Present Actions |
|---|---|
| ***Agricultural Development*** | |
| *Cultivated crop agriculture, both dryland and irrigated* | 56,538 acres |
| ***Urban Development*** | |
| *Buildings and other structures, concrete and asphalt pads* | 4,950 acres |
| ***Infrastructural Developments*** | |
| *Roads- paved, maintained gravel, and 2-track* | 1,813 miles with a 12 foot right of way, affecting 2,637 acres.<br>Road density is 1.9 road miles/mile$^2$ in CIAA |
| *Railroads* | 54 miles of track with a 200 foot right of way, affecting 1,309 acres. |
| *High Voltage Transmission Lines* | 43 miles with a 200 foot right of way, affecting 1,042 acres. |
| *Mineral Material Sites* | 4 active pits with a 40 acre footprint each, affecting 160 acres. |
| *Communication Towers* | 8 towers with ¼ acre right of way each, affecting 2 acres. |
| *Recreation Facilities* | One parking access area, affecting two acres |
| *Range Improvements* | Fences: 839 miles<br>Assuming 4 feet of disturbance along fence lines, there are 407 acres disturbed as a result of the existing fence lines in the CIAA.<br><br>Troughs: 62<br>Assuming ½ acre of direct soil disturbance and vegetation removal per trough, there are 31 acres disturbed as a result of watering troughs in the CIAA.<br><br>Total disturbance: 438 acres |
| ***Wildfire*** | |
| *55 Recorded Wildfires between 1980 – 2011* | 111,984 acres |
| *1 Wildfire Rehabilitation Project* | 12,062 acres |
| ***Vegetation Management*** | |
| *Non-Native Grass Seeding* | 5,338 acres |

| Type of Activity | Past and Present Actions |
|---|---|
| *Sagebrush Seeding* | 4,403 acres |
| *Prescribed Fire* | 62,865 acres |
| *Chemical Brush Thinning* | 2,081 acres |
| *Mechanical Brush Thinning* | 0 acres |
| ***Invasive Species*** | |
| *Noxious weeds* | 4,784 acres |
| *Annual grasses* | 2,706 acres |
| ***Livestock Grazing*** | |
| *Number of Allotments* | 70 allotments comprising 460,951 acres. |
| *Rangeland Health Assessments* | • 450,190 allotment acres (98%) are currently meeting all Idaho Standards for Rangeland Health.<br>• 3,745 allotment acres (<1%) are currently making significant progress towards meeting Standards.<br>• 11,948 allotment acres (2%) currently not meeting one or more Standards, current livestock grazing management is a causal factor. All allotments not meeting one or more standards because of livestock grazing management problems have seen changes to the livestock grazing management during the last ten years to ensure the allotments would make significant progress towards meeting the standards.<br>• 1,847 allotment acres (<1%) are not meeting one or more Standards, but not due to current livestock grazing management. |

Agricultural development has a long history in the area. Today, irrigated agricultural development surrounds the CIAA, and is a substantial and important use of the assessment area. Before the private lands were irrigated for agricultural use, they were dominated by sagebrush vegetation, and used for grazing livestock. There are several irrigation wells and canals that irrigate crops, hay fields, and pastures within the CIAA. The agricultural development on the private lands has resulted in a large block of public land surrounded by several miles of irrigated crop fields, with little connectivity to adjacent blocks of public land.

Urban and infrastructure development has increased over time, and a substantial portion of the CIAA has been developed for agricultural activities, roads, railroads, irrigation, power lines, and small buildings. Some permanent residential development exists near the towns of Hamer, Dubois, and Spencer. Most of this development is associated with farming and ranching in the area. The Egin-Hamer Road is a developed gravel road maintained by Jefferson and Fremont

Counties that connects the communities of Rexburg and St. Anthony to Hamer. State Highway 33 runs in an east-west direction across the CIAA. Other developed county roads cross the lands on all sides of the Sand Creek Area, providing access to public land. There is a railroad line running between Montana and Idaho Falls that runs through the west side of the CIAA, and a large (230 kV) power line that passes along Interstate 15, also on the west side of the CIAA.

Livestock grazing has a long history in the region dating back to the late 1800's. Livestock grazing remains a primary use in the CIAA, although at lower levels of use than the first half of the 20th century. Ranching and livestock grazing are generally dispersed activities with areas of more intensive use near water and livestock handling facilities. Livestock grazing remains a primary use of the CIAA. There are occasional fences, water tanks, and troughs used to manage livestock grazing across the landscape.

Recreational use of the area has increased over time. Recreation use is primarily a dispersed activity in the CIAA. Motorized vehicle use, upland bird hunting, big game hunting, and target shooting are the main recreational pursuits in the CIAA. As the popularity of all-terrain vehicles has increased over the last 15 years, new roads and trails have been created across the CIAA. There is local access to about 900 miles of existing motorized roads and trails, and new user-built trails are discovered every year. The CIAA includes the St. Anthony Sand Dunes Special Recreation Management Area (SRMA), which sees about 250,000 visitors, mostly OHV riders, each year.

The areas around Juniper Mountain and the St. Anthony Sand Dunes are important habitat for elk, deer, moose, sharp-tailed grouse and sage grouse. In 1997, to protect wintering big game, local, state, and federal officials created the Egin-Hamer Winter closure Area. This closure restricts human entry during crucial winter and spring months for wildlife (January 1st through April 30th). There is also a small amount of designated grizzly bear habitat (1,886 acres) in the northern and easternmost edges of the CIAA.

Sage-grouse Preliminary Priority Habitats (PPH) are those areas of highest conservation value due to high male lek attendance, high lek density and high lek connectivity (Makela and Major 2011). There are approximately 473,390 acres of PPH within the Sand Creek CIAA. Preliminary General Habitats (PGH) are habitats occupied by sage-grouse not contained within PPH. PGH areas are characterized by lower lek densities that may serve as important connectivity corridors between PPHs (Makela and Major 2011). There are approximately 32,880 acres of PGH within the CIAA.

The U.S. Fish and Wildlife Service identified primary and secondary threats to Greater sage-grouse in a Finding in 2010. Primary threats include fragmentation of sagebrush habitats due to: conversion of habitat for agriculture or urbanization, inadequate regulatory mechanisms, infrastructure (roads, power lines, energy development, etc.), invasive species and wildfire. Secondary threats included: climate change, collisions (with fence, power lines, etc.), conifer invasion, contaminants, disease (West Nile virus), poorly managed livestock grazing, hunting, mining, predation, prescribed fire/vegetation treatments and water developments (USFWS 2010).

Although livestock grazing was not identified as a primary threat, it is one of the more widespread uses occurring in sage grouse habitat (Connelly et al. 2004). There is limited evidence to suggest direct impacts to sage-grouse by livestock, but livestock grazing does directly affect sage-grouse habitats by removing vegetation (foraging) or changing species composition under poor management practices (Connelly and Braun 1997). Approximately two percent of PPH and PGH habitats within the CIAA have been identified as not meeting the Standards and Guidelines for Healthy Rangelands and livestock grazing was identified as a factor.

*Reasonably Foreseeable Future Actions*

Reasonably foreseeable future actions include continuation of the past and present actions as described above, the possible expansion of the existing power line corridor, and the development of a travel management plan for the area. The level and character of livestock grazing and agricultural development are anticipated to remain consistent into the foreseeable future.

Infrastructure development is anticipated to continue to increase in the foreseeable future. The west side of the CIAA is one of the alternative routes being considered in the Mountain States Transmission Intertie 500 kV Project (MSTI). The proposed MSTI route would travel north to south and cover 44 miles near the west boundary of the CIAA. This route would have a 200 foot right-of-way, so the total impact would be on 1,067 acres within the CIAA.

Recreation visitors have developed new roads and trails over the past 15 years and continue to create new roads and trails in the allotment and adjacent public lands. The BLM will conduct Travel Management Planning for the Butte Canal allotment and the adjacent Menan Butte allotment in the Resource Management Plan revision. This would allow a comprehensive approach to the ground management and administration of travel and transportation networks of roads, primitive roads, trails, and areas. It's reasonably foreseeable that there would be specific road, primitive road and trail designations (i.e., limited to designated routes, limited to type or mode of travel, limited to time or season of use, limited to authorized or permitted vehicles or users).

Besides the MSTI Project and the Menan Buttes Travel Management Plan, there are no other known primary threats such as conversion of sage-grouse habitat for agriculture or urbanization, or infrastructure (roads, energy development, etc.) proposed on public lands in the CIAA. In addition, no such plans or proposals are known for nearby lands under other ownership (private, NPS, DOE or State of Idaho lands) in the CIAA. Invasive species and wildfire continue to be primary threats that cannot be anticipated in frequency or intensity. Impacts associated with wildfire are the greatest threat (USFWS 2010) to sage-grouse in the CIAA. Managing for healthy habitats in the CIAA provides the most protection against invasive species and resiliency to disturbances such as wildfire.

***Impacts Associated with Past, Present, and Foreseeable Future Actions***

Past and present actions have resulted in varying degrees of impact to the resources considered in the analysis. Observable impacts are higher for agricultural development and infrastructure which have resulted in direct habitat loss and fragmentation on most of the private lands in the CIAA. These actions have altered the native vegetation and introduced non-natural elements of form, line, and color that have altered and would continue to alter the characteristics of the visual landscape.

Today, irrigated agricultural development is found on a substantial portion of the CIAA, and is a substantial and important use of the assessment area. Before the private lands were irrigated for agricultural use, they were dominated by sagebrush vegetation, and used for grazing livestock. While this has resulted in a direct loss of sagebrush habitat in the CIAA, many species of wildlife forage in the agricultural fields at different times of the year. However, the loss of large blocks of sagebrush habitat has reduced the connectivity of the remaining sagebrush habitats within the CIAA.

Urban and infrastructure development has increased over time, and a portion of the CIAA has been developed for agricultural activities, roads, railroads, irrigation, power lines, and small buildings. These developments have resulted in a direct loss of sagebrush habitat, and a loss of connectivity between remaining sagebrush habitats within the CIAA. These structures have increased the perching habitat for avian predators in the area. The proposed MSTI route would impact 1,067 additional acres within the CIAA. The existing roads and trails create a small amount of soil compaction and erosion, and may be vectors for the spread of noxious weeds. However, they provide access for the public to large expanses of public lands for hunting and all-terrain vehicle riding in the CIAA. The implementation of a travel management plan in the Menan Buttes area would limit access on some existing roads and trails in this area, and would prohibit the creation of new roads and trails in this area.

Documented fires have impacted approximately 111,984 acres or 19 percent of the CIAA from 1980 to the present. The Menan Fire in 2003, which burned about 12,000 acres north of Highway 33, is the only fire after which the BLM implemented rehabilitation treatments within the CIAA. This fire resulted in an area that currently has a small amount of sagebrush cover, although sagebrush is returning to the area. The BLM aerially seeded sagebrush on portions of the burned area in 2004, and there has been evidence of successful sagebrush recruitment as a result of these efforts. The BLM also drill seeded native grasses and forbs on the west side of the burned area, where cheatgrass dominance was a concern, and this seeding effort was very successful. Other wildfires have burned about 16,000 acres in the CIAA within the last ten years. No intensive rehabilitation treatments were prescribed for these fires. Much of the CIAA is relatively moist, higher elevation sagebrush habitat in late seral ecological condition that can usually recover to pre-burn conditions without intensive rehabilitation efforts.

Periods of extended drought likewise impact the CIAA. Based on climatic data collected near Hamer, Idaho, precipitation has been reported below the long-term average in 9 of the past 20 years, with 7 of those 9 years reporting greater than 20 percent below average. Climatic data collected near Ashton, Idaho found that precipitation was below the long-term average in 13 of the past 20 years, with 9 of those 13 years reporting greater than 20 percent below average.

Unmanaged livestock (cows and sheep) grazing in the first half of the 20th century resulted in altered ecological conditions in the CIAA. As livestock grazing became more carefully managed in the area, the ecological health of the rangelands improved. About 98 percent of the acres on public lands in the CIAA are being maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species. These healthy uplands are providing suitable habitat to support a wide variety of wildlife species, including several game and nongame species, special status species and migratory birds. The remaining public land acres in the CIAA have recently completed the grazing permit renewal process, and substantial changes to the livestock grazing management were considered to allow the upland vegetation and wildlife habitat to improve and make progress towards the proper functioning of ecological process and improved productivity and diversity of native plant species.

Impacts to sage-grouse caused by livestock grazing were likely the greatest during the time that unregulated grazing occurred, from the late 1800s into the early 1900s. The Taylor Grazing Act (1934) was the foundational law for livestock management on public lands, and although it was intended to regulate livestock use, it also benefited sage-grouse habitat within the CIAA. Since then other laws, improved science, improved management cooperation (interagency and with private landowners) and improving adaptive management have provided further protection for sage-grouse habitats.

Within the planning area, sage grouse are a migratory species occupying hundreds of square miles annually and sometimes making seasonal movements that exceed 40 miles. The health of the species is directly tied to maintaining habitat diversity and quality. Altered fire regimes influenced by non-native cheatgrass, loss of sagebrush cover due to wildfires, and habitat fragmentation from roads, development, and agriculture are a cumulative influence on the species. Proposals for energy corridors further threaten habitats. Livestock grazing occurs on the vast majority of sagebrush lands range-wide (Knick et al. 2003, Connelly et al. 2004.); however there is little information directly linking livestock management practices to sage grouse population levels (Braun 1987, Connelly and Braun 1997, Mosely 2001). The implementation of improved grazing management practices since the 1950's has improved or maintained healthy vegetative conditions on nearly all the remaining rangelands in the CIAA.

The U.S. Fish and Wildlife Service (USFWS) identified primary and other threats to Greater sage-grouse in its 12-Month Findings for Petitions to List the Greater Sage-Grouse as Threatened or Endangered (USFWS 2010). The primary cause of sage-grouse population decline identified by the USFWS was fragmentation of sagebrush habitats due to: habitat conversion for agriculture or urbanization, infrastructure within sagebrush habitats (power lines, communication

towers, fences, roads, railroads, etc.), wildfire and energy development (specifically roads and energy related infrastructure). Other important threats included: inadequate regulatory mechanisms, invasive plants (annual grasses and noxious weeds), climate change, collisions (with fence, power lines, etc.), conifer invasion, contaminants, disease (West Nile virus), poorly managed livestock grazing, hunting, mining, predation, prescribed fire/vegetation treatments, recreation (OHV use) and water developments (USFWS 2010). It is often the cumulative impact of various disturbances that have the greatest effect on sagebrush ecosystems, rather than any single disturbance (Knick et al. 2011). Table 10 includes the known impacts occurring within sage-grouse PPH and PGH areas within the Sand Creek CIAA.

**Figure 6. Sage-grouse PPH and PGH areas and Primary Impacts to PPH and PGH.**

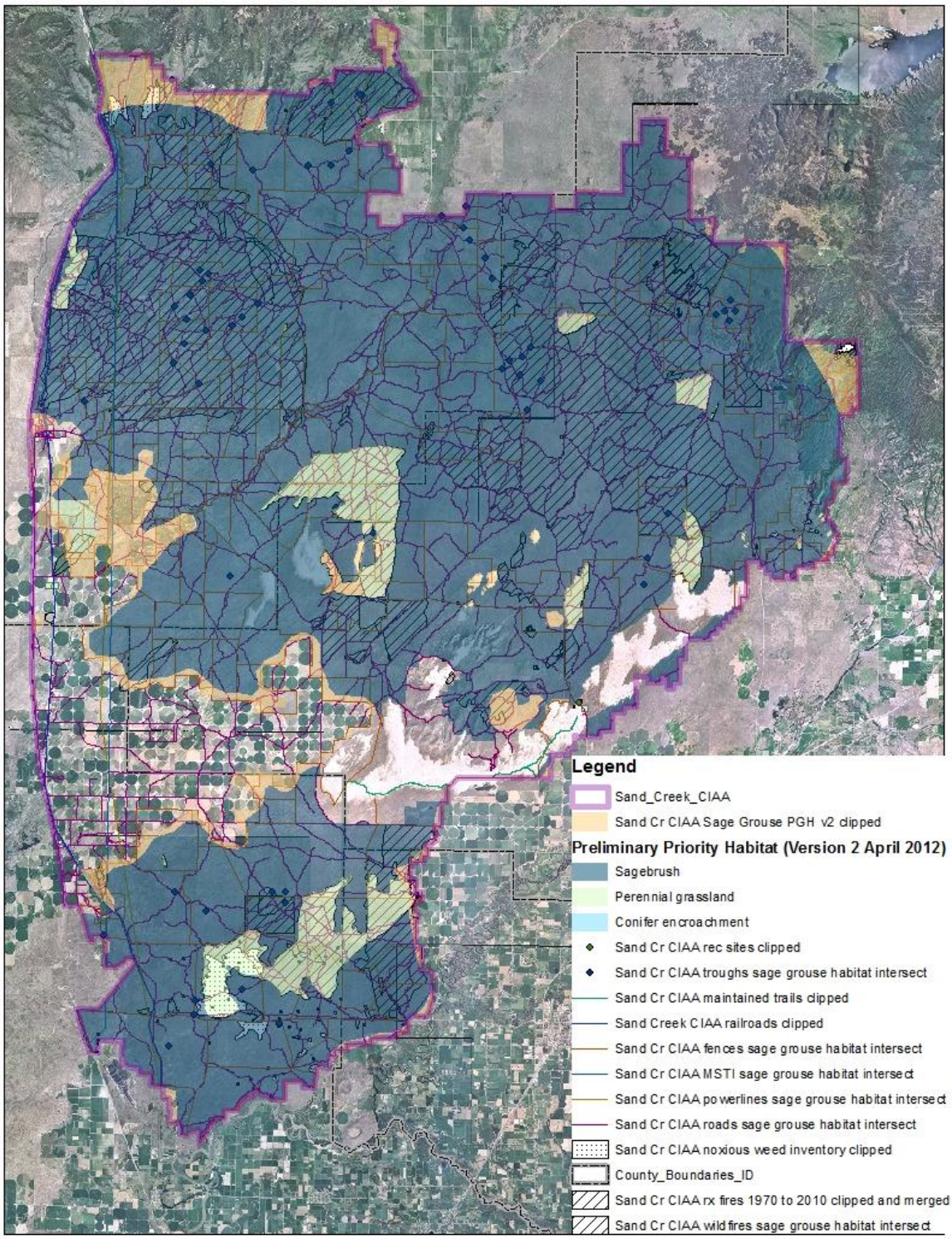


**Table 10. Known Impacts within Sage-Grouse PPH and PGH in the Sand Creek CIAA.**

| | PPH Acres Affected | % of PPH Acres in the CIAA | PGH Acres Affected | % of PGH Acres in the CIAA |
|---|---|---|---|---|
| Agricultural Development | 793 | 0.2% | 6,466 | 19.7% |
| Urban Development | 1,116 | 0.2% | 1,011 | 3.1% |
| Infrastructure* | 2,800 | 0.6% | 297 | 3.1% |
| Range Improvements* | 363 | <0.1% | 49 | 1.5% |
| Wildfire | 106,999 | 22.6% | 4,298 | 13.1% |
| Invasive species* | 4,188 | 0.9% | 475 | 1.4% |
| Livestock Grazing** | 34,337 | 7.3% | 9,319 | 28.3% |

*Note: Infrastructure is a combination of roads, power lines, and communication tower right-of-ways. Range Improvements is a combination of fences and water trough sites. Invasive species includes noxious weed sites and annual grass dominated areas.
**Livestock grazing impacts include those acres that are not meeting the Idaho Standards of Rangeland Health and livestock grazing management is a causal factor.

Wildfire and livestock grazing provide the greatest cumulative impact to sage-grouse within the CIAA. When combined with all other identified impacts, about 34 percent of PPH and PGH in the CIAA have been disturbed by one or more activities. Aside from the direct impacts of habitat alteration, these disturbances may alter sage-grouse behavior causing them to avoid impacted habitats or displace populations to more suitable areas.

***Contribution of the Alternatives to the Cumulative Impacts in the CIAA***

*Alternative A – No Action*

Alternative A would contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions. Livestock use would remain at current levels, and there would be no new structural developments which would contribute no change to the collective impact relative to non-natural elements of form, line, and color within the landscape. The number of road miles within the area would not increase as a result of implementing Alternative A. The amount of suitable habitat for wildlife species that occur in the CIAA would remain about the same. The actions described in Alternative A would not substantially alter the current or expected future conditions of natural resources in the CIAA.

*Alternative B – Proposed Action*

Alternative B would also contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions. Livestock use in the three allotments would be reduced a total of 17 percent. The number of road miles within the area would not increase as a result of implementing Alternative B. The amount of suitable habitat for wildlife species that occur in the CIAA would remain about the same. The number of livestock watering troughs in the CIAA would increase by one trough, which would add about one half acre of additional disturbance attributable to rangeland improvements in the CIAA, which is negligible in terms of the percent of acres disturbed in the CIAA. The number of fence miles would increase by 1.5 miles as a result of the pasture fence dividing the Pine Butte Pasture into two pastures as described in Alternative B. This mileage would result in a negligible increase in the number of acres disturbed by fences within the CIAA. The actions described in Alternative B would not substantially alter the current or expected future conditions of natural resources in the CIAA.

*Alternative C – Alternative Action*

The cumulative impacts associated with Alternative C would be the same as Alternative B.

*Alternative D – No Grazing*

The cumulative impacts of Alternative D would be the same as the cumulative impacts of Alternative A. Removing livestock grazing from Cow Camp, Horsebrush, and Pine Butte Allotments for ten years would not change number of BLM acres being improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plants. The number of road miles within the area would not increase as a result of implementing Alternative D. The amount of suitable habitat for wildlife species that occur in the CIAA would remain about the same. The actions described in Alternative D would not substantially alter the current or expected future conditions of natural resources in the CIAA.

## CHAPTER 5 – SUMMARY AND CONCLUSIONS

The results of the environmental assessment indicate that the actions described in Alternative A would continue to meet Standards 1, 4, and 8 in Cow Camp and Pine Butte Allotments. Standard 1 (*Watersheds*) would continue to be met, meaning that the existing soil and site stability and hydrologic function would be maintained. Standards 4 (*Native Plant Communities*) and 8 (*Threatened, Endangered, and Sensitive Species Habitat*) would continue to be met, meaning that the allotment would make provide biotic integrity that would result in healthy plant communities and wildlife habitat. Renewing the current grazing permit in the Cow Camp and Pine Butte Allotments would continue aid in improving the sagebrush cover on the allotment. With no change in livestock management in the Horsebrush Allotment, the allotment would not make significant progress toward meeting standards 4 and 8 on approximately 3,700 acres on native plant communities. Under Alternative A, there would be no impact on economic or social values.

The assessment indicates that Alternative B would continue to meet Standards 1, 4, and 8 in Cow Camp and Pine Butte Allotments, as well as, begin to make significant progress toward meeting the standards in the Horsebrush Allotment.

Cow Camp Allotment

Under Alternative B, The permittee would be authorized to graze no more than 53 yearlings for 31 days within the 42 day season of use. The change in the season of use would allow for flexibility to adjust grazing in light of range and pasture readiness. The sensitive species and migratory bird impacts from grazing the allotment 10 days earlier in the spring than under Alternative A are likely minimal. Lengthening the season of use would allow for management flexibility in the Cow Camp Allotment. This would allow the permittee the ability to adjust spring grazing in light of range and pasture readiness annually upon request and approval of the BLM. The total amount of the authorized AUMs in the allotment would increase from 41 to 54 AUMs. As discussed in Chapter 2, although yearling cattle consume approximately 75% of the forage amount in a month compared to cow with calf, the grazing regulations require that cattle over 6 months of age be charged a full AUM. Thus while it appears to be an increase of 24% in authorized use, due to the change in Livestock Kind, the result would be that the same amount of biomass removal would be equivalent to both Alternative A and C. The native plant communities in the Cow Camp Allotment would continue to meet standards for Rangeland Health.

Horsebrush Allotment

Under Alternative B is a decrease in authorized use from 823 to 660 AUMs for cattle in the allotment. Further, the Livestock Kind would be changed from cattle to yearling cattle, as discussed in above. Thus while it appears to be a decrease of 20% in authorized use, due to the change in Livestock Kind, the result would be approximately 39% less biomass removal annually compared to Alternative A. This would result in an increase in herbaceous cover in both pastures after grazing as compared to Alternative A. This would reverse the downward ecological trend seen in both pastures and increase grass and forb cover throughout the allotment, which would increase nesting, cover, and foraging habitat for sensitive species and migratory birds over the life of the permit. The reduction in AUMs would result in lighter utilization levels in both pastures, which would reduce the likelihood of direct disturbance of sensitive species and migratory birds. In addition, modifications to the authorized use in the Horsebrush Allotment at a decrease of 39% could benefit cultural resources by decreasing the amount of trampling that could occur in congregation areas.

There is no formalized grazing system in the Horsebrush Allotment. Under the deferred grazing rotation in Alternative B, one of the two pastures would receive early grazing season deferment every year. Deferred rotational grazing provides an opportunity for preferred plants and areas to maintain or gain vigor as plants have the opportunity to store carbohydrates and set seed every other year. With the combination of the grazing rotation and the equivalent of a 39 percent reduction compared to Alternative A, the amount of authorized use for the uplands in the Horsebrush Allotment would be appropriate for the site potential and would not expect to result

in a further loss of site productivity. Under Alternative B, the allotment would move toward meeting ISRH.

Under Alternative B, the season of use on the sheep permit would be extended from 5/1-5/6 to 5/1-12/15. Despite the longer season of use, the permittee would only be authorized up to four days of use within the season of use. The four days of use would allow for two different bands of sheep trailing through the allotment in the spring and the same bands trailing back in the fall. Grazing native habitats later into the year than proposed under Alternative A would have no measurable impact on native plants The flexibility proposed under Alternative B allows for grazing to occur outside the critical seasons for wildlife species. By potentially decreasing the amount of spring use and leaving flexibility for increasing the amount of fall use, potential for nest failures would be less likely compared to Alternative A.

Pine Butte Allotment

Under Alternative B, the fall grazing season would be lengthened by 15 days and the livestock kind would be changed from cow/calf pairs to yearling cattle, as discussed above. Lengthening the season of use would allow for management flexibility in the Pine Butte Allotment. This would allow the permittees the ability to adjust grazing in light of range and pasture readiness annually upon request and approval of the BLM. The total amount of the authorized AUMs in the allotment would increase from 1,755 to 2,337 AUMs. Thus while it appears to be an increase of 24% in authorized use, due to the change in Livestock Kind, the result would be that the same amount of biomass removal would be equivalent to Alternative A. The fall livestock grazing use indirectly impacts migratory birds by reducing the amount of residual herbaceous vegetation available as forage or cover for migratory birds and their prey bases during the following spring. Because the allotment is currently meeting rangeland health standards, the herbaceous species in Pine Butte Allotment would be expected to maintain their vigor and productivity to provide suitable foraging and cover habitat for migratory birds.

Under Alternative B, 287 AUMs authorized for sheep use would be converted to 192 AUMs authorized for yearling cattle within the allotment. The conversion to cattle would alter the grazing use patterns and the plant species utilized, while the reduced AUMs would result in slightly lighter amount of use throughout the allotment. Since the allotment is meeting standards for rangeland health, the uplands would continue to maintain or improve the existing condition under either option.

A seven pasture deferred rotation grazing system would be implemented in the Pine Butte Allotment. The deferred rotation grazing system would allow for some dormant season grazing within the allotment, and improve habitat for sensitive species, migratory birds, and other wildlife species in the long-term by strengthening understory grasses and forbs. Deferred-rotational grazing systems are beneficial to many migratory bird species because they provide pastures free of disturbance during nesting and other critical seasons (Holechek et al. 1982). The vegetation quality requirements for wildlife species within the Pine Butte Allotment would continue to be met under this alternative.

In order to implement the grazing rotation, a boundary and pasture fence between the Pine Butte North and South Pastures would be constructed. The 1.5 mile fence would both ensure control of livestock as well as allow for the establishment of a deferred grazing rotation in the allotment. In addition to the 1.5 mile pasture fence, another 1.5 mile stretch of fence would be removed and moved on the east side of the Red Road. Approximately 0.6 miles of the fence would actually be constructed on BLM. The remaining portion of the fence would be constructed on the permittee's private land. Moving the fence on the east side of the road would increase public safety by reducing the potential livestock vehicle conflict. Increased utilization and trampling of the vegetation would be expected in a narrow area adjacent to the new fences, as livestock commonly trail along fences more intensively, but the impacts would lessen as distance from water increases. Constructing the two pasture fences would result in approximately 1.5 acres of disturbance of which 0.75 acres of ground disturbance would occur on public land that would be vulnerable to new weed infestations, but the likelihood of that occurring is unlikely due to the current condition of the native vegetation in the allotment.

A new well in the Davis Butte Pasture would provide an additional water source in the pasture. Vegetation around the new well and trough would be utilized heavier due to the short distance to water, but with declining use as distance from water increased. The new well would distribute livestock in the pasture by providing an additional permanent water source in the Davis Butte Pasture. The vegetation affected by this change in livestock distribution would be found in roughly the ¼ mile radius around each trough. The addition of a well in the center of the Davis Butte Pasture would remove 0.25 acres of nesting habitat for grass and ground nesting birds while providing nesting and perching habitat for migratory raptors and perching for song birds. The construction would occur outside the nesting season, which would reduce the potential for disturbance or destruction of existing nests. Other impacts would be a short term displacement of sensitive species and migratory birds and the removal or modification of habitat at the time of construction. The increase in compaction would occur on a small area of the total acreage of public lands and would not be a critical factor in achieving rangeland health.

The assessment indicates that Alternative C would also continue to meet Standards 1, 4, and 8 in Cow Camp and Pine Butte Allotments, as well as, begin to make significant progress toward meeting the standards in the Horsebrush Allotment. The only difference between Alternative B and C is the yearling cattle conversion would not be implemented and the grazing permit would remain a cow/calf pair operation.

The assessment indicates that Alternative D, which includes no livestock grazing in the allotments for a 10 year period, would continue to meet or make progress toward meeting standards. Under Alternative D, sagebrush establishment would occur at a slower rate than both Alternatives A, B, and C because livestock use at the appropriate time and intensity could facilitate the return of sagebrush. The allotments would continue meet or make progress to provide habitats suitable to maintain viable populations of special statues species and improvement in habitat condition. However, under Alternative D, there would be a substantial economic impact on the operator. The forage substitution cost to replace 2,801 AUMs would range from approximately $31,511 to $276,319 annually, depending upon forage substitution

options available. If the herd are reduces as a result of decreased forage availability, the decreased gross revenue for the operators through herd reductions would range from approximately $210,075 to $308,110 annually. Under Alternative D, there would be no project implementation on BLM lands.

## CHAPTER 6 - CONSULTATION AND COORDINATION

### Persons and Agencies Consulted

Pine Butte Grazing, LLC. – Permittee
John Siddoway - Permittee
Idaho Department of Fish and Game
Idaho Department of Lands
Idaho State Dept. of Agriculture
Chairman, Land Use Policy Committee, Shoshone-Bannock Tribes
Northwest Band of Shoshone Nation
Chairman, Tribal Business Council, Shoshone-Bannock Tribes
U.S. Fish and Wildlife Service
Western Watersheds Project

### List of Authors

Scott Minnie: Economic and Social Values/Invasive, Non-Native Species/Vegetation/Soil Resources
Devin Englestead: Migratory Birds/Wildlife Resources/Threatened, Endangered, Sensitive Animals
Marissa Guenther: Cultural Resources
Shannon Bassista: Visual Resources

| | |
|---|---|
| /s/ Scott Minnie | 8/8/2013 |
| Preparer | Date |

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## APPENDIX A – DETERMINATION DOCUMENT FOR COW CAMP ALLOTMENT

### SECTION 1 – IS A DETERMINATION REQUIRED?

_X_ All Standards are met or making significant progress towards meeting and there is conformance with the guidelines. **No Determination is required, review is complete.**

___ One or more Standards is not being met or there is non-conformance with the guidelines. **An Authorized Officer's Determination is required; continue with Section 2.**

### SECTION 2 –DETERMINATION

*The Determination documents the authorized officer's finding that existing grazing management practices or levels of grazing use on public lands either are or are not significant factors in failing to achieve the standards and conform to the guidelines within a specified geographic area. (H-4180-1 page I-3)*

## APPENDIX B – DETERMINATION DOCUMENT FOR HORSEBRUSH ALLOTMENT

## SECTION 1 – IS A DETERMINATION REQUIRED?

___ All Standards are met or making significant progress towards meeting and there is conformance with the guidelines. **No Determination is required, review is complete.**

X One or more Standards is not being met or there is non-conformance with the guidelines. **An Authorized Officer's Determination is required; continue with Section 2.**

## SECTION 2 –DETERMINATION

*The Determination documents the authorized officer's finding that existing grazing management practices or levels of grazing use on public lands either are or are not significant factors in failing to achieve the standards and conform to the guidelines within a specified geographic area. (H-4180-1 page I-3)*

The determination document must include at a minimum:

1. Documentation of causal factors (other than livestock grazing) including identifying the evidence used to reach conclusions on which activities are causal factors for not achieving the Standard (H-4180-1 page III-13).

> While climate change and fluctuations may have impacted upland vegetation to a degree, the predominant impact to upland vegetation on the allotment is livestock grazing. The allotment receives minimal use by recreationists. Based upon this information it can be said that no additional causal factors, outside of livestock grazing, have been identified as a reason for not achieving standards for rangeland health.

2. Answers to the grazing related questions below. (H-4180-1 page III-14)

> a. Is it more likely than not that existing grazing management practices or levels of grazing use are significant factors in failing to achieve the Standards or conform to the guidelines? (**YES**/NO)
>
> Rationale:
> Based on the indicators for native plant community health, threatened and endangered animals, and monitoring data, the allotment does not meet the standard to maintain populations of native plants and provide healthy, productive, and diverse native animal habitat on a portion of the native plant communities. The majority of the native plant communities within the allotment have shown a downward trend in ecological condition between 1982 and 2012. Approximately 23% or 1,100 acres of the native plant communities in the Horsebrush Allotment are meeting the native plant community

standard, while the remaining 77% or 3,710 acres are not being maintained in healthy, productive condition.

b. Is there conformance with Idaho Guidelines for Livestock Grazing Management? (YES/**NO**)

Guidelines that are not in conformance:

Guideline 8 – *Apply grazing management practices that maintain or promote the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate, and landform.*

Guideline 9 – *Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.*

Guideline 12 - *Apply grazing management practices and/or facilities that maintain or promote the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities*.

3. Date determination is made and signature of authorized officer

/s/ Jeremy Casterson 8/8/2013
Authorized Officer Date

## APPENDIX C – DETERMINATION DOCUMENT FOR PINE BUTTE ALLOTMENT

### SECTION 1 – IS A DETERMINATION REQUIRED?

_X_ All Standards are met or making significant progress towards meeting and there is conformance with the guidelines. **No Determination is required, review is complete.**

___ One or more Standards is not being met or there is non-conformance with the guidelines. **An Authorized Officer's Determination is required; continue with Section 2.**

### SECTION 2 –DETERMINATION

*The Determination documents the authorized officer's finding that existing grazing management practices or levels of grazing use on public lands either are or are not significant factors in failing to achieve the standards and conform to the guidelines within a specified geographic area. (H-4180-1 page I-3)*