ENVIRONMENTAL ASSESSMENT

GRAZING PERMIT RENEWAL FOR SUNDOWN AND LONGHURST ALLOTMENTS

EA #ID-310-2009-EA-3597

BUREAU OF LAND MANAGEMENT

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April 2009

CHAPTER 1. INTRODUCTION:

1.1 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. The BLM issues grazing permits for a term not to exceed 10 years.

The Sundown Allotment totals 640 acres which consists of 320 acres of BLM land and 320 acres of private land. There is one permittee in the allotment authorized to graze 76 cattle animal unit months (AUMs) from June 1st to October 31st.

The Longhurst Allotment totals 40 acres of BLM land entirely surrounded by private land. There is one permittee authorized to graze 10 cattle AUMs from May 10th to October 15th.

1.2 Purpose and Need for the Proposed Action

The Medicine Lodge Resource Management Plan (RMP) identifies the Sundown and Longhurst Allotments as available for domestic livestock grazing. Where consistent with the goals and objectives of RMPs, and Idaho's Standards and Guidelines for Grazing Management (1997), it is BLM policy to authorize allocation of forage for livestock grazing to qualified operators. The purpose of the proposed action is to authorize livestock grazing consistent with BLM policy and in a manner that maintains or improves project area resource conditions and achieves the objectives and desired conditions described in the Medicine Lodge RMP. The analysis and authorization are needed because the permittee has requested changes from the terms and conditions outlined in the existing permits.

The Determination for the Longhurst Allotment found that all of the applicable Idaho Standards for Rangeland Health were being met.

There are indications that the Sundown Allotments are not meeting standards under the terms and conditions of the permit. The determination for the Sundown Allotment dated February 25, 2009 identifies the following Idaho Standards for Rangeland Health as not being met not due to current livestock grazing:

- *Standard 7 (Water Quality) and Standard 8 (Threatened and Endangered Plants and Animals) are not being met, but not due to current livestock. Both water quality indicators and Yellowstone Cut Throat (YCT) habitat requirements are not being met due to the development of numerous beaver dams on Hell Creek.*

1.3 Location

The Sundown Allotment is located at Boise Merdian, Township 1 South, Range 42 East, Section 18 in Bonneville County, Idaho. The Sundown Allotment lies approximately 25 miles southeast of Idaho Falls, Idaho (Figure 1).

The Longhurst Allotment is located at Boise Merdian, Township 1 South, Range 41 East, Section 11 in Bonneville County, Idaho . The allotment lies approximatley 24 miles southeast of Idaho Falls, Idaho (Figure 1).

1.4 Conformance with Applicable Land Use Plan

The Proposed Action and alternatives have been reviewed for conformance with the Medicine Lodge Resource Management Plan (1985).

The proposed action is in conformance with the applicable LUP because it is specifically provided for the following Medicine Lodge RMP**:**

- Livestock Management: Provide 100,449 AUMs of livestock forage. Approximately 621,000 acres of public land and 125,026 acres within the INEL boundary would be included in grazing allotments. Average stocking rate would be 7.4 acres per AUM.

  The objective of Alternative C (RMP) would be to maintain or improve existing perennial forage plants, maintain soil stability, stabilize areas currently in downward trend, and increase availability of perennial forage plants.

- All grazing allotments in the resource area have been assigned to one of three management categories based on present resource conditions, the potential for improvement and management objectives. The M (Maintain) allotments generally will be managed to maintain current satisfactory resource conditions; I (Improve) allotments generally will be managed to improve resource conditions; and C (Custodial) allotments will receive custodial management while protecting existing resource values.

1.5 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. In addition to these rights, the Shoshone Bannock have the right to graze tribal livestock and cut timber for tribal use on those lands of the original Fort Hall Reservation that were ceded to the federal government under the Agreement of February 5, 1898, ratified by the Act of June 6, 1900.

Under this treaty and those agreements, 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 43 Code of Federal Regulations: 4100. The purpose is to provide uniform guidance for administration of grazing on public lands.

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

The Determination for the Sundown Allotment found that Standards 1, 2, 3, and 4 are being met and Standards 7 and 8 are not being met but current livestock grazing management is not a significant factor. The water quality and Yellowstone Cut Throat (YCT) habitat requirements are not being met due to the development of numerous beaver dams on Hell Creek. Livestock management practices in the Sundown Allotment conform to all applicable Idaho Guidelines for Livestock Grazing Management. Standards 5 and 6 do not apply to this allotment.

The Determination for the Longhurst Allotment found that Standards 1, 4, and 8 are being met. Livestock management practices in the allotment conform to all applicable Idaho Guidelines for Livestock Grazing Management. Standards 2, 3, 5, 6, and 7 do not apply to this allotment.

1.6 Public Contact and Issue Identification.

In the spring of 2008, the Upper Snake Field Office sent letters to permittees, interested publics, and other agencies inviting them to participate in the field assessments. In November of 2008, allotment assessments were sent to the aforementioned parties requesting comments and additional data. In February of 2009, the allotment determination, proposed action, and alternatives were sent to the aforementioned, and they were asked to identify issues and alternatives. Comments were received from the permittee and Idaho Department of Fish and Game. Their comments were considered in the analysis.

CHAPTER 2. PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A (Proposed Action) – Issue Modified Grazing Permit

The permittee has requested some changes; therefore, the Upper Snake Field Manager would authorize continued grazing within the Sundown Allotment with changes that are discussed below. All of the land use plan's Standard Operating Procedures pertaining to authorizing livestock grazing would apply.

Alternative A includes the following modifications:

1. Combine Sundown Allotment and Longhurst Allotment into one allotment called Sundown Allotment (Figure 2).

2. Change the season of use in the individual allotments: Sundown Allotment current season use is 6/1 – 10/31 and Longhurst Allotment current season use is 5/10 – 10/15. The combined season of use in the new Sundown Allotment would be 7/1 – 10/31

3. Incorporate an adjacent private pasture and incorporate a three pasture deferred rotation. The three pastures will be called the West Pasture, the Dalton Hill Pasture and the Skyline Pasture. The old Sundown Allotment would be located in the Skyline Pasture, while the old Longhurst Allotment would be located in the Dalton Hill Pasture (Figure 2).

4. Setup a three pasture deferred grazing rotation. The rotation would be repeated after the second year.

PASTURE	2009	2010
DALTON HILL	7/1 – 7/31	8/16 – 9/15
SKYLINE	8/1 – 9/15	9/16 – 10/31
WEST	9/16 – 10/31	7/1 – 8/15

5. Change the allotment from Custodial to Active.

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

Allotment Name	Lvstk#	Lvstk Kind	Begin	End	%PL	Type of Use	AUMs
Sundown	236	Cattle	7/1	10/31	9%*	Active	86

%PL (Percent Public Land)

* The permittee is recognized for 868 AUMs for controlling 3,473 acres of unfenced private land within the allotment boundary. The 868 AUMs are reflected in the reduced Percent Public Land (%PL) figure.

2.2 Alternative B - Issue Unmodified Grazing Permits

Under Alternative B, the Upper Snake Field Manager would authorize continued grazing within the Sundown and Longhurst Allotments. The permit would be reissued at the same AUM preference level, season of use.

1. Permitted livestock use within the Sundown Allotment would be as follows:

Allotment Name	Lvstk#	Lvstk Kind	Begin	End	%PL	Type of Use	AUMs
Sundown	145	Cattle	6/1	10/31	100%	Custodial	76

%PL (Percent Public Land)

2. Permitted livestock use within the Longhurst Allotment would be as follows:

Allotment Name	Lvstk#	Lvstk Kind	Begin	End	%PL	Type of Use	AUMs
Longhurst	140	Cattle	5/10	10/15	100%	Custodial	10

%PL (Percent Public Land)

2.3 Additional Terms and Conditions Common to all Alternatives

The following additional Terms and Conditions would be followed, in accordance with 43 CFR 4130.3-2, to assist in achieving management objectives for the allotments.

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 escap ramps are the responsibility of the permittee.

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

3. Upon prior approval from the Upper Snake Field Office, the permittee may be authorized to run more livestock for a shorter period of time within the authorized season of use and authorized AUMs.

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

2.4 Management Indicators Common to all Alternatives

The following Management Indicators identify applicable monitoring methods and objectives, to be used to ensure that the allotment continues to meet Idaho Standards for Rangeland Health.

1. Upland Utilization – Utilization studies would be conducted using approved BLM methods in key upland areas and use areas would be mapped by pasture. Average utilization would be no more than 50% of the annual growth of available forage species. Heavy uses areas (61-80% utilization of the annual production of available forage species) would be limited to 15% of the suitable acreage in each pasture.

2. Browse Utilization - Average utilization of key shrubs would be no more than 30% utilization of the annual production of available species at the end of the grazing season as measured using approved BLM browse utilization method.

3. Upland Trend – Trend studies would be conducted in the uplands using approved BLM methods in key areas. One photo plot would be established at each key area. Long term trend studies would be conducted using approved BLM methods.

4. Lotic Stubble Height –Stubble height will be measured using approved BLM methods along streams within the allotment with an objective of achieving an average stubble height of no less than 4 inches at the end of the growing season.

5. Lentic Stubble Height –Stubble height will be measured using approved BLM methods at springs and seeps within the allotment with an objective of achieving an average stubble height of no less than 4 inches at the end of the growing season.

6. Riparian Condition – Functioning condition of riparian areas would be assessed using riparian health assessments to determine proper functioning condition (PFC). 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).

7. Sage Grouse Habitats – Grazing use levels in pastures with key sage grouse habitat would be monitored to evaluate if the grazing system is maintaining vegetative characteristics needed for suitable habitat in accordance with the East Idaho Uplands Sage Grouse Local Working Group's Plan for Increasing Sage Grouse Populations and the 2006 Conservation Plan for Greater Sage Grouse in Idaho.

2.5 Alternatives Considered but not Further Analyzed

2.5.1 No Livestock Grazing.

Under a no grazing alternative, the Upper Snake Field Manager would discontinue livestock grazing in the allotment. The BLM would allow current permit for the permittee currently using the allotment to complete his term in the allotment. A no livestock grazing alternative was not analyzed because its implementation would not meet the underlying purpose and need for the action.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 General Setting

The majority of the Sundown Allotment is on a 20 to 30 percent west facing slope. One mile of Hell Creek flows through BLM land. The Longhurst Allotment is located on a southeast facing slope. The average elevation in both of these allotments is 6,500 feet above sea level. The average annual precipitation in the area is approximately 16 to 22 inches with the approximately half of the moisture occurring during the plant growth period of May to September.

3.2 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 Proposed Action and alternatives (Table 1). Only those resources that would present and impacted are discussed in the following narratives.

1 refers to the Sundown Allotment
2 refers to the Longhurst Allotment

Table 1. Resources Considered in the Impact Analysis*.				
Resource	Not Present	Present Not Impacted	Present Impacted	Rationale
Access		1,2		The proposed action and alternative would not result in changes in access to the area.
Air Quality		1,2		The implementation of the proposed action and alternative would not result in the production of emission or particulate matter above incidental levels.
Areas of Critical Environmental Concern (ACEC's)	1,2			The proposed project area is not located within or near an ACEC.
Cultural Resource		1,2		The locations of cultural resources within the allotment do not coincide with areas of high or intensive livestock use.
Economic and Social Values		1,2		The proposed action and alternative are consistent with the prevalent economic and social values characteristic of this area.
Environmental Justice	1,2			There are no minority or low income populations residing near the proposed project area.
Existing and Potential Land Uses		1,2		The proposed action and alternative would not affect the study areas current and likely future use as a grazing allotment.
Fisheries	2		1	There are no fisheries within the Longhurst Allotment, but impacts for the Sundown Allotment are disclosed under Environmental Consequences.
Floodplains	2		1	Impact for the Sundown Allotment are disclosed under Environmental Consequences
Forest Resources	1,2			There are no forest resources in the project area.
Invasive, Non-Native Species		1,2		The proposed action and alternative are not likely to contribute to the introduction and spread of invasive, non-native species. The Upper Snake Field Office is monitoring and aggressively treating noxious weed infestations to minimize the spread of weeds into new areas.
Mineral Resources	1,2			There are no mineral resources known to exist in the project area.
Migratory Birds		1,2		Livestock have the potential to disturb nesting or foraging bird species. However, the proposed action or alternative are not likely to result in a loss of species viability range-wide, nor would it cause a trend toward federal listing of any species.
Native American Religious Concerns	1,2			There are no known ceremonial sites or resources associated with ceremonial practices in the proposed project area.
Paleontological Resources	1,2			There are no paleontological resources located in the area.
Prime and Unique Farmlands	1,2			There are no prime or unique farmlands located within or near the proposed project area.
Soil Resources			1,2	Impacts are disclosed under Environmental Consequences
Threatened, Endangered, and Sensitive Plants	1,2			There are no threatened, endangered, and sensitive plants located with the proposed project area

Table 1. Resources Considered in the Impact Analysis.(Cont.)*				
Resource	Not Present	Present Not Impacted	Present Impacted	Rationale
Threatened, Endangered, and Sensitive Animals			1,2	Impacts are disclosed under Environmental Consequences
Threatened, Endangered, and Sensitive Fish	2		1	Impacts for the Sundown Allotment are disclosed under Environmental Consequences.
Tribal Treaty Rights and Interests		1,2		The proposed action 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.
Range Resources			1,2	Impacts are disclosed under Environmental Consequences
Recreational Use		1,2		The proposed action and alternative would not affect recreational use in the allotment or area.
Vegetation			1,2	Impacts are disclosed under Environmental Consequences
Visual Resources		1,2		No actions that could affect the visual elements of the characteristic landscape are being proposed. The Proposed Action and alternatives are consistent with VRM Class II management objectives.
Wastes, Hazardous and Solid	1,2			There are no solid or hazardous wastes in the project area and none would be created during the implementation of the proposed action or alternative.
Water Quality (Surface and Ground)	2		1	Impacts for the Sundown Allotment are disclosed under Environmental Consequences
Wetland and Riparian Zones	2		1	Impacts for the Sundown Allotment are disclosed under Environmental Consequences
Wild and Scenic Rivers	1,2			There are not wild and scenic rivers near the project area.
Wild Horse and Burro HMAs	1,2			There are no wild horse and burro HMAs in the region.
Wilderness	1,2			There are no wilderness areas or WSAs within or near the proposed project area.
Wildlife Resources			1,2	Impacts are disclosed under Environmental Consequences

3.2.1 Floodplain

This allotment includes two reaches of Hell Creek (upper and lower, 0.5 miles each). Both reaches were rated for channel and floodplain characteristics in July 2008 and found to be in proper functioning condition (PFC). When these reaches were assessed in 2004, channel and floodplain characteristics rated PFC for the upper reach and functional-at-risk (FAR) for the lower reach. Both reaches were in an upward trend in 2008.

The upper reach had 95 to 100 percent streambank stability, little bare ground, no structural alterations and no channel incisement. This stream reach was entirely inundated by active beaver ponds and dams, with a rising water table increasing the width, height and vigor of riparian/wetland vegetation. Willow cover is very dense, with sedge and rush present where willow was absent. There was a lot of willow regeneration. No channel incisement is occuring, and the dams and ponds are resulting in aggradation.

The lower reach also had a thick cover of willow with sedge, rush and other herbaceous species present. The beaver dams, however, were older and many were breached, leaving small flow channels inside widened, pond areas. Streambank stability was 85 to 90 percent. A lot of woody regeneration is occurring in the lower channel inside the old ponds.

Numerous water developments on adjacent private land have been utilized by the livestock permitted in the Sundown Allotment for the last several years. The addition of these water developments has resulted in less reliance on the streams, and has thus been instrumental in the recent improvements in the condition of the stream channels and floodplains.

3.2.2 Fisheries / Threatened, Endangered, Sensitive Fish

Hell Creek is the only stream in the allotment that is capable of sustaining a fish population. The most recent fish population survey on Hell Creek was conducted in 2001 by the Idaho Dept. of Fish and Game. They sampled three reaches of the stream two on private property and one on public land and did not sample any species of fish.

Table 2 - Special Status Species and Occurrence within Sundown and Longhurst Allotments

Species	Status[a]	Occurrence	Rationale
Yellowstone Cutthroat *(Oncorhynchus clarki bouvieri)*	S	Potential	Potential Habitat

a. Status codes: T=Federally threatened species; EXP=Experimental, non-essential population; S=BLM sensitive species; M=State of Idaho monitor species

Historically Hell Creek was inhabited by the same species found in other streams in the Willow Creek watershed. These include the following native species: Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*), Utah sucker (*Catastomus ardens*), mountain sucker (*Catastomus platyrhynchus*), longnosed dace (*Rhinichthys cataractae*), speckled dace (*Rhinicthys osulus*), redside shiner (*Richardsonius balteatus*), and mottled sculpin (*Cottus bairdi*), In addition rainbow trout (*Oncorhynchus mykis*) and brown trout (*Salmo trutta*) were stocked in system.

These species are found in streams with the following habitat characteristics: well–oxygenated water; clean, well–sorted gravels with minimal fine sediments for successful spawning; temperatures greater than 21 Celsius (greater than70 Fahrenheit), and a complexity of instream habitat structure such as large woody debris and overhanging banks for cover.

Due to past agricultural and grazing practices in the surrounding watershed, the stream bed has a high sediment load. Increased sediment in conjunction with the large number of active beaver dams have restricted the amount of spawning habitat within the section of Hell Creek within the allotment. When the assessment of the allotment was done in late July 2008 water temperature at mid day was 19° C. This is within the range of acceptable temperature.

Yellowstone cutthroat trout are a BLM special status species. They are listed by BLM as a Rangewide/Globally Imperiled Type 2 Species. This particular designation is defined as, a "species that is experiencing significant declines throughout their range with a high likelihood of being listed in the foreseeable future due to their rarity and/or significant endangerment factors."

3.2.3 Soil Resources

Two major soil series dominate the Sundown and Longhurst Allotments. The Paulson soil series is found on gently to moderately sloping alluvial fans and valley filling sideslopes. The Paulson soil series is very deep, well drained, silt loam. This type of soil exhibits moderately slow permeability rates. The vegetation found in this series is dominated by bluegrass (*Poa* spp.). The other major series found in both allotments is the Nielsen series. This series is found on ridges and mountain sideslopes. The Nielsen series is a shallow, well drained, loam that had moderate to moderately slow permeability rates. Nevada bluegrass (*Poa secunda*), Columbia needlegrass (*Achnatherum nelsonii*), rabbitbrush (*Chrysothamnus* spp.), and big sagebrush (*Artemisia* spp.) are the dominant vegetation on this particular soil series (Bonneville Soil Survey, 1978).

Rangeland erosion on these allotments is estimated to be less than five tons/acre/year, except for areas with sparse vegetation such as roads, livestock trails, and canyonsides. The soil surfaces on the Sundown and Longhurst Allotments have sufficient vegetative cover to protect against wind and water erosion.

3.2.4 Range Resources / Vegetation

Range condition or ecological condition is a way of determining departure from Potential Natural Community (PNC). The PNC condition class represents 76-100 percent of the species composition by weight of the climax community. Late seral condition represents a slight departure from climax at 50-75 percent, mid seral condition is 26-50 percent of climax, and the early seral condition represents the most removed from climax at 1-25 percent. Disturbance in the past and present such as wildfire can cause a shift in the ecological condition. The BLM manages for healthy rangeland communities that will benefit the various plant and animal resources associated with the communities as well as the levels of microbiotic crusts.

The following upland plant species are the ones most likely to be directly affected by livestock grazing: western wheatgrass (*Pascopyrum smithii*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Junegrass (*Koeleria macrantha*), Idaho fescue (*Festuca idahoensis*), Nevada bluegrass (*Poa nevadensis*), Kentucky bluegrass (*Poa pratensis*), Sandberg's bluegrass (*Poa secunda*), and Columbia needlegrass. Many annuals and perennial forbs are present and may receive grazing pressure.

Mountain big sagebrush / bluebunch wheatgrass (*Pseudoroegneria spicata*) is the major ecological site found in the Sundown and Longhurst Allotments. Approximately 55 to 65 percent of the composition by weight on this ecological site is dominated by grasses, 15 to 25 percent by forbs, and 15 to 25 percent by shrubs. The optimum growth period for the native vegetation begins in early May and continues until mid August. Field assessments were conducted in the allotments and the Determinations of Achieving Standards for Rangeland Health for the Sundown and Longhurst Allotments showed that Standard 4 (Native Plant Communities) was being met.

Noxious and invasive weeds are known to exist in the Sundown and Longhurst Allotments, as well as, the surrounding areas. Canada thistle (*Cirsium arvense)* exists along Hell Creek, while small pockets of cheatgrass (*Bromus tectorum*) have been observed in the uplands. When noxious weeds become established, they can dominate a site and reduce vegetative diversity. While noxious weed establishment is difficult to prevent, BLM monitors and aggressively treats noxious weed infestations to minimize the spread of weeds into new areas.

3.2.5 Water Quality

Hell Creek is on the Idaho Department of Environmental Quality (DEQ) 303(d) list of water quality-limited streams, listed for nutrients and sediment. Hell Creek was assessed by BLM on July 29, 2008. The following standard indicators were rated "at risk": beneficial uses, water temperature, excess nutrient, sediment as surface fines and macroinvertebrates. Turbidity, dissolved oxygen and best management practices (BMP's) were rated "plus." The cause of the "at risk" ratings were mostly the breached and semi-eroding beaver dams along the lower reach, rendering the ponds vulnerable during high flow event to carry high sediment loads. This condition affects water temperature by exposing more water surface to solar radiation and affects macroinvertebrates by providing too much fine sediment. Water temperature was measured at 19º C at 1230 hours. Full beaver ponds upstream with active dams also add thermal energy to the stream by the increased water surface for solar radiation. A lot of mayflies were observed on the upper reach with full beaver ponds, while fewer were seen on the lower reach.

3.2.6 Wetlands and Riparian Zones

Hell Creek

Approximately 1 mile of Hell Creek flows through the Sundown Allotment, forming about 10 acres of riparian vegetation. In 1999, the health of Hell Creek was assessed in two reaches. The riparian vegetation on the upper reach was found to be in FAR, while the lower reach was in nonfunctional (NF) condition. In 2004, both reaches were in FAR condition and in an upward trend. In 2008, both reaches continue the upward trend with PFC vegetation in the upper reach and high FAR scores in the lower reach.

The upper reach is affected by beaver activity. A series of ponds and dams are present throughout the area, which have raised the water table. The raised water table is resulting in greatly increased width, height, and vigor of the riparian vegetation. A dense willow (*Salix* spp) dominated community is accompanied by sedge (*Carex* spp) and rush (*Juncus* spp) in the few spaces where willow is absent, and aquatic vegetation is present on the upper ends of the beaver ponds. Establishment of young willows makes up more than 15 percent of the willow canopy, and less than 5 percent of the willows are dead or dying. Light browse utilization on the willows is primarily attributed to wildlife use. Very few undesirable species are present, as less than 1 percent of the site is occupied by Canada thistle.

The lower reach of Hell Creek has a dense, vigorous cover of willow along with sedge, rush, redtop (*Agrostis stolonifera*), Kentucky bluegrass, dandelion, white clover (*Trifolium repens*), geranium (*Geranium* spp), and Canada thistle. Although 95 percent of the area is vegetated, 10 to 15 percent is occupied by Canada thistle, and 20 to 25 percent is comprised of Kentucky bluegrass, geranium, clover, and dandelion. Young willow make up about 10 percent of the overall willow canopy, and browse utilization was slight.

Lentic (still water) wetland areas:

Hell Creek Tributary #1

In 1999, Hell Creek Tributary #1 was initially as a lotic system in NF condition. However, it is currently a series of 3 to 4 inactive beaver dams with ponded water and a few short reaches of water, separated by several long, dry reaches. Therefore, the area was assessed as a proper functioning lentic site in 2008. The wetland areas are dominated by willow, sedge, rush, western serviceberry (*Amelanchier alnifolia*), quaking aspen (*Populus tremuloides*), timothy (*Phleum* spp), and Canada goldenrod (*Solidago canadensis*). The area varies from sedge and rush-dominated wet meadows at the ponds to willow-dominated reaches and spring complexes. The beaver dams are primarily constructed out of old aspen trees. Nearly 100 percent of the area is vegetated, and almost all plant cover is comprised of desirable riparian species. Less than 1 percent of the site is occupied by Canada thistle and bull thistle (*Cirsium vulgare*). About 10 percent of the willow canopy is represented by seedlings and saplings. Slight browse utilization by both livestock and wildlife is evident, and no dead or dying shrubs were noted. About 5 percent of the physical site is altered by light trailing and trampling.

Hell Creek Tributary #2

Hell Creek Tributary #2 was originally assessed as a NF lotic system in 1999, but it is actually a series of intermittent springs, and was thus assessed in 2008 as a PFC lentic system. This lentic site is similar to Hell Creek Tributary #1 in plant composition and soil/hydrology characteristics. Two large ponds at the upper end are a result of past beaver activity; no recent beaver activity was observed. Nearly 100 percent of the area is vegetated, with less than 1 percent occupied by Canada thistle, and 15 percent occupied by Kentucky bluegrass, timothy, dandelion, and strawberry (*Fragaria* spp). About 10 to 15 percent of the willow canopy is represented by seedlings and saplings, and light browse utilization is occurring on 10 to 15 percent of the willows. Less than 5 percent of the willows are dead or dying. About 10 percent of the physical site is altered by light trampling around the ponds.

3.2.7 Wildlife Resources / Threatened, Endangered, and Sensitive Animals

Wildlife habitat within the Sundown Allotment is comprised primarily of mountain shrub and riparian shrub community types. It provides for a variety of species including raptors, small land birds (resident and migratory), furbearers, small mammals, reptiles, amphibians, and invertebrates. The allotment is crucial summer range for mule deer, as well as providing some spring, summer, and fall foraging habitat for moose and elk.

All data known to the Upper Snake Field Office, including data from the Idaho Conservation Data Center and the Idaho Department of Fish and Game, has been considered to identify any species currently listed under the Endangered Species Act (ESA) or any other special status species. There are no Threatened or Endangered species within the allotment.

Table 3 lists special status species that have been identified as occurring or potentially occurring within five miles of Sundown and Longhurst Allotments within the last ten years. 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 justification for occurrence is also provided. Species not occupying seasonal ranges or not expected to occur within Sundown and Longhurst Allotments will be excluded from further discussion in this assessment.

Table 3 - Special Status Species and Occurrence within Sundown and Longhurst Allotments

Species	Status[a]	Occurrence	Rationale
Brewer's sparrow (*Spizella breweri*)	S	Potential	Breeding habitat
sage grouse (*Centrocerus urophasianus*)	S	Present	Key Habitat
Lewis's woodpecker (*Melanerpes lewis*)	S	Potential	Limited suitable nesting habitat
willow flycatcher *(Empidonax trailii)*	S	Unlikely	Fragmented riparian habitat
Northern leopard frog (*Rana pipiens*)	S	Potential	Potential habitat

b. Status codes: T=Federally threatened species; EXP=Experimental, non-essential population; S=BLM sensitive species; M=State of Idaho monitor species

Brewer's sparrow is a shrub-steppe obligate species, closely associated with big sagebrush but it can also be found in shrubby openings of piñon-juniper and mountain mahogany woodlands (Idaho Department of Fish and Game, 2005). There is little known about Brewer's sparrow population trend data in the area but habitat is available to support them.

Sage grouse, a BLM sensitive species, shows a declining population trend in Idaho based on long term averages (Connelly et al., 2004). Although populations in the Upper Snake Region have shown increases in the past 10 years they have not reached levels attained in the late 1960s or early 1970s (Connelly et al., 2004). A single lek is located within five miles of the allotments and sage grouse scat was common throughout the Sundown Allotment, although no birds were observed during the assessment.

A sage grouse habitat evaluation was conducted along a west facing slope in the Sundown Allotment during the summer of 2008. Connelly et al. (2004) report breeding habitat consists of contiguous sagebrush stands with a sagebrush canopy cover between 15 to 25% while adequate summer habitat consists of a sagebrush canopy cover of 10 to 20% and a total shrub cover of less than 25% (Connelly et al., 2000). This allotment rated out as suitable for breeding and late brood rearing habitat. Forbs were abundant with some sage grouse preferred forbs present.

Table 4 - Sage grouse assessment results in Sundown Allotment.

	Sundown A	
	% Canopy Cover	Height (inches)
Sage brush	22	28
Other shrubs & Trees	20	17
Total shrub	38	23
Forbs	16	6
Perennial grasses	24	8

Lewis's woodpeckers are found from low elevation riparian areas to higher elevation burns and pine forests (Tobalske, 1997). They are found in Idaho during the summer, where they appear to prefer nesting in large diameter snags in relatively open forests with a well-developed understory (Idaho Department of Fish and Game, 2005). There are several aspen stands within the Sundown Allotment but few large diameter snags available for nesting by Lewis's woodpeckers. There are large aspen groves to the west of the allotments. There is potential foraging of insects along the riparian area and there are many small dead aspen within the allotment that would provide additional foraging habitat.

Willow flycatchers nest in willow or alder thickets along streams. Forty-six percent of willow flycatcher breeding population nest within the intermountain west (Rich et al. 2004). There is a robust, vigorous willow component along Hell Creek that would provide nesting and foraging habitat for Willow flycatchers.

The Northern leopard frog inhabits marshes, wet meadows, riparian areas and moist, open woods. Their prey consists of insects, spiders, leeches, fish, other amphibians, small snakes and birds (Nordstrom, 1997). Over the last twenty years Northern leopard frogs have declined throughout North America (Idaho Department of Fish and Game, 2005). The definite causes for this decline are unknown, though habitat loss, pesticide use, and nonnative predators contribute to the problem and it is possible that populations may be eliminated by diseases caused by environmental stressors (Nordstrom, 1997). Beavers along the stream appear to have increased potential habitat by slowing stream velocity and creating pools and ponds.

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

Impacts are measured in terms of direct, indirect, long-term, and short-term impacts. Impacts may also be cumulative. Cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

4.1 Alternative A – Proposed Action (Issue Modified Grazing Permit)

4.1.1 Floodplain

Under the proposed action, a modified grazing permit would be issued, and the Sundown Allotment would be combined with the Longhurst Allotment into a three-pasture deferred rotation. The season of use would change from a potential of a five-month season to a six-week season. Hot-season and dormant-season grazing would alternate every other year. Although hot season grazing is not the preferred use in riparian areas, the proposed rotation would be an improvement over Alternative B, where the potential would exist for hot season grazing every year. Reducing hot-season grazing, in conjunction with the livestock being drawn away from the riparian/wetland areas through the use of existing private water developments, would allow the channel and floodplain characteristics to maintain PFC. Overall, the proposed action would result in fewer impacts to the channels and floodplains compared to Alternative B.

4.1.2 Fisheries / Threatened, Endangered, and Sensitive Fish

Under Alternative A, Hell Creek would be in the Skyline Pasture. Livestock tend to spend more time in stream side riparian areas during late summer grazing when temperatures are high and alternate water sources may have dried up. These areas provide both water and shade. This can have an impact on fish populations through increase sedimentation, decrease bank stability and removed streamside vegetation. Under the proposed action, grazing will occur late in the growing season for riparian species which will allow for reduced regrowth opportunity of streamside vegetation after grazing. This may result in reduced residual vegetation to protect banks from erosion or to trap stream suspended sediment needed for bank building during high flows in the spring, however, this has not been documented on the allotment.

Livestock use would be limited to 6 weeks of grazing in the pasture with Hell Creek. Most of the pasture is uplands and ridgetops. There are two off site watering sources near ridge tops, which would draw livestock off the stream and improve distribution. Habitat conditions were determined not to be meeting the standard for YCT due to high sediment loads from agricultural practices within the watershed. Temperature conditions on Hell Creek were also near the threshold for YCT habitat. Increases in solar radiation from sediment and ponded surfaces from beaver activity contributed to the temperature conditions. Under the propose action, the allotment will continue to meet standars fro riparian vegetation and channel/floodplain condition.

In addition, riparian stubble height (4” at the end of the growing season), key shrub utilization (30% at the end of the grazing season), and riparian condition (at or progressing towards proper functioning condition) management indicators would continue to be implemented. These would benefit the improvement of fish habitat conditions.

4.1.3 Soil Resources

Continued cattle traffic on existing livestock trails and existing watering areas would maintain the current level of soil compaction. Soil compaction caused by livestock trails and watering areas is confined to less than one percent of the allotment. Within that one percent, soil compaction by heavy objects, including trampling by cattle, penetrates and compacts soil material to depths of 15 to 20 inches. To a depth of four to six inches, the surface is usually released from compaction by frost action. The deeper soil compaction that is not affected by frost action may remain in the soil for years. Deep soil compaction restricts root growth, reduces soil productivity, and contributes to water and soil erosion. Under the proposed action, soil resources will continue to meet standards.

4.1.4 Range Resources/ Vegetation

Direct impacts to vegetation result from herbage removal 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. During years of drought, this concern is heightened as plants are stressed before grazing occurs. Managing for overall healthy rangeland communities would benefit the various plant and animal resources associated with the communities as well as the levels of microbiotic crusts.

Under the proposed action, the Sundown (320 BLM acres) and Longhurst (40 BLM acres) Allotments would be combined into one allotment. In addition to the public land, the permittee controls approximately 3,200 acres of private land adjacent to the two allotments. A three pasture deferred grazing rotation would be implemented by combining both private and public land together. The three pastures would be called the Skyline, the West, and the Dalton Hill Pastures. The former Sundown Allotment would be in the Skyline Pasture and the Longhurst Allotment would be part of the Dalton Hill Pasture. Under this system, two pastures would receive growing season deferment on the upland vegetation each year. Vegetation response under a deferred rotation is superior to continuous or season long grazing. Deferred rotational grazing provides an opportunity for preferred plants and areas to maintain or gain vigor as plants have the opportunity to store carbohydrates and set seed.

Under the proposed action, the season of use for the new Sundown Allotment would be changed to 7/1 – 10/31, nearly two months shorter than the potential under Alternative B. In addition to the decrease in the overall season of use, the amount of authorized use in each of the pastures would be limited to thirty-one days in the Dalton Hill Pasture and forty-five days each in the Skyline and West Pastures. Total active AUMs would remain unchanged at 86 AUMs.

The amount of authorized use for the uplands in the new Sundown Allotment is appropriate for the site potential and would not result in a loss of site productivity. Plant litter accumulation and standing dead matter after grazing on any given year is sufficient to allow decomposition and leave onsite nutrients for cycling. The proposed action would ensure that the allotment continues to meet standards for rangeland health and the guidelines for livestock grazing management.

4.1.5 Water Quality

The proposed action rotates from hot season grazing one year to a fall season the next year for a total of 6 weeks each year. Grazing impacts on Hell Creek would also be lessened by the off-stream water sources developed on private land. The proposed action would maintain the upward trend of riparian/wetland vegetation and maintain the proper functioning condition of the stream channel and floodplain for the two reaches. Less sediment would be potentially added to the stream from livestock grazing under the proposed action. The upper reach would continue to improve with the active beaver dam/pond systems. On the lower reach, inactive beaver ponds and dams and open pond area would continue to contribute fine sediment to the stream. Under the proposed action, water quality impacts related to livestock grazing would be reduced.

4.1.6 Wetland and Riparian Zones

Under the proposed action, a modified grazing permit would be issued, and the Sundown Allotment would be combined with the Longhurst Allotment into a three-pasture deferred rotation. The season of use would change from a potential of five-month to six-week on the riparian areas on public land. Hot-season and dormant-season grazing would alternate every other year. Although hot season grazing is not the preferred season in riparian areas, the proposed rotation would be an improvement over Alternative B, where the potential would exist for hot season grazing every year. Reducing hot-season, in conjunction with the livestock being drawn away from the riparian/wetland areas through the use of existing private water developments, would result in continued maintenance of or improvement towards PFC. Overall, the proposed action would result in fewer impacts to the riparian/wetland vegetation compared to Alternative B.

4.1.7 Wildlife Resources / Threatened, Endangered, and Sensitive Animals

Under the proposed action, a modified grazing permit would be issued, and the Sundown Allotment would be combined with the Longhurst Allotment into a three-pasture system. Direct impacts to wildlife habitat from livestock grazing occur when vegetation is removed or damaged that could otherwise be used for food or cover. Indirect impacts on wildlife habitat can occur when livestock alter the vegetative composition. In general, impacts to big game from the proposed action would be minor. A July livestock turnout would preclude potential competition for forbs and grasses that could occur on spring ranges, and improve nesting cover for sage grouse and sharp-tailed grouse. Maintaining proper utilization by cattle should allow for adequate vegetative structure and provide for seasonal big game needs. Range condition is a factor in whether big game are in competition with domestic livestock for forage. The 2008 rangeland assessment shows a plant community meeting requirements for rangeland health. No long-term studies for big game have been established for the allotments, however, recent line-intercept data collected for the assessment indicate the percent composition of shrubs, and forbs and grasses would meet vegetation quality requirements for big game and special status species. Under the proposed action, riparian and upland health will continue to meet standards and provide habitat suitable to maintain native wildlife species.

4.1.8 Cumulative Effects For Alternative A (Proposed Action)

Noxious weed invasions can substantially alter the vegetative community. Wildfires could alter the vegetative component in the allotments. Productivity on a given site can vary yearly depending on the amount and timing of precipitation, as well as on soil and air temperatures throughout the year. The occurrence of wildfires cannot be effectively prevented by human actions. The BLM implements weed control and fire stabilization actions to restore and improve the vegetative communities in areas where wildfires or noxious weed infestations have occurred. The proposed action would not increase the risk for weed invasion, wildfire, or loss of productivity in the new Sundown Allotment.

Cumulative impacts to the riparian vegetation and channel/floodplain condition include livestock grazing, logging, road building, vegetation treatments, off-highway vehicle (OHV) use, and dispersed recreational use that occur on adjacent BLM, forest, state, and private lands. Six unimproved roads intersect the two allotments (primarily on the adjacent private land that would be included in the newly formed allotment), but the remainder of the area is roadless with minor trailing created by livestock and/or wildlife. OHV use and other forms of recreation such as camping, hiking, and hunting, are limited in the immediate area. Drainage patterns and water and sediment delivery as a result of roads, foot and OHV trails may contribute to the spread of noxious weeds or other undesirable species, resulting in altered riparian/wetland communities and destabilized streambanks. Livestock grazing and/or logging on adjacent BLM, forest, state, and private lands may also add a small increment of sediment to riparian/wetland areas via overland flow during major precipitation events, resulting in altered vegetative communities and destabilized banks. Off-site logging occurs primarily on the forest, but this activity is uncommon. Overall, these activities have very little impact on riparian/wetland vegetation and channel/floodplain condition. The increment of livestock grazing when added to the small increment from other land use activities in the drainage would not adversely affect the condition of riparian vegetation and channel/floodplain condition in the Sundown Allotment. Under the proposed action, cumulatively, livestock grazing would allow the riparian/wetland vegetation and channel/floodplain condition to maintain or make progress towards PFC. The reduction of hot-season grazing would result in fewer cumulative impacts compared to Alternative B.

Activities that occur on public and private lands such as wintering big game, recreational use, campers, hunters and potential ATV users all 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 homes and recreational properties on adjacent private lands reduces their value to wildlife habitat through fragmentation of existing habitats. Maintaining intact habitats and having the flexibility to modify grazing schedules to meet the specific needs of vegetation and wildlife helps maintain rangelands in good ecological conditions. Changes to the current grazing rotation would improve existing vegetation and cumulative impacts of grazing in this allotment are negligible on wildlife.

4.2 Alternative B – Issue UnModified Grazing Permit

4.2.1 Floodplain

Under Alternative B, the Sundown Allotment would not be combined with the Longhurst Allotment, and livestock grazing would continue to be authorized for up to five months annually. This would result in the authorization of hot season grazing every year. Although the channel and floodplain characteristics have improved under Alternative B, much of the improvement is attributed to the success of the water developments in drawing livestock away from the streams and springs. Alternative B would provide fewer advantages to the channel/floodplain compared to the proposed action.

4.2.2 Fisheries / Threatened, Endangered, and Sensitive Fish

Continuous season long grazing can be the least compatible grazing strategies for maintaining or improving fisheries. Livestock often congregate on streambanks because of the convenience of forage, water, terrain and shading. Riparian areas can receive excessive use even under light stocking rates, when upland and riparian areas are both available in the same pasture. However, grazing under Alternative B, which includes no changes from the current management have led to riparian condition improvements. Continued improvement in the allotment would be expected in the future.

4.2.3 Soil Resources

Direct and indirect impacts would be similar to the proposed action.

4.2.4 Range Resources / Vegetation

Under Alternative B, the two allotments would not be combined and the three pasture rotation would not be implemented. Even though these changes would not be implemented, the ecological condition of the native plant communities would be maintained and would continue to meet the standard for native community health under Alterative B.

4.2.5 Water Quality

Impacts to water quality under Alternative B would be greater than under the proposed action because the potential five month grazing season under Alternative B would add more fine sediment than the six week season under the proposed action. Under Alternative B, the five month season could include hot season grazing each year, which would add fine sediment to Hell Creek through trailing, bank alterations and channel disturbance. The lower reach would continue to contribute sediment to Hell Creek based on breached beaver dam condition.

4.2.6 Wetlands and Riparian Zones

Under Alternative B, the Sundown Allotment would not be combined with the Longhurst Allotment, and livestock grazing would continue to be authorized for five months annually. This may result in hot season grazing every year. Although the riparian/wetland vegetation has improved under the current management, much of the improvement is attributed to the success of the water developments in drawing livestock away from the streams and springs. Alternative B would provide fewer advantages to the riparian/wetland vegetation compared to the proposed action.

4.2.7 Wildlife Resources / Threatened, Endangered, and Sensitive Animals

Under Alternative B, impacts to wildlife and special status species would be similar to those described under the proposed action. Benefits would accrue to sage grouse under the proposed action by keeping livestock off nesting areas until after breeding season.

4.2.8 Cumulative Impacts of Alternative B

Cumulatively, impacts under Alternative B would be higher for riparian/wetland vegetation and channel/floodplain condition because livestock grazing would continue annually during the hot season, whereas hot-season use would only occur every other year under Alternative A.

4.3 Summary

No significant individual or cumulative impacts are anticipated as a result of the proposed action or Alternative B.

CHAPTER 5. CONSULTATION AND COORDINATION

5.1. Persons and Agencies Consulted

Sundown Ranch Inc. – Permittee (Base Property Owner) Sundown and Longhurst Allotments
Jay and Son Longhurst – Permittee (Base Property Leasee) Sundown and Longhurst Allotments
Idaho Department of Fish and Game
Idaho State Department of Agriculture
Western Watershed Project
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
Chairman, Cultural Resource Committee, Shoshone-Bannock Tribes

5.2 List of Preparers

Richard Hill – Cultural Resources
Arn Berglund – Fisheries
Theresa Mathis – Wildlife / Migratory Birds / Threatened, Endangered, and Sensitive Animals
Scott Minnie – Alternatives / Vegetation / Soils
Deena Teel – Wetland/Riparian Vegetation
Dan Kotansky – Channel/Floodplain / Water Quality
Wendy Velman – Special Status Plants

/s/ Scott Minnie	4/20/2009	/s/ Wendy Velman	4/20/2009
Preparer	Date	NEPA Reviewer	Date

Attachments:

Figure 1 – Sundown and Longhurst Allotment Map
Figure 2 – Sundown Allotment Pasture Map

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