



## ENVIRONMENTAL ASSESSMENT

### GRAZING LEASE RENEWAL - LITTLE KELLY CANYON ALLOTMENT

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## 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 (USFO).

The Little Kelly Canyon Allotment is located in Jefferson County, Idaho. The allotment is located approximately six miles east of Ririe, Idaho. The allotment was listed at 667 acres of public land in the 1985 Medicine Lodge Resource Management Plan (RMP). However, in 1992 a letter from the Medicine Lodge Resource Area Manager to the operator described a change in the boundary between the Stinking Springs Allotment and Dawn Blakely Allotment. The Dawn Blakely Allotment was later renamed the Little Kelly Canyon Allotment. Public land acreage was removed from Stinking Springs and added to Little Kelly Canyon Allotment. The current public land acreage in the Little Kelly Canyon Allotment is 710 acres. In addition, approximately 161 acres of private property are grazed in conjunction with public lands within the allotment. There are no pastures within the allotment.

The topography of the allotment is generally rugged and steep with high topographic variance. There are several draws and drainages which provide reduced gradients which access the allotment. Elevation ranges from 5,000 feet above sea level near the county road at the south edge of the allotment to approximately 6,300 feet at the north end of the allotment. Average annual precipitation, as measured at the nearest weather station near Ririe, is 13 inches. The native vegetation community varies across the allotment. Mountain big sagebrush (*Artemisia tridentate ssp. vaseyana*), bitterbrush (*Purshia tridentate*), and serviceberry (*Amelanchier alnifolia*) are found across the allotment. Areas dominated by Utah juniper (*Juniperus osteosperma*) may be found on the south to southeast facing slopes on the south end of the allotment. A number of native grass species are found across the allotment, including bluebunch wheatgrass (*Pseudoroegneria spicata*), basin wildrye (*Leymus cinereus*), rhizomatous wheatgrass (*Agropyrom spp.*), needle and thread grass (*Hesperostipa comate*) and Thurber's needlegrass (*Achnatherum thurberianum*). Cheatgrass (*Bromus tectorum*) is found across the allotment, primarily in disturbed areas and on south to southeast facing slopes.

A portion of the allotment is used extensively by recreationist. Historically, a road was established following Little Kelly Creek from the confluence of Kelly Creek to the private lands on the bench lands to the north. The road was used to access the dry land farms established on the bench. Portions of the road where in the stream channel and drastically altered the steam channel/floodplain characteristics of Little Kelly Creek. As other access routes were later developed to these benches, the road up Little Kelly Creek was eventually abandoned for large vehicle use. The route became part of an established trail system in the area and is popular with hikers, horseback riders and mountain bikes. The route is closed to off-highway vehicle use.

(OHV) but unauthorized use by OHV has been documented. The allotment provides critical deer winter range. Large numbers of deer from the surrounding area, including the Big Hole Mountains, concentrate in the general area during the winter months. The public lands to the south and east of the Little Kelly Canyon Allotment are closed to human entry each year between January 1<sup>st</sup> and April 30<sup>th</sup>, to minimize disturbance of wintering wildlife in order to improve survival rates.

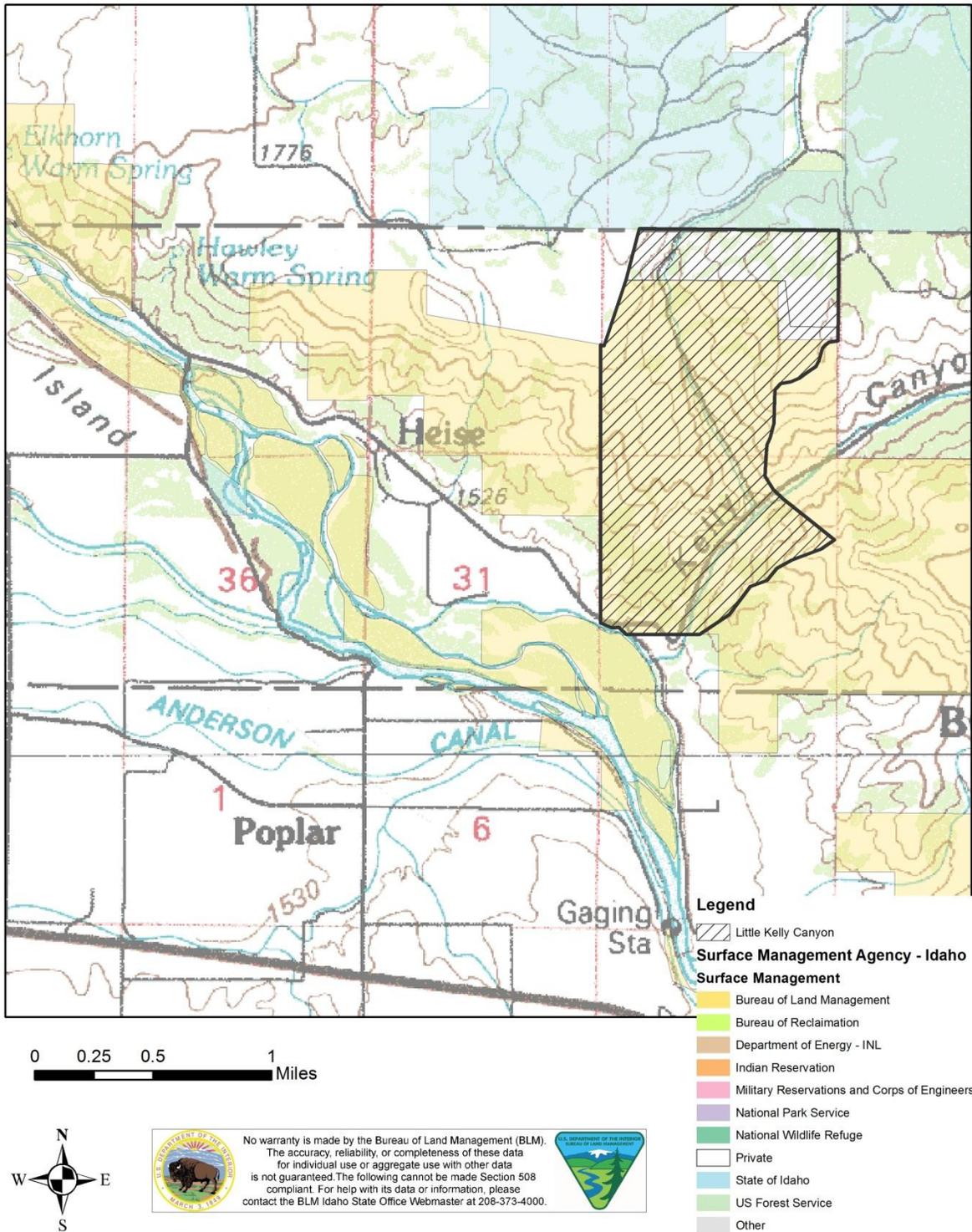
### **Purpose and Need for Action**

The Medicine Lodge Resource Management Plan (RMP) identified the public lands in the Little Kelly Canyon area as available for domestic livestock grazing. Where consistent with the goals and objectives of the RMP and Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (ISRH), the BLM authorizes 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 resource conditions and achieves the objectives and desired conditions described in the Medicine Lodge RMP. The analysis is needed to address the operator's application for a grazing authorization on the public lands currently identified as part of the Little Kelly Canyon Allotment.

### **Location**

The Little Kelly Canyon Allotment is located in Jefferson Counties, Idaho. The allotment is located approximately six miles east of Ririe, Idaho. (Figure 1).

**Figure 1- General location of Little Kelly Canyon Allotment**



## **Conformance with Land Use Plan**

The alternatives for public lands in the Little Kelley Canyon Allotment have been reviewed for conformance with the Medicine Lodge RMP. The area is located within Management Unit 9 of the RMP. The actions are in conformance with the RMP decisions to:

“Manage 10,333 acres for livestock grazing in support of wildlife and recreation, improve livestock distribution along the river, and improve range condition in the Kelly Canyon/Stinking Springs area from fair to good on 400 acres (DOI-BLM 1985).”

## **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 this 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, the ISRH 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.

An Evaluation Report of Achieving Idaho Standards for Rangeland Health and Conformance with Guidelines for livestock grazing management was issued for the public lands in the Little Kelly Canyon Allotment in December of 2012. The report found that Standards 1, 4 and 8 are being met in the allotment. Standard 2 is not being met, but is making significant progress toward meeting the standard. Standard 3 and 7 are not being met. Standards 5 and 6 are not applicable to the allotment. The Allotment Determination (Appendix A) identifies that livestock use of the public lands is not a significant contributing factor to the failure to meet Standards 3 and 7. Rather, a recent debris flow in 2011 following rapid snow melt and an associated down-cut through the Kelly Canyon Ski Hill parking lot located upstream of the allotment are identified as the primary factor in the allotment not meeting these standards.

## **Public Contact and Issue Identification**

In the spring of 2012, the Upper Snake Field Office sent a letter to permittees and lessees, interested publics, and other agencies inviting them to participate in the allotment assessments planned in 2012. The lessee and the Idaho Department of Fish and Game (IDFG) participated in the field assessment in May. In November of 2012, the Upper Snake Field Office sent Allotment Assessments to the parties above, which summarized the results of the field assessment and other monitoring information available for the allotments. The parties were asked to provide any other allotment specific information they may have which would be considered in the Evaluation Report. No additional information was provided. In December of 2012, the Evaluation Report and identified alternatives were sent to the parties. The parties were asked to reply if they had any questions or concerns regarding the report or identified alternatives. No comments were received.

## CHAPTER 2 - PROPOSED ACTION AND ALTERNATIVES

### Alternative A (Proposed Action)

*Issue grazing lease with no changes*

Under the Proposed Action, the Upper Snake Field Manager would authorize continued livestock use on public lands in the Little Kelly Canyon Allotment.

- 1) Allotment currently identified as including up to 161 acres of private property recognized as providing 40 AUMs. The current exchange of use rate is 4 acres per AUM.
- 2) Authorize use as currently identified for the Little Kelly Allotment

### Mandatory Terms and Conditions

Livestock number/kind	Season	%PL	Type Use	AUMs
108 Cattle	5/1 – 6/15	75	Active	121

### Other Terms and Conditions

- 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 lessee.
- 2) The Allotment(s) listed on this grazing permit is subject to requirements 43 CFR Subpart 4180 – Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration. This permit shall be modified, if necessary, to meet these requirements upon completion of a standards and guidelines assessment and determination as scheduled by the authorized officer.

### Alternative B (Preferred Alternative)

*Issue grazing lease with changes in use*

- 1) Recognize that the 161 acres private property unfenced and contiguous with public lands provides AUMs at approximately the same rate as public lands as 6 acres per AUM. Therefore 27 AUMs would be recognized on for 161 acres private property within the allotment and the %PL would be changed from 75% to 81%.
- 2) Limit livestock use in Little Kelly Creek Use Area (parking area used to access trail) to no more than four days at the beginning the season of use.

### Mandatory Terms and Conditions

<b>Livestock number/kind</b>	<b>Season</b>	<b>%PL</b>	<b>Type Use</b>	<b>AUMs</b>
100 Cattle	5/1 – 6/15	81	Active	121

### Other Terms and Conditions

- 1) Average annual livestock utilization will be no more than 40% of the available forage species.
- 2) Livestock use will in the Little Kelly Creek Use Area (trail access parking area) will be limited to no more than four days at the beginning of the season of use.
- 3) Livestock salt and mineral supplements will not be place in areas composed of herbaceous riparian vegetation or directly adjacent to areas with surface water.
- 4) 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.
- 5) The Allotment(s) listed on this grazing permit is subject to requirements 43 CFR Subpart 4180 – Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration. This permit shall be modified, if necessary, to meet these requirements upon completion of a standards and guidelines assessment and determination as scheduled by the authorized officer.

### **Alternative C (No Grazing)**

Under a No Grazing Alternative, the Upper Snake Field Manager would discontinue livestock grazing on public lands in the Little Kelly Canyon Allotment for a 10 year period from 7/1/2013 to 6/30/2023. The lessee would retain their preference in the allotment, but would not be authorized to graze.

### **Grazing Use Indicators and Criteria**

The following Grazing Use Indicators identify applicable monitoring methods and criteria used to indicate whether the allotment is meeting or making progress toward meeting the ISRH. Grazing Use Indicators and Criteria are not terms and conditions of the authorization, rather they are informative points used to gauge the effectiveness of the terms and conditions of the authorization.

1. *Browse Utilization* – Browse utilization studies would be conducted in key areas. Browse utilization by livestock should be no more than 30 percent of the annual growth of the key browse species (Technical Reference 1734-3, 1999).
2. *Riparian Condition* – Functioning condition of riparian areas would be assessed using riparian health assessments and/or Multiple Indicator Monitoring to determine status

relative to the overall objective of achieving proper functioning condition (PFC) (U.S. Lotic and Lentic Wetland Health Assessment User's Manual, 2005). Long- and short-term indicators of riparian vegetation, streambank, and stream channel conditions would be monitored to determine parameters that are achieving or making progress towards desired conditions as determined by the Multiple Indicator Method (MIM) (USDI-BLM Technical Reference 1737-23, 2011).

- 3. *Bank Alteration*** - Measurement of bank alteration would be conducted using BLM methods in key areas along Little Kelly Canyon Creek. Streambank alteration by hoof action, creating excessive soil displacement, should be no more than 20%.

## 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 alternatives. In addition, the section presents an analysis of the direct and indirect impacts likely to result from the implementation of the alternatives.

### General Setting

The current public land acreage in the Little Kelly Canyon Allotment is 710 acres. In addition, approximately 161 acres of private property are grazed in conjunction with public lands within the allotment. There are no pastures within the allotment. The topography of the allotment is generally rugged and steep with high topographic variance. There are several draws and drainages which provide reduced gradients which access the allotment. Elevation ranges from 5,000 feet above sea level near the county road at the south edge of the allotment to approximately 6,300 feet at the north end of the allotment. Average annual precipitation, as measured at the nearest weather station near Ririe, is 13 inches. The native vegetation community varies across the allotment. Mountain big sagebrush (*Artemisia tridentate ssp. vaseyana*), bitterbrush (*Purshia tridentate*), and serviceberry (*Amelanchier alnifolia*) are found across the allotment. Areas dominated by Utah juniper (*Juniperus osteosperma*) may be found on the south to southeast facing slopes on the south end of the allotment. A number of native grass species are found across the allotment, including bluebunch wheatgrass (*Pseudoroegneria spicata*), basin wildrye (*Leymus cinereus*), rhizomatous wheatgrass (*Agropyrom spp.*), needle and thread grass (*Hesperostipa comate*) and Thurber's needlegrass (*Achnatherum thurberianum*). Cheatgrass (*Bromus tectorum*) is found across the allotment, primarily in disturbed areas and on south to southeast facing slopes.

### 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 alternatives (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 alternatives would not result in changes in access to the area.
Air Quality	Present, Not Impacted	The implementation of the alternatives would not result in the production of emission or particulate matter above incidental levels.
Areas of Critical Environmental Concern (ACEC's)	Present, Impacted	Impacts are disclosed under <b>Areas of Critical Environmental Concern</b>
Cultural Resource	Present, Not Impacted	Programmatic consultation under the National Historic Preservation Act of 1966 (as amended) has been conducted in accordance with the BLM National Programmatic Agreement and the implementing Protocol agreement between Idaho BLM and the Idaho State Historic Preservation Office (ID-SHPO). There is one known historic property located within the allotment. However, permit renewal in this allotment would have no effect on known historic properties listed or eligible for listing on the National Register of Historic Places (NRHP). If eligible properties are discovered within the allotment boundaries in the future, mitigation measures to avoid adverse impacts would be developed in consultation with the ID-SHPO and affected tribes.
Economic and Social Values	Present, Impacted	Impacts are disclosed under <b>Economic and Social Values</b> .
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 alternatives would not affect the areas existing or potential land uses.
Fisheries	Not Present	There are no T&E or Sensitive Fish within the allotment
Floodplains	Present, Impacted	Impacts are disclosed under <b>Floodplains</b>
Forest Resources	Not Present	There are no Forest Resources within the allotment.
Invasive, Non-Native Species	Present, Impacted	Impacts are disclosed under <b>Invasive, Non-Native Species</b>
Mineral Resources	Present, Not Impacted	The alternatives would have no impact on mineral resources within the area.
Migratory Birds	Present, Impacted	Impacts are disclosed under <b>Threatened, Endangered, and Sensitive Animals</b>
Native American Religious Concerns	Not Present	There are no known ceremonial sites or resources associated 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 allotment.
Recreational Use	Present, Impacted	Impacts are disclosed under <b>Recreational Use</b>
Soil Resources	Present, Impacted	Impacts are disclosed under <b>Soil Resources</b>
Threatened, Endangered, and Sensitive Plants	Not Present	There are no known threatened, endangered, or sensitive plants within the allotment.
Threatened, Endangered, and Sensitive Animals	Present, Impacted	Impacts are disclosed under <b>Threatened, Endangered, and Sensitive Animals</b>
Threatened,	Not Present	There are no T&E or Sensitive Fish within the

<b>Table 1 - Resources Considered in the Impact Analysis</b>		
<b>Resource</b>	<b>Resource Status</b>	<b>Rationale</b>
Endangered, and Sensitive Fish		allotment
Tribal Treaty Rights and Interests	Present, Not Impacted	The 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, Impacted	Impacts are disclosed under <b>Vegetation</b>
Visual Resources	Present, Not Impacted	There are no actions proposed which would impact visual resource values on the public lands.
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 alternatives.
Water Quality (Surface and Ground)	Present, Impacted	Impacts are disclosed under <b>Water Quality</b>
Wetland and Riparian Zones	Present, Impacted	Impacts are disclosed under <b>Riparian and Wetlands</b>
Wild and Scenic Rivers	Not Present	The South Fork of the Snake River adjacent to the allotment is eligible for designation. Selection of any of the alternatives would not impact the suitability criteria for inclusion in the Wild and Scenic River system.
Wild Horse and Burro HMA	Not Present	There are no wild horse and burro HMAs in the region.
Wilderness	Not Present	No wilderness is located on public lands within the area considered for authorized livestock use.
Wildlife Resources	Present, Impacted	Impacts are disclosed under <b>Wildlife Resources</b>

## **Areas of Critical Environmental Concern**

### Affected Environment

The Little Kelly Canyon Allotment is located within the Snake River Area of Critical Environmental Concern (ACEC). The ACEC covers approximately 20,280 acres of public land along 88 miles of river and includes the South Fork of the Snake River (South Fork) from Palisades Dam to the confluence with the Henry's Fork of the Snake River (Henry's Fork), the Henry's Fork from the confluence to St. Anthony, Idaho, and the main stem of the Snake River from the confluence south to Market Lake Canal below Lewisville Knolls.

The Snake River ACEC was designated through the Medicine Lodge RMP to protect, maintain, or enhance recreation, scenic, riparian, and fish and wildlife relevant and important values. The ACEC is characterized by three sections: the upper section of the South Fork near Palisades Dam, a mountain valley; the middle section on the South Fork, a rugged canyon; and the lower section (including the Main Snake and Henry's Fork), a wide river with a broad, open flood plain. Unique geologic features, wildlife, rare plants, and a cottonwood gallery forest make the ACEC an important ecological area. The ACEC designation allows for authorized livestock grazing on public lands administered by the BLM (BLM 1985).

The South Fork has one of the most extensive cottonwood riparian-wetland ecosystems in North America and is one of the last well-developed ecosystems of this type in Idaho. The USFWS has

identified this area as the highest quality cottonwood riparian zone in the western United States (BLM 2008). Maintaining quality habitat for wildlife that occupies the lands along the Snake River is a major concern. The extensive river banks and islands provide wintering habitat for bald eagles, elk, moose, mule deer, whitetail deer, and dozens of bird species. Much of the deer population remains year-round. The Snake River, particularly the South Fork, is a high-quality Yellowstone cutthroat trout fishery, with brown and rainbow trout also present.

Although the Little Kelly Canyon Allotment is within the boundaries of the Snake River ACEC, it is not located on the river itself. Rather, it is in a rugged and steep area with several draws and drainages and is dominated by a variety of upland and riparian-wetland vegetation communities.

### Environmental Consequences

#### *Alternative A (Proposed Action)*

Under Alternative A, no change in the existing livestock grazing management would occur in the Little Kelly Canyon Allotment. Livestock use of the allotment would continue to occur for six weeks between May and June each year. Impacts on relevant and important values within the ACEC (primarily recreation, scenic, and wildlife values) would result from livestock impacts on native vegetation, and associated influence on wildlife resources. However, authorized livestock use under Alternative A has resulted in maintenance and improvement in native vegetation condition over time. As a result, relevant and important ACEC values are being maintained, or enhanced.

#### *Alternative B (Preferred Alternative)*

Under Alternative B, the impacts to relevant and important values of the Snake River ACEC would be similar to Alternative A. As in Alternative A, the season of use would occur for six weeks between May and June. Due to the change in the %PL figure, fewer livestock would be authorized under Alternative B. In addition, livestock use along lower Little Kelly Creek at the confluence with Kelly Creek near the parking lot used to access the trail system would be limited to four days at the beginning of the grazing season. As a result, relevant and important ACEC values would be protected, maintained, or enhanced to a slightly greater degree compared to Alternative A.

#### *Alternative C (No Grazing)*

Under Alternative C, no grazing would be authorized for 10 years in the Little Kelly Canyon Allotment. The potential for livestock grazing impacts associated with relevant and important ACEC values would be removed during the 10 year period. Under this alternative, relevant and important ACEC values would receive fewer impacts compared to Alternatives A and B.

## **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. 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. Similar to Social Values, 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 (Proposed Action)*

Alternative A would result in no changes in the mandatory terms and conditions for livestock grazing in the allotment. Alternative A therefore serves as the baseline for identifying and addressing changes to the current economic and social values relative to the operators.

#### *Alternative B (Preferred Alternative)*

Under Alternative B, there would be a change in the number of livestock authorized in the allotment resulting from the proposed percent public land change. While public lands would continue to be authorized for 121 AUMs, the share of AUMs recognized as contributed by unfences and contiguous lands offered for Exchange of Use would be reduced by 14 AUMs from 41 to 27. For the season of use, this would translate to eight fewer cattle authorized on the allotment annually. The forage substitution cost to replace 14 AUMs would range from

approximately \$158 to \$1,381 annually. If the herd size is reduced as a result the adjustment, the decreased gross revenue for the operators through herd reductions would range from approximately \$1050 to \$1,540 annually. There would be no additional expenses to the operators associated with the construction and maintenance of new projects in Alternative B.

### *Alternative C (No Grazing)*

Under Alternative C, no grazing would be authorized in the Little Kelly Canyon Allotment for a period of ten years. The forage substitution cost to replace 121 AUMs would range from approximately \$1,361 to \$11,367 annually. If the herds are reduced as a result of decreased forage availability, the decreased gross revenue for the operators through herd reductions would range from approximately \$9,075 to \$13,310 annually. Without additional fencing or continuous herding, it is unlikely that the operator would be able to utilize the private property within the allotment during the 10 year period, further reducing impacting economic and social values.

## **Floodplain**

### Affected Environment

The stream channel/floodplain characteristics of Little Kelly Canyon Creek were assessed in two reaches totaling one mile of stream. The upstream reach included approximately 0.35 miles beginning at the private/BLM lands boundary. The lower reach included approximately 0.65 miles extending to the confluence of Kelly Canyon Creek. Both reaches were rated in FAR condition. Streambank rootmass protection on the upper reach was approximately 70%. About 40% of the reach is accessible to livestock, with dense vegetation reducing access on majority of the reach. A number of livestock crossings were noted on the reach and bare ground influenced by human actions was in the range of one to five percent. Livestock impacts were greatest along the uppermost portion of the reach where soils composing the streambank are unconsolidated fine silt with little to no bank rock, making them vulnerable to erosion. The upper reach was slightly incised largely due to natural confinement by the mountains.

Streambank rootmass protection on the lower reach was approximately 80%. About 20% of the lower reach is accessible to livestock, with the majority of the reach naturally armored with rock and dense riparian woody vegetation limiting access. Along the lower reach, a designated trail crosses the creek in several locations, and additional livestock crossings were noted. As with the upstream reach, bare ground associated with human actions was in the range of one to five percent. Impacts to the stream channel/floodplain for the lower reach were greatest at the downstream end of the reach where Little Kelly Canyon Creek leaves the narrow canyon and flows a short distance to Kelly Canyon Creek. Influences in this area included the trailhead parking area, also used for camping use, and the county road and culvert. In addition, livestock have a tendency to congregate in this small area at times during the authorized season of use. Table 2 displays the ratings for the stream channel/flood parameters assessed on each of the two reaches.

**Table 2 - Stream Channel and Floodplain Characteristics for Little Kelly Canyon Creek**  
(U = Upper reach; L = Lower reach)

Parameters for stream channel/floodplain	Proper Functioning Condition	Functional at Risk	Nonfunctional
Stream bank rootmass protection		U,L	
Human-caused bare ground		U,L	
Stream bank structurally altered by human activity		U,L	
Human physical alteration to the rest of the polygon		U,L	
Stream channel incisement		U,L	

The stream channel/floodplain characteristics of Kelly Canyon Creek were assessed in two reaches totaling 0.6 mile of stream. The upstream reach is approximately 0.2 miles long extending from the confluence with Little Kelly Canyon Creek to an old reservoir which has been breached in the past. The lower reach is approximately 0.4 miles long from the reservoir to the public/private land boundary. Table 3 displays the ratings for the stream channel/flood parameters assessed on each of the two reaches.

The steam channel/floodplain condition of the upper reach were greatly impacted by a recent debris flow in 2011 following rapid snow melt and an associated downcut through the Kelly Canyon Ski Hill parking lot located upstream of the allotment. One to three inches of cobble and gravel were deposited along the reach following the 2011 event. In some areas, the channel has been relocated due to the deposition. Steambank stability on the short reach was estimated at 70 to 75%. The reach was rated FAR.

The lower reach which begins at the breached reservoir dam is in a down-cut gullied channel approximately 20 feet deep. Portions of the stream bank and meander bends through this reach are destabilized and actively eroding. The majority of this gullied channel has dense riparian vegetation and is somewhat stable. Streambank rootmass protection was estimated at 75%. Little livestock impacts were observed along the reach. The reach was rated NF.

**Table 5 - Stream Channel and Floodplain Characteristics for Kelly Canyon Creek**  
(U = Upper reach; L = Lower reach)

Parameters for stream channel/floodplain	Proper Functioning Condition	Functional at Risk	Nonfunctional
Stream bank rootmass protection		U,L	
Human-caused bare ground		L	U
Stream bank structurally altered by human activity			U,L
Human physical alteration to the rest of the polygon			U,L
Stream channel incisement	U		L

### Environmental Consequences

#### *Alternative A (Proposed Action)*

Under Alternative A livestock grazing would continue unchanged with 108 cattle authorized to graze for 6 weeks each year beginning May 15. Along Little Kelly Canyon Creek, the upper reach is in an upward trend and the lower reach is in a static trend, both of which would be expected to continue with no change in grazing management. Most of the lower reach would continue to be inaccessible to livestock however the lower end at the trailhead parking would continue to be a congregation area and show trampling and bank sloughing impacts, along with the compaction from the OHV use, the parking area and undeveloped camp sites.

Along Kelly Canyon Creek, the upper channel would continue to shift its bedload deposits (cobbles and gravel) around, from the 2011 Kelly Canyon Ski Hill parking lot debris flow event. This would continue to take up some floodplain area and keep bank margins moving, causing some sediment input from bank erosion. Livestock would continue to have access to the creek, though access below the old reservoir is limited due to the steep banks resulting for past failure of the reservoir. Livestock would be a minor contributing factor to the floodplain condition along the reach under Alternative A.

#### *Alternative B (Preferred Alternative)*

Under Alternative B, livestock grazing would continue similarly to Alternative A, with a small reduction in livestock numbers due to the adjustment in recognized %PL. In addition, use of the area near the confluence of Little Kelly and Kelly Canyon Creeks would be limited to four days at the beginning of the authorized use period. Impacts associated with livestock use on this lower reach of Little Kelly Canyon Creek would be reduced, however, recreation impacts would likely continue and the reach would likely remain in a static trend in floodplain condition.

### *Alternative C (No Grazing)*

Livestock are a contributing, though minor factor on channel and floodplain characteristics in the allotment. Removal of livestock under Alternative C for 10 years would result in a slight increase in the rate of improvement in condition on the upper reach of Little Kelly Canyon Creek. The lower part of the lower reach on Little Kelly Canyon Creek would still experience compaction and bank weakening due to OHV, trailhead parking and camping.

Along Kelly Canyon Creek, the upper channel would continue to shift its bedload deposits (cobbles and gravel) around, from the 2011 Kelly Canyon Ski Hill parking lot debris flow event. This would continue to take up some floodplain area and keep bank margins moving, causing some sediment input from bank erosion. Removing livestock for 10 years is unlikely to result in measurable improvement of floodplain characteristic as the areas adjust through natural processes to the deposition materials.

## **Invasive, Non-Native Species**

### Affected Environment

Noxious weed monitoring and treatment records for the public lands within or near the Little Kelly Canyon Allotment report isolated (< 0.5 acres) occurrences of houndstongue (*Hieracium cynoglossoides*) and musk thistle (*Carduus nutans*). Cheatgrass was also noted as being scattered throughout the allotment. The USFO actively inventories, monitors, and treats 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

#### *Alternative A (Proposed Action)*

The potential impacts of invasive, non-native species found in or near the allotment include degradation of native habitat. Seeds of these undesirable species may be dispersed by wind, water, animals, or humans. Under Alternative A, livestock would be authorized on public lands for 46 days annually. Uplands within the allotment are meeting native habitat standards, which decreases opportunity for some invasive species to establish. The condition of the riparian community was assessed in 2012 and it was determined that Standard 3 was not met. The rating was a result of reduced bank stability and alteration, which provides non-native invasive species more opportunity for establishment. Musk thistle and houndstongue were observed on the allotment, but were less than 1% of the total area. Cheatgrass was common throughout the allotment. Recreation use of the public lands within the allotment would continue, which is another vector for seed transport and potential disturbance. Occurrences of invasive non-native species would continue to be inventoried and treated within the field office and the potential for establishment or expansion of invasive species would remain about the same under Alternative A.

### *Alternative B (Preferred Alternative)*

Under Alternative B the potential for establishment and expansion of invasive, non-native species would be slightly reduced compared to Alternative A. While authorized AUMs would remain the same, the number of livestock would be reduced by eight as a result of the adjustment to the percent public land. This would result in fewer cattle (potential vectors) on the allotment at any given time, which would be an improvement in terms of weed transport compared to Alternative A. The same levels of recreation are likely to occur in the area and the level of transport via recreation would not change. Invasive, non-native species would continue to be monitored and treated following an integrated weed management approach.

### *Alternative C (No Grazing)*

Livestock are one of several vectors for dispersal of invasive, non-native species, and under Alternative C no livestock grazing would be authorized on public lands. However, spring livestock grazing of cheatgrass can reduce and modify fuel loads and fuel bed depth in a way that can moderate flame lengths and rates of spread of wildfires, thus reducing the potential spread and extent of wildfires (Diamond et al. 2009). While one vector for dispersal would be removed under Alternative C, invasive, non-native species would persist in the allotment under all alternatives without continued control efforts following an integrated weed management approach.

## **Soil Resources**

### Affected Environment

Within the Little Kelly Canyon Allotment the Natural Resource Conservation Service (NRCS) has mapped six soil map units (USDA 2008). The most dominant soil map units within the allotment are the Rexburg-Rock outcrop complex and the Rock outcrop-Rexburg complex. Rexburg soils are deep to very deep, are well drained, and are formed in loess and silty alluvium derived from loess. The structure of the surface soil is generally weak with few rock fragments; this makes the soil vulnerable to erosion when the surface is disturbed or vegetative cover is removed. Rexburg soils are also vulnerable to the occurrence of water erosion as slopes become greater than 10%. Soils adjacent to rock outcrops are generally shallower and can have limited deep-rooted perennials present to protect the soil surface from erosive forces.

The soils within the Little Kelly Canyon Allotment are currently meeting Standard 1 of the ISRH. All indicators of soil stability were categorized as “none to slight” departure from site potential, with the exception of gullies. The gully indicator was categorized as “slight to moderate” departure from site potential due to gully formation observed along Little Kelly and Kelly Canyon Creeks. The recreation trail along Little Kelly Canyon Creek, which is also utilized by livestock, is located such that during high flow events like thunderstorms, the trail captures runoff, increasing overland water velocity leading to gully formation. Kelly Canyon Creek is confined by a county road with little movement possible within the floodplain. An old reservoir along the creek was breached in the past and a gully formed at the outflow.

## 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, wind-scoured blowouts and/or deposition areas 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. Deeper soil compaction that is not affected by frost action may remain in the soil for years. Deep soil compaction restricts root growth reducing plant vigor and community composition and reduces soil productivity. 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.

Another potential impact of livestock grazing on soils is the disturbance of biological soil crusts that influence nutrient cycling and stabilize surface soils (Belnap and Gillette 1998). Livestock grazing acts as a compressional disturbance, which may compress, shear or bury crusts. Trampling tends to only compress the surface and generally does not result in direct removal of crusts from the site. Finer textured soils are more susceptible to compressional disturbance. Crustal organisms are more susceptible to disturbance during dry periods than when disturbed in wetter times. If soils are excessively wet crusts may be buried by hoof action. Crusts on all soil types are least vulnerable to disturbance when soils are frozen or snow covered. Excessive livestock use can be detrimental to soil crusts and species richness. Excessive livestock grazing can result in soil compaction, which influences soil water and nutrient-holding capacity and can lead to changes in soil crust community composition. Disturbance that removes or kills crustal organisms (such as wildfire) results in greater impact and slower recovery than disturbance that leaves crusts in place.

### *Alternative A (Proposed Action)*

Under Alternative A there would be no change in livestock grazing management within the allotment. In the small areas of concentrated livestock use, such as near water, along fence lines, and relatively flat areas adjacent to these features, deep soil compaction would continue to occur. The generally dispersed nature of livestock grazing on the allotment would continue to limit deep soil compaction. Adequate vegetative cover and biological soil crust would be present to limit soil exposure to erosive forces. Under Alternative A, Standard 1 would continue to be met in the allotment.

### *Alternative B (Preferred Alternative)*

Under Alternative B, the number of livestock authorized in the allotment would be slightly reduced, thereby decreasing the potential for dispersed shallow compaction by individual animals, though the change would be negligible on the whole. Additionally, use would be limited to four days along the Little Kelly Creek Use Area. Cattle often congregate in the use area adding to the impacts of recreation use of the area. While deep soil compaction in this area

would likely continue, livestock use would be a minor contributing factor with the limited use of the area. Under Alternative B, Standard 1 would continue to be met in the allotment.

### *Alternative C (No Grazing)*

The No Grazing Alternative would eliminate impacts to the soil resource related to livestock use. The soils within the Little Kelly Canyon Allotment would continue to be disturbed by concentrated recreation activities, particularly along Little Kelly Creek. These activities would continue to increase the risk of erosion within a portion of the allotment.

## **Migratory Birds**

### Affected Environment

The allotment includes a mix of habitats, including sagebrush-steppe, juniper, and riparian areas. These habitat types support numerous migratory bird species such as sage sparrow, Brewer's sparrow, vesper sparrow, sage thrasher, green-tailed towhee, western meadowlark, Bullock's oriole, and loggerhead shrike. Inventory and monitoring data are limited or absent for many migratory species. Little is known about their population status or trends. Sagebrush-steppe birds, such as the Brewer's sparrow and sage sparrow, that require sagebrush as nest sites benefit from mostly intact mature sagebrush stands found within the allotment. The allotment is also used for foraging during different seasons by migratory raptors such as rough-legged hawk, ferruginous hawk, Swainson's hawk, northern harrier, red-tailed hawk, prairie falcon, and short-eared owl.

### Environmental Consequences

Birds generally do not respond directly 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. Livestock grazing can 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 (i.e., northern harrier) requiring increased ground cover and other species (i.e., burrowing owl) responding positively to reduced ground cover or bare ground (Saab et al. 1995).

### *Alternative A (Proposed Action)*

Under Alternative A, grazing on Little Kelly Canyon Allotment would continue at the same timing and intensity levels as currently authorized. Habitat requirements for cover, food, and space for migratory birds would continue to be available in the allotment. Livestock grazing would take place during important nesting and brood rearing seasons for migratory raptors,

songbirds and sagebrush obligates. Some birds may abandon or lose their nests due to livestock presence or trampling, although the potential is limited. Livestock are scheduled to leave the allotment mid-June which may allow some migratory birds an opportunity for undisturbed re-nesting attempts by individuals that may have experienced nest failure. Livestock grazing within the allotment would not measurably impact local population levels of migratory birds.

#### *Alternative B (Preferred Alternative)*

Under Alternative B, the impacts to Migratory Birds would be similar to those described under Alternative A. Fewer cows would be authorized under Alternative B, slightly reducing the potential of disturbance of migratory birds. Further, livestock use along lower Little Kelly Creek near the trailhead parking lot would be limited to four days at the beginning of the grazing season, reducing potential impacts on habitat used by migratory birds. However this may shift livestock use to native upland vegetation, which may result in slightly higher utilization levels on upland vegetation. Under Alternative B, habitat quality would be maintained or improved over time, and continue to provide for the resources needs of Migratory Bird.

#### *Alternative C (No Grazing)*

Impacts to migratory birds from no grazing would vary by species as discussed under affected environment. In general, understory cover (e.g., grasses and forbs) would increase in size and vigor with seed set occurring annually when climatic conditions are suitable, which would provide increased cover and forage. There would be no displacement or disturbance of migratory birds by livestock during crucial breeding, nesting and brood-rearing seasons. Riparian areas that are currently functioning at risk would continue to make progress toward proper functioning condition.

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 allotment were grazed as described in Alternatives A and B. Wildfires would reduce the vegetative cover in the allotment which could be detrimental to most migratory birds.

### **Recreational Use**

#### Affected Environment

Recreation use in the allotment mostly consists of mountain biking, horseback riding, and hiking on the trail adjacent to Little Kelly Creek. The trail is closed to OHV use, although this unauthorized use still occurs. The trailhead is located at the mouth of Little Kelly Canyon and the parking area near the trailhead receives camping use. Rock climbing also occurs on “Paramount Rock” within the allotment. The rock climbing use is growing in popularity due to the close proximity to Idaho Falls and Rexburg. In 2012, Little Kelly Trail and surrounding area received approximately 5,000 visitors.

## Environmental Consequences

### *Alternative A (Proposed Action)*

Under Alternative A, no change in the existing livestock grazing management would occur in the Little Kelly Canyon Allotment. Livestock use of the allotment would continue to occur for six weeks between May and June each year and during that time period, visitors would share the trail system with authorized livestock. Visitors accessing the trail system from May 1 until June 15 could experience interaction with livestock. Livestock generally use the trailhead and trail system along Little Kelly Creek due to ease of movement and to move throughout portions of the allotment. Livestock will congregate in areas with shade. Shady spots occur along the entire trail system due to the proximity to the creek, resulting in livestock temporarily hindering movement of recreation visitors. Congregation areas could decrease the desired aesthetics for the recreation visitor, thus impacting a visitor's recreation experience.

### *Alternative B (Preferred Alternative)*

Under Alternative B, the impacts to recreation would be similar to Alternative A. As in Alternative A, the season of use would occur for six weeks between May and June. Due to the change in the %PL figure, fewer livestock would be authorized under Alternative B. In addition, livestock use along lower Little Kelly Creek at the confluence with Kelly Creek near the parking lot used to access the trail system would be limited to four days at the beginning of the grazing season. As a result, there would be less interaction between visitors and livestock in this congregation area. Impacts to recreation would be slightly less under this alternative compared to Alternative A.

### *Alternative C (No Grazing)*

Under Alternative C, no grazing would be authorized for 10 years in the Little Kelly Canyon Allotment. Elimination of livestock grazing in the allotment would eliminate interaction between authorized livestock and recreation visitors during the 10 year period. Under this alternative, potential impacts to recreation users would be reduced compared to Alternatives A and B.

## **Threatened, Endangered, and Sensitive Animals**

### Affected Environment

Information gathered from the IDFG, U.S. Fish and Wildlife Service (USFWS), Idaho Natural Heritage Program, and site specific surveys indicate that no threatened or endangered animal species are present within the Little Kelly Canyon Allotment. Table 6 lists special status species that have been identified as occurring or potentially occurring within the allotment. BLM includes the following as special status species:

- (1) Species officially listed or proposed for listing as threatened or endangered under the ESA or candidates for listing as threatened or endangered under the ESA.

- (2) Species listed by a State in a category such as threatened or endangered implying potential endangerment or extinction.
- (3) Species designated by the BLM State Director as sensitive.

The probability of species occurring and rationale for occurrence are listed. Species not occupying seasonal ranges or not expected to occur within the allotment are not discussed in the assessment.

**Table 6 - Special Status Species and Occurrence within Little Kelly Allotment**

Species	Status <sup>a</sup>	Occurrence	Rationale
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	S	Present	Perching and foraging habitat
Brewer’s sparrow ( <i>Spizella breweri</i> )	S	Present	Breeding habitat present
Sage sparrow ( <i>Amphispiza belli</i> )	S	Potential	Potential breeding habitat
Common garter snake ( <i>Thamnophis sirtalis</i> )	S	Potential	Potential habitat though limited

Status Codes: S=BLM Sensitive Species

There are twelve known bald eagle nests with five miles of the allotment. Activity and productivity status surveys for bald eagle breeding territories along the south fork of the Snake River found 28 active nests in 2011. Bald eagles forage for fish along the river during all seasons of the year as long as the water is open. During winter they will also scavenge on available carcasses. Mule deer fawn mortality in this area averaged 47% from 2000-2009 providing food during late winter and spring for bald eagles.

Brewer’s sparrows breed in shrub-steppe, transitions between shrub-steppe and shortgrass prairie, and semi-desert shrub-steppe habitats (Walker 2004). Brewer’s sparrows are gleaners, consuming small insects, gleaned from foliage and bark of shrubs or dwarf trees and seed taken from the ground (Rotenberry et al. 1999). Reduced occupancy, nest success and season-long productivity in fragmented shrub-steppe habitats suggest smaller patches of habitat are of marginal suitability (Walker 2004). Brewer’s sparrows are known to occur within the allotment although there is little known about their trend data in the Upper Snake Field Office.

Sage sparrows are dependent on stands of sagebrush for nest sites, food, and cover (Vander Haegen 2003). They prefer semi-open habitats with evenly spaced shrubs 3-6 feet high (Martin and Carlson 1998) and are found more frequently in extensive areas of continuous sage (Vander Haegen 2003). Sage sparrows are ground foragers that eat insects, spiders, seeds, small fruits and succulent vegetation (Martin and Carlson 1998). The allotment provides potential breeding habitat for sage sparrows.

Common garter snakes are found in a variety of habitats including grassland, woodland, scrub, chaparral, and forest where they tend to stay near water (Stebbins 2003). They are known to feed on small mammals, birds, earthworms, and amphibians (Carpenter 1952).

### Environmental Consequences

Direct impacts to habitat used by wildlife, including special status species, occurs when vegetation is removed or damaged as a result of livestock grazing that could otherwise be used by wildlife for food or cover. Indirect impacts on habitat used by special status species can occur if livestock grazing alters the vegetation composition, which can be beneficial or adverse depending upon the specific species involved and results of the impact. In general, native vegetation communities in late-seral to PNC condition provide habitat conditions suitable to the largest number of native wildlife species.

#### *Alternative A (Proposed Action)*

Potential impacts under Alternative A would be similar to those described under **Migratory Birds** above. Common garter snakes are mostly likely to be found in proximity to the riparian areas within the allotment. The riparian areas are making progress toward meeting the standard and would be expected to continue to make progress under Alternative A. This would provide improved habitat quality for common grater snakes, as well as the special status bird species, over time.

#### *Alternative B (Preferred Alternative)*

Potential impacts under Alternative B would be similar to those described under **Migratory Birds** above. Common garter snakes are mostly likely to be found in proximity to the riparian areas within the allotment. The riparian areas are making progress toward meeting the standard and would be expected to continue to make progress under Alternative B. Due to the small reduction in authorized livestock numbers and the limited livestock use on the lower reach of Little Kelly Canyon Creek, progress toward meeting the standard for riparian areas would be slightly more rapid than under Alternative A.

#### *Alternative C (No Grazing)*

Potential impacts under Alternative C would be similar to those described under **Migratory Birds** above.

### **Vegetation**

#### Affected Environment

Biotic integrity indicators were assessed across the allotment following USDI Technical Reference 1734-6. There are two primary ecological sites described within the allotment. The majority of the allotment includes the site described by the Natural Resource Conservation Service (NRCS) as B13-1 which is composed of loamy soils on undulating to broken foothills in a 13 to 16 inch precipitation zone. The other common site found in the allotment is B13-8 which

is described as steep south slopes in a 12 to 16 inch precipitation zone. The dominant vegetation at both sites is described as mountain big sagebrush with an understory of bluebunch wheatgrass. 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 of the B13-1 site varies from 800 lbs. /acre in unfavorable years, 1200 lbs. /acre in average years, to 1800 lbs. /acre in favorable years. The B13-8 site is generally less productive, with annual production estimated at 550 lbs. /acre in unfavorable years, 980 lbs. /acre in average years, and 1400 lbs. /acre in favorable years.

Six of the nine indicators of biotic integrity were rated as none to slight departure from site potential. The indicator for Functional/Structural Groups was rated as slight to moderate departure from potential. It was noted that the relative dominance of the functional/structural groups appeared modified, with mountain big sagebrush dominant relative to composition by weight, followed by bluebunch wheatgrass, whereas the site potential is for bluebunch wheatgrass to be dominant in composition by weight. The stature of bluebunch wheatgrass plants in the shrub interspaces appeared to be reduced compared to those plants within the protection of the brush canopy. The indicator for annual production was rated as slight to moderate departure due to the observed decreased abundance and stature of bluebunch wheatgrass, though it remains prevalent throughout the allotment. The indicator for invasive plants was rated as moderate departure as the narrative description for moderate departure is invasive plants scattered throughout the site. Both cheatgrass and houndstongue were found scattered across the allotment.

The health of the native plant communities was previously assessed in 2002 and was found to be meeting the standard in the allotment. The rating summaries for the allotment indicated that invasive species, including cheatgrass were present on sites in the allotment at that time as well.

Based on the indicators for native plant community health and considering the issue of scale relative to specific sites with alteration in one or more indicators, the allotment meets the standard to maintain populations of native plants and provide healthy, productive, and diverse animal habitats.

### 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.

Livestock grazing can act to reduce fuel accumulations, continuity, and height which can lessen the impacts of wildfire within sagebrush ecosystems. Livestock grazing focuses primarily on herbaceous grasses and forbs which directly affect the source of fuels for wildland fires (Launchbaugh 2012). Grazed sagebrush steppe (30 to 40 percent utilization of available forage) had greater perennial bunchgrass and forb cover, and decreased cheatgrass cover post-fire than

areas that had not been grazed (Davies et al. 2009). Additionally, areas with long-term protection from livestock grazing followed by fire resulted in substantial increases in cheatgrass and annual forbs, resulting in a shift from perennial vegetation dominance to annual vegetation dominance (Davies et al. 2009).

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 (Proposed Action)*

Alternative A would continue the existing livestock management system, which has provided for the achievement of the native vegetation habitat standards in the Little Kelly Canyon Allotment. The season of use allows livestock to utilize vegetation during the spring growing season. This is a time when most native grasses are growing leaf matter and roots, accumulating energy reserves and allocating energy for reproduction. As mentioned under the Environmental Consequences section above, if the levels of grazing use are too high it can negatively impact individual plants and even entire vegetative communities. This is of particular concern in the spring when native grass species are acquiring energy and reproducing. Livestock grazing in the spring is sustainable under appropriate use levels. The data available for interpretation indicates that livestock use of upland vegetation is within desirable levels that provides for the physiological needs of native forage species in the area.

It was noted that some bluebunch wheatgrass plants had reduced stature compared to those plants located under sagebrush. This could be due in part to livestock grazing, because livestock will most often select plants in shrub interspaces. However, the larger bluebunch plants could also be a function of additional moisture and nutrients made available by larger shrubs trapping precipitation, which would be accessible to bluebunch plants growing within the canopy of the shrub. It could also be a function of cheatgrass abundance in some location within the shrub interspace. Cheatgrass has a competitive advantage over native species because it sprouts sooner and is able to acquire moisture and nutrients before native species begin growth. This can have the effect of reducing the vigor of native species by reducing access to resources. The reduced stature of bluebunch plants in the shrub interspaces could also be a combination of factors described. Riparian vegetation is described below under **Riparian Areas and Wetlands**. Under Alternative A, native vegetation would be maintained in a healthy, productive, and diverse condition and would continue to meet standards under ISRH.

### *Alternative B (Preferred Alternative)*

Under Alternative B, impacts would be similar to, but slightly reduced, compared to Alternative A. There is no evidence to support that the private lands within the allotment are more accessible or more productive to provide forage at a higher rate than the adjacent public lands. Therefore the %PL would be reduced to reflect that the 161 acres contribute 27 AUMs (6 acres per AUM). Due to the change in %PL, authorized cattle numbers would be reduced from 108 to 100, though the BLM grazing preference would remain at 121 AUMs. Under Alternative B, native vegetation would continue to be maintained in a healthy, productive, and diverse condition and would continue to meet standards under ISRH.

### *Alternative C (No Grazing)*

Under Alternative C, no livestock grazing would be authorized within the allotment for a period of 10 years, from 2013 to 2023. The potential impacts, including removal of vegetation and/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 composition of the vegetative communities, would be removed. Increased biomass would be left on-site throughout the allotment, increasing the amount of residual cover and litter. Over time, abundant residual biomass can decrease plant vigor if it is not removed by grazing or some other manner. However, this would not be anticipated to occur within the 10 year permit term. Vegetation throughout the allotment was meeting standards and would continue to meet standards for native plant community health under Alternative C. Alternative C would provide for the physiological needs of vegetation to a larger degree than Alternatives A and B.

Under Alternative C, residual herbaceous cover and litter cover from native plants and cheatgrass would increase across the allotment. As these fine fuels increase, the risk of fire would also increase on the allotment. A wildfire would reduce vegetative cover in the allotment for a period of time following the fire and may result in long-term changes in the vegetative community.

## **Riparian Areas and Wetlands**

### Affected Environment

Approximately one mile of Little Kelly Canyon Creek flows through public lands within the Little Kelly Canyon Allotment, forming about three acres of riparian-wetland vegetation. The dominant vegetation is represented by a quaking aspen/red-osier dogwood (*Populus tremuloides/Cornus sericea*) habitat type. Little Kelly Canyon Creek was assessed in two reaches. The upper reach includes approximately 0.35 miles of creek length and one acre of associated riparian habitat. The lower reach includes approximately 0.65 miles of creek length and two acres of associated riparian habitat. The condition of the riparian-wetland vegetation in the upper reach was rated in functional at risk (FAR) condition. The condition of the lower reach was rated in proper functioning condition (PFC). Both reaches are in an upward trend.

Overall vegetative cover along the two reaches ranges from 85 to 100%. The majority of the woody cover is comprised of dense, vigorous, and mature Rocky Mountain maple (*Acer glabrum*), chokecherry (*Prunus virginiana*), quaking aspen, water birch (*Betula occidentalis*),

currant (*Ribes* spp.), red-osier dogwood, western serviceberry, and cottonwood (*Populus* spp.). Establishment and regeneration of young woody species, primarily quaking aspen, water birch, red-osier dogwood, maple, and chokecherry, is excellent and comprises 15-25% of the total woody canopy. Browse utilization on available preferred woody plants is light (10-15%) in most areas, but exceeds 25% along the more accessible portions of the upper reach. Canada thistle (*Cirsium arvense*) was not observed in the lower reach, but is present in a single patch along the upper reach, comprising one to five percent of the vegetated area. Other undesirable herbaceous species such as Kentucky bluegrass (*Poa pratensis*), stinging nettle (*Urtica dioica*), and dandelion (*Taraxacum officinale*) make up 10-15% of the upper reach and less than 5% of the lower reach. Livestock accessibility is approximately 40% in the upper reach and 20% in the lower reach as a result of the dense cover of trees and shrubs. The lower reach is also comprised of large bank, bed, and shale rock that limit access to the stream. At the confluence with Kelly Creek, large sediment deposits are present as a result of an event in 2011 that caused substantial gully erosion upstream of the allotment from a failure at the Kelly Canyon Ski Resort parking lot.

Approximately one mile of Kelly Canyon Creek flows through public lands within the allotment, forming about 5.4 acres of riparian-wetland vegetation. Two reaches were assessed along Kelly Canyon Creek in 2012. The upper reach above the breached reservoir includes approximately 3 acres of riparian habitat along 0.2 miles of creek. The lower reach below the breached reservoir includes approximately one acre of riparian habitat along 0.4 miles of creek. The dominant vegetation is represented by a quaking aspen/red-osier dogwood habitat type. The condition of the riparian vegetation along the upper reach was rated FAR, while the lower reach was PFC.

Overall vegetative cover along Kelly Creek ranges from 80 to 95%. The majority of woody cover is comprised of cottonwood, quaking aspen, red-osier dogwood, water birch, willow, chokecherry, and box elder (*Acer negundo*). Establishment and regeneration of young woody species along both reaches is excellent at over 15%, and is primarily comprised of quaking aspen, cottonwood, water birch, willow, red-osier dogwood, and box elder. Browse utilization on available preferred woody plants is occurring on 30-40% of young quaking aspen and willow in the upper reach. No browse utilization was observed on the lower reach. A few sporadically-occurring Canada thistle plants were observed, which make up less than one percent of the vegetative cover along either reaches. Other undesirable herbaceous species such as Kentucky bluegrass and dandelion make up about 15% of the vegetative cover. Livestock accessibility is approximately 80-85% in the upper reach, particularly in the former location of a reservoir that breached several years ago. This area is flat and offers easy access to livestock as evidenced by heavier amounts of woody utilization compared to other portions of the middle reach. In the lower reach, livestock access is limited by a 20-foot deep gully that scoured when the reservoir dam breached. The lower reach sustained additional erosion following a rapid runoff event in 2011 associated with the Kelly Canyon Ski Resort parking lot upstream of the allotment. Most of the riparian-wetland vegetation affected by the gully erosion is vigorous and healthy, but some banks are actively eroding, resulting in vegetation loss and potentially resulting in limited recruitment of young woody plants.

## Environmental Consequences

Livestock grazing can directly or indirectly affect riparian-wetland area conditions by altering vegetative attributes. These attributes include plant community composition, distribution, and production; plant species diversity; rooting characteristics; amount of bare ground; and woody plant size, age class, and abundance (USDI-BLM 2006).

### *Alternative A (Proposed Action)*

Under Alternative A, no change in the existing livestock grazing management would occur in the Little Kelly Canyon Allotment. Under this alternative, the riparian-wetland vegetation on approximately 66% of stream miles assessed in 2012 have achieved PFC, while the remaining 34% of stream miles were rated as FAR (22% upward trend; 12% static). Livestock use of the allotment would continue to occur for six weeks between May and June each year. Under Alternative A, the riparian-wetland vegetation would continue to maintain or make progress towards PFC.

### *Alternative B (Preferred Alternative)*

Under Alternative B, the level of impacts to riparian-wetland areas would be similar to Alternative A. As in Alternative A, the season of use would occur for six weeks between May and June. However, due to the change in %PL, eight less cattle would be authorized under Alternative B. Alternative B would limit livestock use along lower Little Kelly Canyon Creek near the trailhead parking lot to four days at the beginning of the grazing season. As a result, potential livestock impacts on this reach would be reduced compared to Alternative A. Riparian-wetland areas in the allotment would continue to maintain or make progress toward PFC under Alternative B.

### *Alternative C (No grazing)*

Under Alternative C, no grazing would be authorized for 10 years in the Little Kelly Canyon Allotment. The potential for livestock grazing impacts associated with riparian-wetland areas would be removed during the 10 year period. Under this alternative, riparian-wetland areas would receive fewer impacts and on those reaches which have not yet achieved PFC, progress would be made toward PFC more rapidly compared to Alternatives A and B.

## **Water Quality**

### Affected Environment

Water quality characteristics were assessed along both Little Kelly Canyon Creek and Kelly Canyon Creek during the field assessment in 2012. Table 7 includes a summary of the rating of the eight parameters of water quality assessed for each creek. Neither stream is listed on the Idaho Department of Environmental Quality (DEQ) 303(D) list of water quality limited streams. On both creeks, two parameters were rated as PFC and six were rated as FAR.

Along the lower portion of Little Kelly Canyon Creek, the recreation trail is in the channel itself, resulting in disturbance with increased sediment downstream. Along the upper portion of the creek, the recreation trail is generally out of the stream channel however, sediment may still connect to the creek during flow events. There is no established fishery in the creek. Turbidity was observed in the stream at the time of the field assessment. A limited search of the creek found mayflies, caddis flies, and leaches were present.

Along Kelly Canyon Creek, actions or impacts adding sediment to the system above the reservoir included livestock related bank trampling or hoof shear, as well as sediments carried from the adjacent county road and upstream development. Below the reservoir, the breaching of the reservoir resulted in steep sided banks with portions actively eroding adding to the sediment load of the creek. Similar to Little Kelly Creek, a limited search of the creek found mayflies, caddis flies, and leaches.

**Table 7 - Water Quality Characteristics for Little Kelly and Kelly Creeks**  
(LK = Little Kelly Creek; K = Kelly Creek)

<b>Parameter</b>	<b>PFC</b>	<b>FAR</b>	<b>NF</b>
Beneficial Uses		LK, K	
Temperature		LK, K	
Turbidity		LK, K	
Dissolved Oxygen	LK, K		
Excess Nutrients	LK, K		
Sediment as surface fines		LK, K	
Macro invertebrates		LK, K	
BMP's		LK, K	

Environmental Consequences

Livestock can directly and indirectly affect stream conditions through soil compaction, bank shearing, or severing of roots of riparian vegetation, which are needed for plant survival and bank stability (Behnke and Raleigh 1978). Depending on site, soil, and substrate characteristics, channel degradation may take one of two forms. If a restrictive soil layer is in the channel bed, bank erosion causes channel widening and stream depth decreases. Conversely, if the restrictive soil layer is lower, the channel can downcut, and the stream gradient and energy can increase and move excessive sediment downstream (USDI-BLM 2006).

*Alternative A (Proposed Action)*

As described in the Evaluation Report, water quality conditions in the Little Kelly Canyon Allotment were previously assessed in 2002 and determined to not meet the standard, however, livestock grazing was not a significant factor. Sedimentation from the recreation trail along Little Kelly Creek and the county road along Kelly Creek were identified as primary influences on water quality. The rating of the water quality indicators remained static over the assessment period from 2003 through 2012. With the majority of indicators rated at risk, the standard for water quality was described as not meeting the standard in the 2012 Evaluation Report as well.

Under Alternative A, grazing would continue on the allotment. As described under **Riparian Areas and Wetlands** above, the majority of Little Kelly Canyon Creek is inaccessible to livestock due to dense riparian shrub canopy. However, the lower reach receives sediment input from recreational use such as mountain bikes, horseback use, and hiking as the trail in within the channel itself. The reach would continue to provide some sediment to the stream, from both livestock and recreation use. Similarly, the majority of Kelly Canyon Creek is inaccessible to livestock, however, in this case due to the steep banks formed after the small reservoir in the floodplain breached in the past. Water Quality on Kelly Canyon Creek is largely influenced by confinement by the county road, and upstream impacts of the ski hill parking lot. The shifting bedload deposits from the 2011 debris flow event would continue to keep the banks somewhat shifting and may limit recruitment of riparian vegetation. The lower reach of this stream would continue to be a sediment source due to nearly vertical banks in this gullied channel. Under Alternative A, Water Quality would continue to not meet the standard.

#### *Alternative B (Preferred Alternative)*

Impacts on water quality would be similar to Alternative A. Although livestock numbers would be slightly reduced, livestock are a minor contributing factor in the failure to meet the standard and the small reduction would not be expected to lead to measurable improvement in water quality over time.

#### *Alternative C (No Grazing)*

Under Alternative C, livestock would not be authorized on the allotment for a period of 10 years. This would slightly reduce sediment input and improve water quality compared to Alternatives A and B. Removing livestock would allow riparian vegetation on those reaches not rated PFC, to make more rapid improvement, which would further stabilize the banks and trap sediment. However, recreation use would be expected to continue along the established trail. The trailhead area would remain a sediment source and impacts associated with the trail and trailhead area would remain. Along Kelly Canyon Creek the sediment deposits from the 2011 event would limit riparian vegetation recruitment and establishment and banks would continue to shift, transporting fine sediment along with some bedload. The lower reach of this stream would continue to be a sediment source due to nearly vertical banks in this gullied channel below the failed reservoir. While potential impacts of livestock grazing on water quality would be removed, other primary contributing factors would remain and water quality would continue not to be met for the foreseeable future.

## **Wildlife Resources**

### Affected Environment

The Little Kelly Allotment is important to a wide range of native wildlife species which seasonally occupy a variety of habitat types. Important big game species inhabiting the allotment are mule deer (*Odocoileus hernionus*), white tail deer (*Odocoileus virginianus*), elk (*Cervus elaphus*) and moose (*Alces alces*). The majority of elk and deer use takes place in winter and the area is recognized as crucial deer winter range. Moose primarily utilize Little Kelly and

Kelly Canyon Creek in the winter however, spring, summer, and fall ranges are important to all species.

According to the Idaho Department of Fish and Game, current elk and moose populations are high within this zone. Objectives are to stabilize all these herds at slightly reduced levels. Following an exceptional period of high productivity and over-winter survival between 1984 and 1992, resulting in high mule deer numbers, the trend in mule deer populations across the West, including Idaho, has been downward. The combined effects of a dry summer in 1992 and a hard winter during 1992-1993 resulted in a significant loss of mule deer. Relatively low recruitment levels since then and significant mortality during the winter of 2001-2002 in portions of eastern, southeastern, and south-central Idaho have resulted in mule deer populations lower than desired. Management objectives for deer are flexible from year to year.

Many invertebrates, including several insect orders, are found in the allotment. Reptiles and amphibians also occur in the allotment. Although these animals are of tremendous importance to the ecological functioning of both the plant communities and too many small mammals found in the allotment, the status of these species is unknown.

### Environmental Consequences

In general, the implementation of any of the alternatives would have a relatively minor impact on big game. Spring use on the allotment by livestock could benefit deer, elk, and moose winter range, provided the use is light to moderate. Big game will tend to use pastures with early season grazing due to regrowth of plants providing nutritious forage and increased palatability. The majority of use by cattle is made in the valleys, and alongside riparian areas. It is likely that cattle will continue to lightly use the higher elevation areas of the Little Kelly Canyon Allotment. Impacts could come from use of browse plants by livestock, although this is very limited as preferred grasses are readily available during the authorized season of use.

#### *Alternative A (Proposed Action)*

Under Alternative A, grazing on Little Kelly Canyon Allotment would continue at the same timing and intensity levels as currently authorized. Although the potential exists for competition for forage resources, existing data indicates that current livestock use is light overall and no widespread impact on native upland vegetation was observed. Habitat requirements for cover, food, and space for wildlife are being met and would continue to be met under Alternative A.

#### *Alternative B (Preferred Alternative)*

Potential impacts on wildlife would be similar to Alternative A. The small reduction in authorized livestock numbers would reduce the amount of biomass removed as livestock forage annually, thereby, slightly increasing the amount available as cover or forage for wildlife. Livestock use would be limited to four days along lower Little Kelly Canyon Creek near the parking lot just above the confluence with Kelly Canyon Creek. However, this would have limited impact on most wildlife species which would typically avoid the areas due to regular traffic along the adjacent paved road and increased human use associated with the trail. Under

Alternative B, the allotment would continue to provide habitat characteristics in the form of cover, space, and food for a variety of native wildlife species.

*Alternative C (No Grazing)*

Impacts to wildlife species from no grazing would vary by species as previously discussed above. In general, understory cover of grasses and forbs would increase and the size and vigor of individuals would improve. There would be no potential displacement or disturbance of wildlife from livestock, though continued recreation use would occur which may influence wildlife behavior. 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 allotment were grazed as described in Alternatives A and B.

## CHAPTER 4 - CUMULATIVE IMPACTS

This section of the document discloses the incremental impact that Alternatives A, B, and C 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 the Snake River and Henry's Fork corridors (Figure 2). The CIAA was delineated from the boundary of the hydrologic unit as identified by the State of Idaho. The CIAA was further defined using administrative boundaries, highways, and adjacent CIAAs to delineate an area with similar anthropomorphic influences.

The CIAA contains approximately 1,397,734 total acres and includes portions of Bingham, Bonneville, Jefferson, Fremont, and Madison counties. Table 7 describes the surface management status for lands within the CIAA.

Table 7 – Surface Management Status within the CIAA	
Bureau of Land Management	32,400 acres
Bureau of Reclamation	34,206 acres
Idaho State Lands, including open waters	39,257 acres
Fort Hall Reservation	14,678 acres
Private Property	887,105 acres
United States Forest Service	390,088 acres

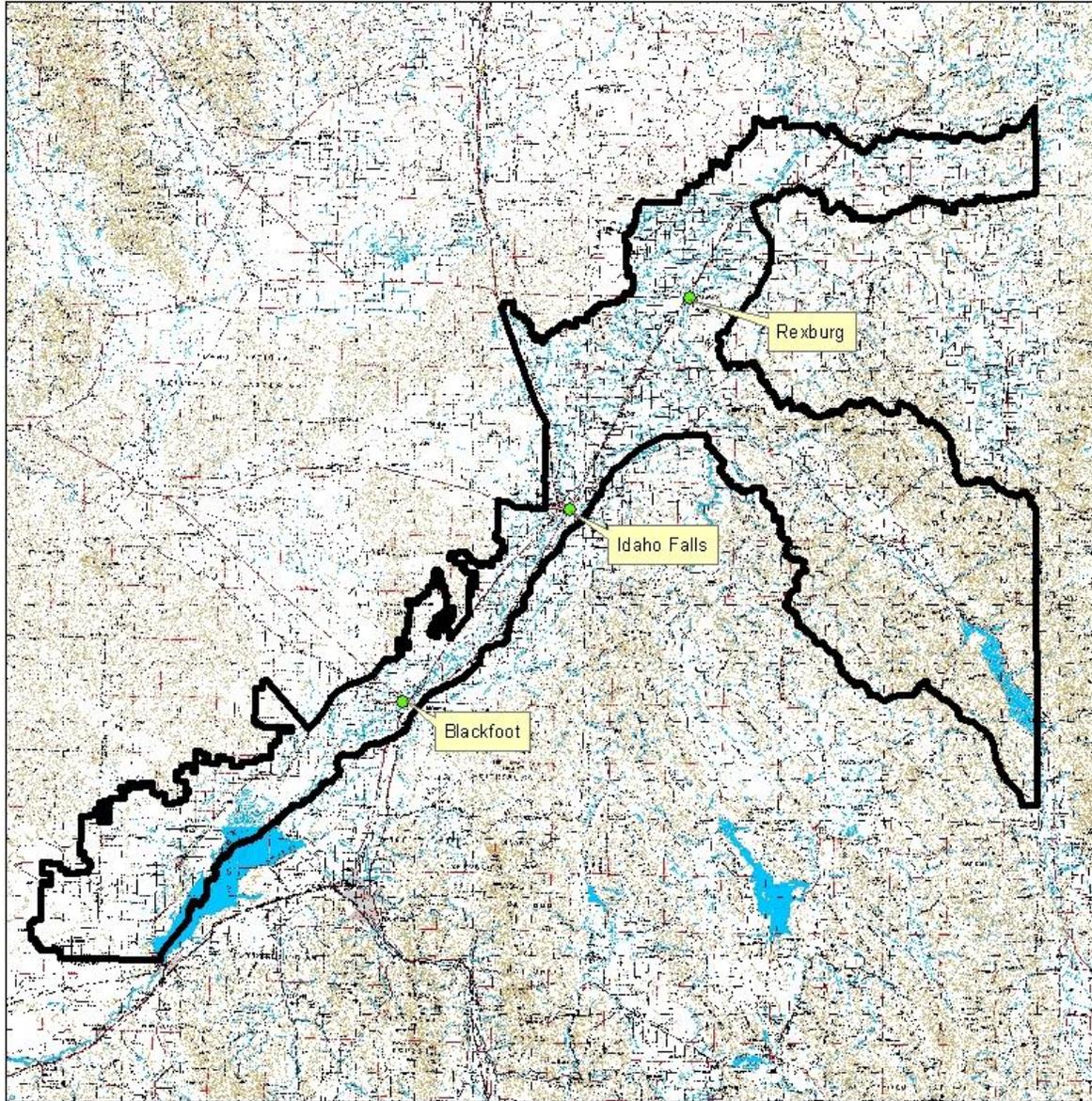
A number of general habitat types or classifications are found across the CIAA. Table 8 list the acres within each cover classification based on the landscape classification map used for the USFO Analysis of Management Situation (AMS).

Table 8 – Habitat Types or Classifications within the CIAA	
Agriculture	653,878 acres
Annual Grasslands	9,685 acres
Bedrock-Cliffs-Scree-Volcanic Rock	11,039 acres
Forest	351,689 acres
Open Water	36,188 acres
Perennial Grasslands	34,546 acres
Riparian-Wetland	30,138 acres
Sagebrush and Desert Shrublands	170,893 acres
Shrublands, including juniper and mountain mahogany	32,159 acres
Urban and Industrial	67,514 acres

Lands with special designations are found throughout the CIAA. The CIAA includes the entire Snake River Islands Wilderness Study Area (WSA) and portions of the Great Rift WSA, Hell's Half Acre WSA, and Sand Mountain WSA. The WSAs cover approximately 2,193 acres of public land within the CIAA. Several Areas of Critical Environmental Concern are found within the CIAA, including the Snake River ACEC, North Menan Butte ACEC, and Nine Mile Knoll ACEC. These ACEC's cover approximately 41,472 acres. Research Natural Areas (RNA) are

also found within the CIAA, including the North Menan Butte RNA, Pine Creek Island RNA, Reid Canal Island RNA, and Squaw Creek Island RNA. The RNAs cover approximately 412 acres within the CIAA.

**Figure 2 - Cumulative Impact Analysis Area**



10 5 0 10 Miles

**Legend**

Snake\_Henrys\_Rivers\_CIAA



No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.

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### *Past and Present Actions*

Past and present actions identified for the area which have impacted the natural environment to varying degrees include agricultural development, infrastructure such as highways and power lines, wildfires, livestock grazing, and recreation development. Table 9 summarizes actions which have occurred within the CIAA based on agency documents and GIS analysis.

Agricultural development has a long history in the CIAA. Though Lewis and Clark first entered, what would later become the state of Idaho, in 1805, settlers were not attracted to the region until the 1880s. There are multiple population centers of varying size within the CIAA. The larger population centers include the cities of Blackfoot, Idaho Falls, and Rexburg with a combined population approaching 100,000. Settlement ranges from low density rural development to high density urban development. The CIAA includes several counties, and typically includes the most densely populated areas. Private property makes up approximately 63% of the land base in the CIAA, and the majority of that property is in agricultural production. Infrastructure development within the valley has increased over time, mostly in the form of conversion to agricultural lands and urban development.

Livestock grazing has a long history in the region, dating back to the settlement of the area in the late 1800s. In the early settlement years, cattle and sheep were raised to supply the surrounding miners and settlers. Within the CIAA, ranching has declined over time since its peak in the early to mid-20<sup>th</sup> century as more lands were devoted to agriculture and urban development. Livestock production associated with BLM lands is a minor economic segment of the CIAA.

Recreation use within the CIAA has increased over time. Recreation use varies from a concentrated to dispersed activity within the CIAA. Multiple developed recreation sites are located within the area, including developed campgrounds and boat launch facilities. Dispersed campsites are found throughout the area as well. Big game and waterfowl hunting, fishing, camping, and motorized vehicle use are the primary recreational pursuits within the CIAA.

Table 9 – Past and Present Actions within the CIAA	
Activity Type	Description
<b><i>Agricultural Development</i></b>	
Lands in agricultural production	653,878 acres
<b><i>Urban Development</i></b>	
Lands developed for residential or industrial uses	67,514 acres
<b><i>Infrastructure</i></b>	
Dams and irrigation diversions	Both Palisades Dam and American Falls Dam influence conditions within the CIAA, along with multiple smaller scale irrigation structures and power facilities.
Roads	4,556 miles ranging from 4-lane interstate to unimproved access routes
Recreation Facilities	Public recreation facilities include multiple boat launch sites, developed parking sites for access to fishing, hunting or hiking locations, and developed and undeveloped campsites. Developed sites are captured within the acreage estimate of urban development above.
Fences	Approximately 240 miles. The vast majority of fencing within the CIAA is associated with private agricultural and urban development and is captured within the acreage estimates for those activities listed above.
Livestock Water Facilities	2 troughs on public lands. Similar to fences, the vast majority of livestock water facilities within the CIAA are found on private property and are captured within the acreage estimates for agricultural and urban development.
<b><i>Fire</i></b>	
Wildfires within the past 30 years	54 fires over a total of 20,292 acres. Wildfire generally occurred in either the American Falls or Swan Valley portions of the CIAA. Wildfires within the CIAA are generally smaller scale, with only 7 of the 54 fires impacting over 500 acres.
<b><i>Non-Native Seedings</i></b>	
Area seeded to non-native species, not included under agricultural or urban development	302 acres
<b><i>Livestock Grazing</i></b>	
Number of Allotments	BLM – 61 active allotments with 16,333 acres 29 vacant allotments with 3,023 acres USFS – 54 active allotments with 317,665 acres 2 closed allotments with 5,779 acres
Condition of Public lands as measured under ISRH	1) 20 allotments meet all standards (5,916 acres) 2) 4 allotments making significant progress toward meeting all standards on 413 of 1,527 acres 3) 36 allotments not meeting standards but not due to current livestock grazing management on 5,320 of 8,156 acres 4) 7 allotments not meeting standards due to livestock grazing on 854 of 1,571 acres. Management changes implemented. 5) 23 allotments vacant allotments not assessed.

### *Reasonable Foreseeable Future Actions*

Reasonably foreseeable future actions include continuation of the past and present actions as described above. The level and character of agricultural development is anticipated to remain consistent into the foreseeable future. Populations within the CIAA are expected to continue to increase over time based on current growth patterns measured in the primary population centers. Populations have increased 7-9% over the past 10 years in Blackfoot and Idaho Falls, while the population of Rexburg has increased by 67% over the same time period. The increase in population will likely result in increased urban development or increased density of existing development within the CIAA. Recreational use is expected to continue to increase over time and the potential exists for development or expansion of recreation facilities on public lands within the CIAA as population growth continues. The level and character of livestock grazing within the CIAA is expected to remain at or near current levels, though livestock grazing of public lands will likely continue to decline, as evidenced by the high ratio of vacant to active allotments relative to surrounding CIAAs within the USFO. Generally, the current operations on public lands within the CIAA are small scale operations where ranch income is not a substantial contributor to the overall income of the operators. The allotments are relatively small acreages, with few AUMs or brief authorized use periods, and access controlled by adjacent private land owner, decreasing the economic viability for incorporation into larger livestock operations. One new action has been identified as reasonably foreseeable. The Mountain States Transmission Intertie (MSTI), a high-voltage power line, may occur in the CIAA within the next ten years. At the current time, three alternative routes are being evaluated and a portion of a proposed route would occur in and adjacent to the CIAA.

### *Impacts Associated with Past, Present, and Reasonably Foreseeable 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 result in direct habitat loss, alteration, and/or fragmentation of the natural environment. Assuming an average impact width of 24 feet relative to roads, 4 feet relative to fences, one-half acre per water development, and including the acres identified as agricultural and urban development, and non-native seedings, approximately 728,438 acres or 52% of the CIAA has been impacted. These actions have altered or removed the native vegetation communities and introduced non-natural elements of form, line, and color that have altered and would continue to alter the characteristics of the visual landscape.

Unmanaged livestock (horses, cows, and sheep) grazing in the first half of the 20<sup>th</sup> century likely resulted in altered ecological conditions along the Henry's Fork and Snake River corridors. Use was historically higher adjacent to available water with limited use in the areas away from springs, creeks, and rivers. As livestock grazing became more carefully managed in the areas, the ecological health of the rangelands and riparian areas improved. As a large portion of the CIAA is private lands, much of the early impact of unmanaged livestock grazing were in areas currently in agricultural or urban development. The condition of the vegetation communities on public lands authorized for grazing within the CIAA have all been assessed through ISRH. Of the approximately 19,356 acres of BLM within authorized grazing allotments, only 854 acres or

4% were determined to not be meeting all applicable standards and livestock grazing was identified as a contributing factor.

Ute ladies-tresses is a native orchid which is currently listed as Threatened under the Endangered Species Act (ESA). Ute ladies-tresses distribution is discontinuous within Idaho, Colorado, Montana, Nebraska, Nevada, Utah, Washington, and Wyoming. It is the only plant species within the CIAA listed under ESA and occurs along the Henry's Fork and Snake River. The orchid does not occur with the Little Kelly Canyon Allotment. The timing and level of peak river flows controlled by Palisades Dam is the primary driver in influencing habitat conditions for this species within the CIAA. Other impacts may include loss of wetland habitat to development, authorized livestock use in orchid habitat in the summer when flower stalks are elevate and vulnerable to grazing, and recreation impacts such as OHV use in riparian areas. The majority of the known locations of Ute ladies-tresses within the CIAA are on public lands. Both authorized livestock grazing and recreation uses are regulated in Ute ladies-tresses habitat to manage impacts. Following consultation on the 2006 update of the Snake River Activity Plan, which describes both livestock and recreation impacts within a portion of the CIAA, the U.S. Fish and Wildlife Service concurred with the finding of "may affect, but not likely to adversely affect" for Ute ladies-tress.

Activities that occur on public and private lands, such as agricultural practices; infrastructure development; recreational use such as camping, hunting, and ATV use; and livestock grazing management affect wildlife use patterns, the quantity and quality of habitats, and population health. Many species of wildlife including birds, bears, and big game require large intact habitats for their continued survival. Development of infrastructure and conversion of native habitats fragment the landscape reducing their value for some species, though other species may benefit from such development. While many wildlife species are mobile and have general habitat needs which may be meet under combination of the cover types or activities in the CIAA listed in Table 13, several species of concern have more restrictive habitat requirements.

Bighorn sheep habitat, as identified and mapped by IDFG, occurs on approximately 163,735 acres the Big Hole Mountains located in the northern portion of the CIAA. The majority of this habitat is found on USFS lands administered by the Palisades Ranger District, with a minor amount, approximately 1,957 acres or 1%, on BLM administered lands. Habitats are generally intact, with a relatively small amount of infrastructure development in place relative to the CIAA. Approximately 42,815 areas within the CIAA are within the current grizzly bear Distribution Area, which overlaps directly with 29,822 acres identified as suitable for grizzly bear. These areas occur in the northeast corner of the CIAA, in the Falls River area adjacent to Wyoming and are found on both USFS and private lands. Similar to bighorn sheep, the habitats identified as suitable or distribution area is largely intact with relatively little infrastructure development.

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 (*Centrocercus urophasianus*) 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).

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 94,859 acres of PPH within the 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 PPH (Makela and Major 2011). There are approximately 12,064 acres of PGH within the CIAA. Both PPH and PGH are generally located in the northern portion of the CIAA and west of Highway 20. Sage-grouse Key Habitat is generally large-scale intact sagebrush steppe areas which provide potential habitat for sage-grouse (Sather-Blair et al. 2000). There are approximately 74,763 acres of Key Habitat within the CIAA, which generally overlaps with PPH/PGH habitat. Restoration Type 1 Habitat (R1) is sagebrush limited areas which maintain understory conditions similar to Key Habitat (Sather-Blair et al. 2000). The R1 Habitat includes native and non-native perennial grasses and are areas identified for protection or treatment to encourage sagebrush recruitment. There are approximately 11,466 acres of R1 Habitat which is generally located in the southern portion of the CIAA, along the west edge of the CIAA boundary opposite American Falls Reservoir. Table 10 summarizes impacts within PPH and PGH areas based on the actions identified in Table 8 above. The calculation of area impacted by various infrastructures uses the assumptions listed above. The area impacted by livestock grazing is a summary of the acres not meeting standards due to livestock grazing within the PPH and PGH within the CIAA.

Table 10 – Influence of Identified Actions on Sage Grouse PPH and PGH

	<b>PPH Acres Affected</b>	<b>% of PPH Acres Affected</b>	<b>PGH Acres Affected</b>	<b>% of PGH Acres Affected</b>
<b>Agricultural Development</b>	43,319	46%	8,630	72%
<b>Urban Development</b>	3,638	4%	380	3%
<b>Infrastructure</b>	907	<1%	98	<1%
<b>Wildfire</b>	489	1%	0	0%
<b>Non-Native Seedings</b>	0	0%	0%	0%
<b>Livestock Grazing</b>	110	<1%	0	0%

The conversion of native habitat to agricultural production is the largest action influencing both PPH and PGH within the CIAA. 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 may directly affect sage-grouse habitats by removing vegetation (foraging) or changing species composition under poor management practices (Connelly and Braun 1997). Livestock grazing has influenced habitat conditions relative to sage-grouse habitat requirements on less than one percent of the PPH/PGH area.

Actions which have influence sage-grouse habitat are likely to continue at current levels. One foreseeable action is implementation of the MSTI power-line. new primary threats such as conversion of sage-grouse habitat for agriculture or urbanization, or infrastructure (roads, power lines, energy development, etc.) are proposed on public lands in the CIAA. In addition, no such plans or proposals are identified for nearby lands under other ownership (private, NPS, DOE or State of Idaho lands) in the CIAA. Invasive species and wildfire continue to be threats that cannot be anticipated in frequency or intensity. Impacts associated with wildfire are likely to continue to be the greatest threat to sage-grouse populations in the CIAA. Managing for healthy habitats in the CIAA provides the most protection against invasive species and resiliency to disturbances such as wildfire. PPH are comprised of areas that have the highest conservation value for maintaining sustainable sage-grouse habitats. Additional disturbances (e.g. new infrastructure development) are less likely to be implemented in PPH areas without adequate mitigation in the future (BLM 2011).

#### *Alternative A*

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 no infrastructure development associated with livestock use would be constructed. The number of road miles within the area would not increase as a result of implementing Alternative A. The amount of suitable habitat for plant and wildlife species, including special status species that occur in the CIAA would remain the same.

#### *Alternative B*

Alternative B would contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions similar to Alternative A.

#### *Alternative C*

Alternative C would not contribute to the collective impact associated with past, present and reasonably foreseeable future actions.

## CHAPTER 5 – SUMMARY AND CONCLUSIONS

The assessment indicates that Alternative A would continue to meet standards 1, 4 and 8 and would continue to make progress towards meeting standard 2. The allotment would not meet standards 3 and 7; however the primary factors contributing to the failure to meet these standards does not include livestock grazing. Rather, a recent debris flow in 2011 following rapid snow melt and an associated down-cut through the Kelly Canyon Ski Hill parking lot located upstream of the allotment were identified as the primary factor in failing to achieve these standards.

The assessment indicates that impacts under Alternative B would be similar, though slightly reduced, compared to Alternative A. Under Alternative B, the lower reach of Little Kelly Creek would receive limited livestock use due to the restricted duration of livestock use. In addition, due to the change in %PL, recognizing that private property within the allotment contributes forage at a rate equal to public land; eight fewer cattle would be authorized to graze the allotment compared to Alternative A. This adjustment in %PL and subsequent reduction in authorized livestock numbers would result in a small economic impact on the lessee. The forage substitution cost to the operator may range from \$158 to \$1,381 annually to maintain these eight cattle no longer authorized for six weeks in the spring on the allotment. If the herd size is reduced as a result the adjustment, the decreased gross revenue for the operators through herd reductions would range from approximately \$1,050 to \$1,540 annually.

Similar to Alternatives A and B, the assessment indicates that under Alternative C, the habitat conditions currently found in the allotment would be maintained in similar condition. The presence of cheatgrass may expand over time in the allotment in the absence of spring grazing use. Riparian vegetation would continue to improve on the allotment, and progress toward meeting the standard on those reaches which have not achieved PFC would occur more rapidly than under Alternatives A and B. Livestock are a minor contributing factor to the current condition of floodplain areas and associated water quality and the allotment would not be expected to achieve standards 3 and 8 in the near future with the removal of livestock use. Under Alternative C the allotment would not be authorized for livestock use for the next 10 years. The forage substitution cost to replace 121 AUMs would range from approximately \$1,361 to \$11,367 annually. If the herds are reduced as a result of decreased forage availability, the decreased gross revenue for the operators through herd reductions would range from approximately \$9,075 to \$13,310 annually. Without additional fencing or continuous herding, it is unlikely that the operator would be able to utilize the private property within the allotment during the 10 year period, further reducing impacting economic and social values.

## **CHAPTER 6 - CONSULTATION AND COORDINATION**

### **Persons and Agencies Consulted**

Theron McGarry – Lessee  
Idaho Department of Fish and Game  
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

### **List of Preparers**

Devin Englestead: Migratory Birds/Wildlife Resources/Threatened, Endangered, and Sensitive  
Animals  
Jordan Hennefer: Economic and Social Values/Invasive Non-Native Species/Vegetation  
Dan Kotansky: Floodplain/Water Quality  
Brandy Janzen: Soils  
Deena Teel: Riparian and Wetlands/Areas of Critical Environmental Concern

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## APPENDIX A – DETERMINATION DOCUMENT – LITTLE KELLY CANYON ALLOTMENT

### SECTION 1 – 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.**
- 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 – MAKE A 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).

Climate change and fluctuations may have impacted conditions on public lands in the area to a degree however, sufficient data on site-specific changes are not available. Wildlife utilize habitat provided on the public lands within the area for forage and cover. Recreation use is concentrated in the area in response to a trailhead parking area and designated trail which follows Little Kelly Canyon Creek through the allotment. Both wildlife and recreation uses are additional vectors in the movement and potential establishment on non-native, invasive plant species. A portion of the public lands were substantially altered in the past when the route up Little Kelly Canyon Creek was used by vehicles to reach the bench lands above the public lands. These bench lands continue to be utilized for agriculture, though over access routes have been developed and the old road has narrowed to a trail utilized by hikers, horseback riders, and bike riders, as well as some motorized use.

The Kelly Canyon Ski Hill is located upstream of the allotment. The parking lot for the ski hill is located within a small widening of the canyon. Fill material was placed over the historic channel of Kelly Canyon Creek, and a drainage area for the creek moved to the edge of the lot. In the spring of 2011, rapid warming temperatures resulted in the existing snowpack melting off quicker than normal. The increased flow of the watershed was beyond the carrying capacity of the small relocated channel and the flows downcut through the ski hill parking lot, relocating substantial material downstream, resulting in

alteration of the floodplain and deposition of materials in the floodplain of Kelly Canyon Creek within the Little Kelly Canyon Allotment.

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:

Standards 3 and 7 of the Idaho Standards of Rangeland Health were identified as not being met or making significant progress towards being met within the allotment. The accumulation of materials resulting from the 2011 runoff event was the significant factor in failing to achieve the standards. The public lands in the allotment lie primarily along Little Kelly Canyon Creek. There was no measurable runoff event from this drainage under the same conditions in 2011 that resulted in the down-cutting through the ski hill parking lot, suggesting that livestock grazing is maintaining sufficient vegetative cover to limit erosive forces, contributing little to the impacts on standards 3 and 7.

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

3. Date determination is made and signature of authorized officer

/s/ Jeremy Casterson  
Authorized Officer Date

6/3/2013  
Date