

Burnt Creek Allotment Grazing Permit Renewal

Environmental Assessment
EA number: ID -330-2006-EA-1504

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September 8, 2008

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I. INTRODUCTION

Background: The Burnt Creek Allotment contains 4,884 acres of public lands. The geographic area of the allotment lies within the Pahsimeroi River Watershed. Historically, livestock grazing and support of various wildlife habitat requirements have been the primary land uses within the Burnt Creek watershed. Corridor fencing of Burnt Creek divides the allotment into two pastures which allows for a deferred grazing system. The only perennial fish bearing stream within the allotment is Burnt Creek. Burnt Creek is occupied by bull trout (*Salvelinus confluentus*), a federally listed threatened species. There are also two intermittent non-fish bearing tributaries to Burnt Creek within the allotment. These are referred to as the East and West Tributaries. The two headwater tributaries, Burnt Creek East and West Forks, are dry except for during spring runoff events. The entire Burnt Creek Allotment lies within the Burnt Creek Wilderness Study Area (WSA).

The grazing permit authorizing grazing on the Burnt Creek Allotment was renewed in 2001 in order to implement the Challis Resource Management Plan (July 1999). The permittee proposed a change in season of use on the Burnt Creek Allotment in the spring of 2002 to modify the grazing system on the allotment to address concerns regarding the potential effects of livestock grazing to bull trout and their spawning and rearing habitats in Burnt Creek. On September 22, 2004, Honorable Judge Winmill, United States District Court for the District of Idaho, issued a Memorandum Decision and Order that granted a partial summary judgment and reversed the Full Force and Effect Decision of the BLM. The BLM, in response to the Memorandum Decision and Order, decided to conduct a rangeland health assessment and complete new National Environmental Policy Act (NEPA) analysis for renewing the livestock grazing permit on the Burnt Creek Allotment.

In 2005-2007, the Challis Field Office (CFO) conducted a Rangeland Health Assessment (USDI-BLM 2007). The Rangeland Health Assessment process includes: 1) the assessment of data of the current conditions, 2) the evaluation that summarizes the assessment if conditions are changing and describes the direction of change and 3) the determination identifies the causes that are affecting change. Six of the eight standards for rangeland health (i.e., watersheds, riparian areas and wetlands, stream channels and floodplains, native plant communities, water quality, and threatened and endangered plants and animals) were determined to be applicable and are being met or making significant progress toward being met. Two of the standards for rangeland health (i.e., seedings and exotic plant communities) were determined to not be applicable to this allotment.

Scott Whitworth made application to renew his grazing permit giving him the flexibility to adjust his season of use by one week while remaining within his permitted use. A deferred two pasture grazing rotation would be used and the other terms and conditions regarding trailing and exclosures would be continued.

On January 28, 2005, the CFO sent a letter to all interested publics requesting data, issues, or concerns that should be addressed during the NEPA process for permit renewals on 10 allotments and for Rangeland Health Assessments (RHA) on 19 allotments. Burnt Creek Allotment was included on both of the permit renewal and RHA list. Comments were received from three groups and one other government agency. The issues identified from those comments were:

- the analysis should include a range of alternatives, *
- a RHA should be completed prior to completing NEPA, *
- the cumulative impacts of range improvements should be evaluated, *
- noxious weeds, *
- suitability of grazing,
- water quality, *
- impacts to riparian, upland, and high elevation areas, *
- aspen regeneration, *
- fire management,
- predators,
- an economic analysis of annual administrative costs of livestock grazing,
- the access and use of OHV,
- wilderness values, *
- carrying capacity, *
- current resource conditions of uplands (vegetation and soil characteristics) and riparian/wetlands, *
- Endangered Species Act compliance, *
- grazing effects on bull trout and their habitat *
- unauthorized grazing use, *
- season of use, *
- development of resource objectives, * and
- wildlife. *

An Interdisciplinary (ID) team reviewed the issues identified above and determined that the issues with a "*" behind them were relevant and should be addressed in this NEPA analysis. The remaining issues were determined to be outside the scope of this document. The determination of grazing suitability was determined at the RMP decision level when grazing was allocated as a principle use on the Burnt Creek Allotment. Monitoring data would be used to develop management prescriptions (changes in grazing management) for alternatives in this document and in the future. Decisions based on monitoring data may include:

- Continue current management if it is meeting objectives or if there is an upward trend, movement toward meeting resource objectives
- Modify current management if it is in a downward trend, movement away from meeting resource objectives
- Adjust objectives if needed.

On March 8, 2006, a letter was sent to the interested publics for the Burnt Creek Allotment requesting comments and submission of additional information relevant to the RHA, and feedback on potential alternatives for livestock grazing to be considered in the NEPA analysis. Three comments were received from two organizations.

On April 21, 2006, a letter was sent to interested publics for the Burnt Creek Allotment requesting comments on Environmental Assessment ID-330-2006-EA-1504. In accordance with Bureau of Land Management Wilderness Interim Management Policy, interested publics were being notified of the proposed action to make changes in livestock grazing use on the Burnt Creek Allotment. Comments were received from the same two organizations mentioned above.

The BLM revised EA #ID-330-2006-EA-1504 based on the comments received. A Notice of Field Manager's Proposed Decision was issued on June 8, 2006. The Proposed Decision would implement a portion of Alternative 3 and use temporary electric fence as tool to manage livestock use on the lower portion of the West Tributary of Burnt Creek as described under Alternative 2 Range Improvements (a) as described in EA #ID-330-2006-1504. Three protest letters were received from Western Watersheds Project.

The BLM analyzed the proposed action to renew the grazing permit for the Burnt Creek Allotment as applied for by the permittee and five alternatives to address the issues identified for the Burnt Creek Allotment.

Applicant:

Scott L. Whitworth.

Type of Action:

Livestock Grazing Permit renewal for one permittee on the Burnt Creek Allotment.

Purpose of and Need for Proposed Action:

The purpose of the Proposed Action is to authorize livestock grazing on public lands for Scott L. Whitworth in such a manner that it would promote the maintenance or make significant progress toward achievement of the Standards for Rangeland Health as described

in the *Idaho Standards for Rangeland Health and Guidelines for Livestock Management* dated August 12, 1997, and the resource objectives outlined in section Resource Objectives and Associated Monitoring Common to All Alternatives of this EA. Grazing on public lands within the Burnt Creek allotment will be consistent with BLM policy and management direction in the Challis RMP which allocates the lands to livestock grazing.

On September 22, 2004, Honorable Judge Winmill, United States District Court for District of Idaho, issued a Memorandum Decision and Order that granted a partial summary judgment and reversed the BLM's Full Force and Effect Decision to modify the grazing permit on the Burnt Creek Allotment. This EA documents the analysis of potential effects of livestock grazing on the Burnt Creek Allotment in order to meet the requirements of NEPA.

Location of Proposed Action:

The Burnt Creek Allotment is located in Townships 9 and 10 North, Range 24 East, Boise Standard Meridian (BM). The Burnt Creek Allotment is located approximately 36 miles southeast of the town of Challis in Custer County, Idaho.

Conformance With Applicable Land Use Plan:

The proposed action is in conformance with the following goals and objectives of the Challis Resource Management Plan (RMP) finalized in July 1999 (USDI BLM July 1999):

Livestock Grazing (RMP, pp. 37-40)

- Goal 1 – Manage livestock grazing levels in line with the long term capability of the land, considering multiple use and climate variability, to maintain, improve, or make significant progress toward improving ecological condition.
 - Manage livestock grazing activities to ensure achievement and maintenance of, or significant progress toward achieving, fundamentals of rangeland health and guidelines for livestock grazing management.
 - Continue existing livestock grazing preference allocations for the short term.
 - Develop vegetative monitoring to measure site-specific objectives.
 - Use utilization criteria on key areas of upland sites to determine the proper time to move livestock.
 - Manage livestock grazing to ensure progress toward the riparian and aquatic habitat conditions described in *Attachment 15* of the RMP.
 - Manage rangeland sites for late seral or Potential Natural Community to meet the objectives stated in Goal 1, unless an ID team determines during activity planning that some other Desired Plant Community would better achieve multiple use and meet the goals of rangeland health.

- In all fish-bearing streams, design grazing practices to be consistent with attainment or progress toward the riparian and aquatic habitat conditions described in *Attachment 15*.
- Combine or split allotments as needed, to provide increased management flexibility in meeting riparian and upland objectives.

Riparian Areas (RMP, pp. 57-60)

- Goal 1 – Manage stream riparian areas to maintain or achieve proper functioning condition to ensure desired functions, improve water quality, prevent and minimize flood and sediment damage, and establish conditions which support attainment of healthy and productive aquatic habitat.
 - Use knowledgeable and reasonable practices to manage livestock grazing to improve riparian areas and meet resource objectives on perennial and intermittent streams.
 - Use prescribed stubble height criteria to manage livestock grazing in riparian areas on all perennial and appropriate portions of intermittent streams.
 - Use prescribed bank shearing criteria to manage livestock grazing in riparian areas on all perennial and appropriate portions of intermittent streams.

Wilderness Study Areas (RMP, pp. 69-71)

- Goal 1 – Manage Wilderness Study Areas (WSAs) released by Congress from wilderness review for existing values and uses, such as primitive and unconfined recreation, opportunities for solitude, naturalness, roadlessness, livestock grazing, forest resources, and biodiversity.

Visual Resources (RMP, pp. 66-67)

- Goal 1 – Maintain or enhance the visual quality of the Resource Area, and prioritize the areas where greater and lesser consideration would be given to surface disturbing activities.
 - In VRM Class I and II areas and anywhere within an SRMA, on-site visual quality control assessments would occur as part of project planning and implementation.

Fisheries (RMP, pp. 23-25)

- Goal 1 – Ensure a natural abundance and diversity of aquatic habitats to support fisheries resources in a healthy and productive condition, to provide the continued opportunity for nonconsumptive and consumptive uses, and to ensure the viability of these species.
 - Develop management strategies and objectives to improve aquatic and riparian habitats.

- Maintain the existing riparian habitat protective enclosures on Burnt Creek, Herd Creek, Road Creek, and Corral Basin Creek as reference areas to monitor and evaluate aquatic habitat conditions.

Relationship to Statutes, Regulations or Other Plans:

This action would have no effect to historic properties. Consultation under the National Historic Preservation Act of 1966 (as amended) has been conducted in accordance with BLM's National Programmatic Agreement and the implementing Protocol agreement between Idaho BLM and the Idaho State Historic Preservation Office.

This allotment falls within the Burnt Creek WSA and all actions must be in compliance with the Bureau's Interim Management Policy and Guidelines for Lands under Wilderness Review (IMP) H-8550-1. The IMP directs that in a WSA, the preservation of wilderness values within the WSA is paramount and should be the primary consideration when evaluating any proposed action or use that may conflict with or be adverse to those wilderness values. Any proposed use or facility within a WSA must be evaluated to determine whether the action would impair wilderness values. Generally, a use or activity is considered to be non-impairing if it is temporary which is a use that does not create surface disturbance requiring reclamation such as re-contouring, replacing topsoil, and/or restoration of native plant cover, or involve permanent placement of facilities (i.e., cannot be removed at time of designation). Actions that clearly benefit a WSA's wilderness values (roadlessness, naturalness, solitude, primitive and unconfined recreation, size, and supplemental values) through restoration, protection, or maintenance of these values may be allowed, if carried out in a manner which is least disturbing to the site.

Section 7 of the Endangered Species Act (ESA) outlines the procedures for Federal interagency cooperation to conserve federally listed species and designated habitat. Section 7(a)(2) states that each Federal agency shall, in consultation with the Secretary of the Department of Interior, insure that any action they authorize, fund, carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of their designated, proposed, critical, or essential habitat. The CFO requested concurrence on a Supplement to the Pahsimeroi River Section 7 Watershed Biological Assessment for the Burnt Creek Allotment Grazing Permit modification on December 18, 2006. The concurrence memo dated January 16, 2006 [*sic* 2007] (USFWS # 14420-2007-I-0188) states, "With this memorandum, the Fish and Wildlife Service (Service) provides concurrence with your determination that the proposed grazing on the Burnt Creek Grazing Allotment (Project), located in Custer County, Idaho, May Affect, but is Not Likely to Adversely Affect species listed under the Endangered Species Act of 1973, as amended, (Act)." Based on protest points received on the Field Manager's Proposed Decision, changes in livestock grazing management have been modified in Alternative 3. A letter dated January 28, 2008 was sent to the USFWS from the CFO requesting concurrence on modified livestock grazing management for the Burnt Creek Allotment. The concurrence memo

received by the CFO on February 21, 2008, states, “Therefore, the Service concurs with the BLM’s determination that the changes are consistent with the effects analysis of 2006 and are not likely to adversely affect bull trout.” This memo supersedes previous consultation.

Anadromous salmonids, such as Snake River spring/summer Chinook salmon, Snake River steelhead trout, and Snake River sockeye salmon are not present within the Burnt Creek Allotment. Excluding livestock grazing within the Burnt Creek enclosure would ensure that designated critical and essential fish habitat for Chinook salmon and potential steelhead trout habitat are not affected by livestock grazing. A separate BA has been prepared for anadromous salmonids and a “No Effect” determination was made for these species and their habitats pertaining to livestock grazing on the allotment. Since anadromous fish and their habitats would not be affected, they will not be discussed further in this EA.

In 1995, the BLM adopted the Interim Strategy for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California, commonly referred to as PACFISH (USDA and USDI, 1995a). PACFISH provides Riparian Management Objectives and Standards and Guidelines for managing riparian resources. In 1995, the BLM also implemented the Bull Trout Habitat Conservation Strategy known as INFISH (USDA and USDI, 1995b) thru Instructional Memorandum. The Riparian Management Objectives in both of these documents were incorporated into the Challis Field Office RMP. The proposed livestock grazing on the Burnt Creek Allotment complies with the RMP and therefore also complies with PACFISH and INFISH.

II. PROPOSED ACTION AND ALTERNATIVE(S)

This section describes and compares the alternatives considered for the project in order to define the differences between the alternatives and provide a clear basis for choice among options by the decision maker.

Resource Objectives and Associated Monitoring Common to All Alternatives

The following paragraphs list resource objectives for the Burnt Creek Allotment and associated implementation and effectiveness monitoring for each objective.

The monitoring objectives were developed based on the following criteria:

Uplands: 1) current resource conditions being in late to potential natural community; 2) the allotment meeting Standard 1 (watersheds), Standard 4 (native plant communities), and Standard 8 (threatened and endangered plants and animals); and 3) meeting the expected cover values from the Natural Resource Conservation Service (NRCS) ecological site guides.

Riparian/Wetlands: 1) current resource conditions – making significant progress toward Standard 2, 3, 7 & 8; 2) Attachment 15: Riparian Habitat Objectives, 3) RMP to have vegetative communities in late to potential natural community.

Implementation Monitoring would be used to help refine livestock grazing management from year to year during the term of the permit. This monitoring would be used to trigger livestock movement through use areas, timing of grazing by use area, and to select locations for the temporary electric fencing and/or salting.

Effectiveness monitoring provides the status of the indicator(s) used to determine the current condition and trend. This monitoring answers the question whether the current livestock grazing management is resulting in the expected resource conditions for the Burnt Creek Allotment. Based on these monitoring data, the implementation monitoring data, and other information/data acceptable to the authorized officer, changes in permitted use may occur.

The monitoring identified in this EA is the minimum monitoring that is to occur on the Burnt Creek Allotment. Based on funding and staffing levels more monitoring may be conducted. The implementation monitoring should occur on an annual basis. The effectiveness monitoring should occur every five years at a minimum. Map H delineates the upland key areas and the riparian designated monitoring areas.

Objective 1: Soil Condition.

Ground cover at Burnt Creek Allotment nested frequency plots would be maintained within the 80% confidence interval (Challis Resource Area Monitoring Procedures, April 1996 and Minimum Monitoring Standards for BLM-Administered Rangelands in Idaho, 1984) or greater than the amount measured during the 2005 readings for each nested frequency plot in order to protect upland soils from above-natural erosion.

BRNT-1 is located west of the confluence of the East and West Forks of Burnt Creek in the SE of Section 32, Township 10 North, Range 24 East, BM. BRNT-2 is located in the NESW of Section 29, Township 10 North, Range 24 East, BM. BRNT-3 is located in the NENW of Section 29, Township 10 North, Range 24 East, BM.

Table 1. Ground cover percentages for nested frequency sites on the Burnt Creek Allotment in 2005.

Nested Frequency Plot #	BRNT-1	BRNT-2	BRNT-3
2005 Percent Ground Cover (%)*	75	83	57

* Ground Cover for BRNT-1 and BRNT-2 includes vegetation, litter, gravel, and rock based on the ecological site guide. Ground Cover for BRNT-3 includes vegetative canopy cover only based on the ecological site guide.

Implementation Monitoring. Upland utilization would be measured at the three key areas following the key species method as described in the 1996 Interagency Technical Reference *Utilization Studies and Residual Measurements* (TR 1734-3) or with other BLM approved methodologies that measure the same parameters.

Effectiveness Monitoring. Nested frequency plots BRNT-1, BRNT-2 and BRNT-3 would be read at each site on a 10-year cycle.

Objective 2: Upland vegetation.

Frequencies of key species would be maintained within the 80% confidence interval (Challis Resource Area Monitoring Procedures, April 1996 and Minimum Monitoring Standards for BLM-Administered Rangelands in Idaho, 1984) from the 2005 readings at BRNT-1 and BRNT-2 and the 1991 reading at BRNT-3.

Table 2. 1991 and 2005 Plant species frequency (%) at nested frequency plots on the Burnt Creek Allotment and plot size for each measurement.			
	Nested Frequency Plot # (Plot Size)		
Plant Species	BRNT-1(2005)	BRNT-2(2005)	BRNT-3(1991)
Bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>)	59(4)	69(2)	79(2)
Idaho fescue (<i>Festuca idahoensis</i>)	15(1)	-	-
Mountain big sagebrush (<i>Artemisia tridentata vaseyana</i>)	11(3)	-	40(2)
Three-tip sagebrush (<i>Artemisia tripartita</i>)	38(4)	44(4)	-
Wyoming big sagebrush (<i>Artemisia tridentata wyomingensis</i>)	-	41(4)	-

Implementation Monitoring. Upland utilization would be measured at the three key areas following the key species method as described in *Utilization Studies and Residual Measurements* (TR 1734-3) or with other BLM approved methodologies that measure the same parameters.

Effectiveness Monitoring. The nested frequency plots would be read at each site and photos would be taken at each 3x3 photo plot approximately every 10 years at the three key areas.

Objective 3: Bank Stability. The objective from the Challis RMP *Attachment 15: Minimum Riparian and Aquatic Habitat Conditions* is to have greater than 90% streambank stability on all fish-bearing streams. Burnt Creek DMA 4 currently has 90% streambank stability after being excluded from livestock use for 6 years. Therefore the bank stability objectives for the perennial streams within the Burnt Creek Allotment are: Increase bank stability on East Tributary Designated Monitoring Area (DMA) 2 (BCET-KA2) from 75% to at least 90%, increase bank stability on West Tributary of Burnt Creek Key Area 1(BCWT-KA1) from 85% to 90%, on Burnt Creek DMA 3 (BCKA3) from 54% to 90%, and maintain bank stability on Burnt Creek DMA 4 (BCKA4) at least 90% by 2020.

Implementation Monitoring: Bank shearing/alteration monitoring would be conducted at BCWT-KA1 and BCET-KA2. Monitoring procedures would follow protocols from *Monitoring Stream Channels and Riparian Vegetation – Multiple Indicators* (Burton et al. 2007) or other BLM approved methodologies that measure the same parameters. Photos would be taken at BCKA3 and BCKA4 annually.

Effectiveness Monitoring: Monitoring procedures would follow protocols from *Monitoring Stream Channels and Riparian Vegetation – Multiple Indicators* (Burton et al. 2007) or other BLM approved methodologies that measure the same parameters. Objectives are based on listed protocol. The measurements would occur along the greenline transects. The bank to be monitored is from scour line to the first terrace, that portion of the channel most affected by livestock use. Six stability classes are used: covered and stable, covered and unstable (vulnerable), uncovered and unstable, uncovered and unstable, false bank (vulnerable), and unclassified.

Objective 4: Riparian vegetation.

The Ecological Status at BCWT-KA1 by 2020 would be increased from 46% to 61% (61 percent is the lower end of the “late” range) with a range of precision of 5 percent within a 95 percent confidence interval with an upward trend by 2015. The Wetland Indicator Rating at BCWT-KA1 would be maintained at 81 percent within the 95% confidence interval. The 2005 values and the objectives for these parameters are shown below:

Table 3. 2005 results of multiple indicator riparian monitoring at the BCWT-KA1 riparian key area and future objectives.

Parameter	2005 Value	Objective
Ecological Status	46% (mid)	61% (late)
Site Wetland Rating	81% (good)	81% (good)

The Ecological Status at BCET-KA2 by 2020 would be increased from 46% to 61% (61 percent is the lower end of the “good” range) with a range of precision of 5 percent within a 95 percent confidence interval with an upward trend by 2015. The Wetland Indicator Rating at BCET-KA2 would be increased from 63% to 70% with a range of precision of 5 percent

within a 95 percent confidence interval in the (2020) with an upward trend by 2015. The 2006 values and the objectives for these parameters are shown below:

Table 3a. 2006 results of multiple indicator riparian monitoring at the BCET-KA2 riparian key area and future objectives.

Parameter	2006 Value	Objective
Ecological Status	46% (mid)	61% (late)
Site Wetland Rating	63% (good)	70% (good)

Implementation Monitoring. Woody browse utilization would be measured at the BCET-KA2 and BCWT-KA1. Frequency of nipping of current year’s leaders for browse species would be measured. Stubble height measurements would be taken at the BCWT-KA1.

Effectiveness Monitoring. Riparian vegetation community data, including but not limited to Ecological Status, Site Wetland Rating, and Woody Regeneration, would be collected at the BCWT-KA1, BCET-KA2, BCKA3, BCKA4 riparian key area every 5 to 10 years. Monitoring protocols would follow the protocols outlined in *Monitoring Stream Channels and Riparian Vegetation – Multiple Indicators* (Burton et al. 2007).

Maintenance of Range Improvements Common to Alternatives

Maintenance of proposed projects consists of timely repair of an improvement to keep it in usable condition for the purpose intended over its normal expected life span. Fence maintenance includes: periodic inspection, keeping the wire attached to the posts with proper tension, maintaining a specified number of wires, replacing bent or broken posts and stays, repairing gates, repairing drainage crossings, and other minor work needed to keep the fence usable.

Maintenance for springs, pipelines, and troughs, includes: periodic inspection, repair or replacement of worn or damaged parts, repair of leaks, removing trash or silt, winterizing the facility, maintaining water flows during agreed upon times, and maintaining wildlife escape ramps. In addition, the BLM would monitor the trough locations for noxious or invasive weed species and treat appropriately if found.

Alternative Descriptions

Proposed Action – Permittee’s Application to Renew Permit: The proposed action is to renew the grazing permit on the Burnt Creek Allotment as applied for by the applicant with the following Mandatory Terms and Conditions, Other Terms and Conditions, grazing system, allowable use indicator/criteria, and range improvements.

1. Mandatory Terms and Conditions

Table 4. Permitted Number, kind and season of livestock use for the Burnt Creek Allotment.

Permittee	Number	Kind	Begin	End	%Public Land	Permitted Use (AUMs)
Scott L. Whitworth	322	Cattle	6/16	9/21	96	844
	5	Horse	6/16	9/21	96	14
Total (AUMs):						858

2. Other Terms and Conditions

- a) All trailing to and from the Burnt Creek Allotment would be done within the dates of the authorized use. Trailing to and from the allotment would take three days to complete each direction. Trailing would be done along the Upper Pahsimeroi and Burnt Creek roads.
- b) The three crossing locations are located in the SE¹/₄SW¹/₄ of Section 20, NW¹/₄SE¹/₄ of Section 29, and the SW¹/₄NW¹/₄ Section 33, Township 10 North, Range 24 East, BM (Map B).
- c) The Burnt Creek Exclosure would be closed to livestock grazing with the exception of the above-mentioned crossing until an interdisciplinary team determines that the stream is in proper functioning condition and resource objectives are being met.
- d) Six exclosure gates would be locked during the grazing season to maintain the integrity of the livestock exclosure. They are located at 1) SW¹/₄SW¹/₄, Section 20, 2) NW¹/₄SE¹/₄, Section 29, 3) SE¹/₄SE¹/₄, Section 29, 4-5) SW¹/₄NW¹/₄, Section 33, and 6) SE¹/₄SE¹/₄, Section 32, all in Township 10 North, Range 24 East, BM.
- e) Grazing use may be delayed for two weeks after the beginning date and extended for two weeks as long as the AUMs used remain within the permitted AUMs.
- f) The Burnt Creek Exclosure would be checked for livestock three times a week by the permittee while livestock are on the allotment after August 31.

3. Grazing System

The Burnt Creek Allotment would be grazed in a two-pasture deferred (defer = delay of grazing in a pasture until the seed maturity of the key forage species) grazing rotation.

The East Pasture would be grazed for approximately 35 days and the West Pasture would be grazed for approximately 48 days. The East Pasture would be grazed first on odd-numbered years and second on even-numbered years. The West Pasture would be grazed first on even-numbered years and second on odd-numbered years. The allotment would be grazed by up to 322 cattle and five horses with a maximum total 858 AUMs. With a herd size of 322 and 858 total AUMs, the maximum days on the allotment would be 83 days.

Table 5 illustrates a multi-year grazing sequence, with the late and early turn-out dates.

Table 5. A potential grazing rotation.

Year	Grazing Sequence	
	First	Second
Odd (2009)	East Pasture (6/16 to 7/20) or (7/1 to 8/4)	West Pasture (7/21 to 9/6) or (8/5 to 9/21)
Even (2010)	West Pasture (6/16 to 8/2) or (7/1 to 8/17)	East Pasture (8/3 to 9/6) or (8/18 to 9/21)

4. Allowable Use Indicator/Criteria

Allowable Use Indicator/Criteria are short-term indicators with assigned values. Stubble height, streambank alteration/trampling and riparian and upland utilization are examples of allowable use indicators/criteria. These indicators/criteria are selected and assigned a numeric value by an ID team and are considered as a starting point for improved grazing management (Clary and Leininger [2000]) and Cowley [(2002)]. The literature is clear that these allowable use indicators/criteria need to be validated and adjusted as necessary to ensure that they are effective. The numeric criteria listed below were selected by the ID team as a starting point based on recommendations in the literature. For upland areas, Rasmussen (1994) suggests the “take-half-leave half” rule of thumb for upland grasses and Holechek et al. (1999) suggests a light to moderate stocking level depending on ecological conditions, type of vegetation, and season of use. For riparian areas, Clary and Leininger (2000) suggest a 4" stubble height or 6” or greater on vulnerable streambanks, Winward (2000) suggests 50% woody use, and Cowley (2002) suggests a 20% bank alteration for low priority streams and 10% for high priority streams.

The following *Allowable Use Criteria* would apply to the allotment:

Upland Areas:

Utilization of upland key species including bluebunch wheatgrass, Idaho fescue, Indian ricegrass, and upland bluegrass species would be limited to 40 percent of current year’s growth at key areas at the end of the grazing season.

Riparian Areas (East and West Tributaries to Burnt Creek):

Browse utilization (frequency of nipping of current year leaders for woody species) at the East and West Tributary riparian key areas would be 50 percent or less on willow or aspen in order to maintain or expand existing woody riparian plant communities and protect stream banks.

The median end of growing season stubble height for herbaceous hydric plant species in riparian key areas would be 6 inches or greater at the West Tributary riparian key area until a good ecological status is reached. Once the ecological status is rated at or above 61, the median end of growing season stubble height for herbaceous hydric plant species would be 4 inches or greater. Key species include deep-rooted sedges, deep-rooted rushes, and American mannagrass.

Bank shearing, by livestock at the East and West Tributaries riparian key areas would be 10 percent or less of the total bank in order to limit mechanical damage of stream banks by livestock.

Allowable use indicators/criteria would be measured at key areas on uplands and at designated monitoring areas (DMAs) in riparian zones. These sites were selected (See Map H) to be representative of larger upland areas and longer stream reaches to ensure that if the allowable use indicators/criteria are met at the key areas and DMAs, they would likely be met across the respective ecological unit they are a part of.

Livestock would be removed from the area when any one criterion is met.

5. Range Improvements

- a) Approximately 0.5 miles of temporary barbed wire drift fence with two gates would be constructed between the Burnt Creek and Dry Creek Allotments at the two locations shown on Map G. The fence would have smooth wire on the bottom strand. The strands of the fence would be spaced at the following heights from the ground as recommended in BLM Manual Handbook H-1741-1: the top strand would be 38 inches above the ground, a 12 inch space would occur between the top two wires, and the bottom wire would be a minimum of 16 inches above the ground. All fence construction would follow requirements in this reference. These specifications are to ensure big game movements can occur with a minimum of hindrance and to avoid entanglement. H-braces would be made of wooden posts.

The BLM would construct the temporary drift fences with BLM-purchased

materials and the permittee would be responsible for maintaining the temporary fences and gates. The materials would be packed into the location by horses or by foot.

- b) Approximately 6.0 miles of barbed wire and electric fence would be replaced by temporary buck and pole fence with wooden posts along the Burnt Creek Enclosure. Approximately 0.1 miles of temporary buck and pole fence would be constructed between the existing Cook Allotment Fence and Burnt Creek Enclosure to enlarge the Burnt Creek Enclosure to include more of the lower reach of the West Tributary of Burnt Creek, from below the Burnt Creek road to the existing enclosure. Three cross-fences would be constructed at livestock crossing locations to facilitate cattle crossing the enclosure (Map B). All fence construction would follow guidelines in BLM Manual Handbook H-1741-1.

The BLM would construct the fence with BLM-purchased materials and the permittee would be responsible for maintaining the fence.

- c) Fence construction, and subsequent removal if made necessary by a change in Wilderness designation, would be completed using the least ground disturbing tools possible. Motorized vehicle use off of existing roads and vehicle ways would not be permitted. Any clearing of vegetation would be kept to the minimum necessary to align the fence and would be accomplished without the use of motorized vehicles.

Alternative 1: No Action – January 2001 Decision. Alternative 1 describes the January 2001 Decision to renew the grazing permit on the Burnt Creek Allotment with terms and conditions that include allowable use criteria from the 1999 Challis RMP. These allowable use indicators/criteria were added to the permit in order to make significant progress toward meeting the Standards for Rangeland Health and RMP objectives.

1. Mandatory Terms and Conditions

Table 6. Permitted Number, kind and season of livestock use for the Burnt Creek Allotment.

Number	Kind	Begin	End	%Public Land	Permitted Use (AUMs)
245	Cattle	6/16	9/30	96	840
5	Horse	6/16	9/30	96	18
				Total	858

2. Other Terms and Conditions

- a) Upland utilization on bluebunch wheatgrass during the critical growth period (boot to flower) will be limited to 40% of current growth. Grazing outside the critical period (usually ending June 20) will not exceed 60% utilization. Upland utilization on other key species will be limited to 50% during the growing season and 60% after the growing season (plant dormancy). (*RMP, Livestock Grazing, Goal 1, #7*)
- b) Livestock will be managed to maintain a minimum four-inch median herbaceous stubble height along the East Tributary to Burnt Creek (located in section 33) and the West Tributary to Burnt Creek (located in section 30) when grazed prior to July 10. Grazing use along these streams after July 10 will be subject to a six-inch herbaceous stubble standard.

Stubble height criteria may be less than stated above in pastures used prior to July 10, if an interdisciplinary team determines that sufficient regrowth is expected to meet the criteria by the end of the growing season. (*Challis RMP, July 1999, Riparian Areas, Goal 1, #5 (a)(b)(c)*).

- c) Livestock will be managed so that no more than 20% of the streambank along the East and West Tributaries of Burnt Creek is sheared by livestock hoof action. (*RMP, Riparian Areas, Goal 1, #6 (b)*).
- d) Livestock be managed so that no more than 50% frequency of nipping on current year leaders on woody species occurs along the East and West Tributaries to Burnt Creek where woody species are susceptible to browsing damage and browsing is affecting normal growth form or age class structure.
- e) The Burnt Creek Exclosure is closed to livestock grazing until an interdisciplinary team determines that the stream is in proper functioning condition and resource objectives are being met.
- f) The Burnt Creek Allotment is subject to the requirements of 43 Code of Federal Regulations (CFR) 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 Standard and Guidelines Assessment as scheduled by the Authorized Officer.
- g) As provided in the 43 CFR 4130.3-2(d), the submission of a signed actual use report is required within 15 days after completion of your annual grazing use. The actual use report shall include, at a minimum, the number and kind of livestock and the on/off dates for each use area comprising BLM-administered lands.

3. Grazing System

The grazing system would be a deferred grazing rotation with the use on even years starting on the East Pasture and then ending on the West Pasture. On odd years, use would be reversed so use would begin on the West Pasture and end on the East Pasture.

4. Range Improvements

The BLM would complete the annual maintenance of the Burnt Creek Exclosure prior to livestock turn-out. Once the annual maintenance is completed and livestock are on the Burnt Creek Allotment, the permittee would be responsible for maintenance of the Burnt Creek Exclosure Fence.

Alternative 2: 2002 Grazing Decision. Alternative 2 describes the 2002 Grazing Decision to change the season of use by livestock from summer grazing to fall grazing and incorporates use indicator criteria from the 1999 Challis RMP into the terms and conditions in order to address riparian use by livestock, riparian conditions, and impacts to bull trout and their habitat.

1. Mandatory Terms and Conditions

Table 7. Permitted Number, kind and season of livestock use for the Burnt Creek Allotment.

Number	Kind	Begin	End	%Public Land	Permitted Use (AUMs)
400	Dry Cows	9/10	11/10	96	783
5	Horse	9/10	11/10	96	10
					57*
					8*
				Total	858

* 57 AUMs of voluntary cattle non-use (unscheduled) and 8 AUMs of voluntary horse non-use (unscheduled)

2. Other Terms and Conditions

- a) Upland utilization on bluebunch wheatgrass during the critical growth period (boot to flower) would be limited to 40% of current growth. Grazing outside the critical growth period (usually June 20) would not exceed 60% utilization. Upland utilization on all other key species will be limited to 50% during the growing season and 60% after the growing season (plant dormancy). (*Challis RMP, July 1999, Livestock Grazing, Goal 1, Decision #7*)
- b) Livestock will be managed to maintain a minimum six-inch median hydric

stubble height along the East tributary to Burnt Creek (located in section 33) and the West tributary to Burnt Creek (located in section 30).

- c) Livestock will be managed so that no more than 20% of the streambank along the East and West tributaries of Burnt Creek is sheared by livestock hoof action. *(Challis RMP, July 1999, Riparian Areas, Goal 1, #6 (b)).*
- d) Livestock will be managed so that no more than 50% frequency of nipping on current year leaders on woody species occurs along the East and West tributaries to Burnt Creek where woody species are susceptible to browsing damage and browsing is affecting normal growth form or age class structure.
- e) The Burnt Creek Exclosure is closed to livestock grazing until an interdisciplinary team determines that the stream is in proper functioning condition and resource objectives are being met.
- f) As provided in the 43 CFR 4130.3-2(d), the submission of a signed actual use report is required within 15 days after completion of your annual grazing use. The actual use report shall include, at a minimum, the number and kind of livestock and the on/off dates for each use area comprising BLM land.
- g) Seasonal temporary electric fence may be used as a tool to protect sensitive areas along the East and West tributaries of Burnt Creek and upland spring areas, improve livestock distribution, and enhance wilderness values by improving riparian/wetland habitat conditions. The temporary electric fence would consist of one or two strands and would be removed once the livestock leave the allotment.

3. Grazing System

The grazing system would be a deferred grazing rotation with the use on even years starting in the East Pasture for approximately 28 days and then ending in the West Pasture for approximately 34 days. On odd years, use would be reversed so use would begin in the West Pasture and end in the East Pasture for approximately 34 and 28 days respectively.

Table 8. A potential grazing rotation.

Year	Grazing Sequence	
	First	Second
Even (2008)	East Pasture (9/10 to 10/7)	West Pasture (10/8 to 11/10)
Odd (2009)	West Pasture (9/10 to 10/13)	East Pasture (10/14 to 11/10)

4. Range Improvements

- a) As agreed to with USFWS, an additional 0.2 miles of temporary electric fence would be used to exclude livestock use along the West Tributary below the road to the existing enclosure fence and fence modifications would occur along the east side of the Burnt Creek enclosure fence to reduce the likelihood of livestock entering the enclosure. The temporary electric fence constructed around the lower portion of the West Tributary would be removed once the livestock leave the allotment.
- b) The BLM would complete the annual maintenance of the Burnt Creek enclosure prior to livestock turn-out. Once the annual maintenance is completed and livestock are on the Burnt Creek Allotment, the permittee would be responsible for maintenance of the Burnt Creek enclosure fence.

Alternative 3: Alternative 3 was developed to address the following resource issues: bull trout and bull trout habitat conservation, riparian conditions, wilderness values and compliance with the Wilderness Interim Management Policy, grazing prescription that would ensure significant progress toward meeting *Idaho Standards for Rangeland Health and Guidelines for Livestock Management* dated August 12, 1997 and resource objectives, inclusion of allowable use indicators/criteria, and unauthorized use.

1. Mandatory Terms and Conditions

Table 9. Permitted Number, kind and season of livestock use for the Burnt Creek Allotment.						
Number	Kind	Begin	End	%Public Land	Permitted AUMs	Suspended AUMs
342	Cattle	6/16*	8/31*	96	670	188

* The begin and end dates listed above indicate the outside parameters in which grazing can occur. Grazing would be limited to a maximum of 62 days within these dates.

2. Other Terms and Conditions

- a) All trailing to and from the Burnt Creek Allotment would be done within the dates of the authorized use. Trailing to and from the allotment would take 3 days to complete each direction. Trailing would be done along the Upper Pahsimeroi and Burnt Creek roads.
- b) Crossing areas on Burnt Creek would be approved by a BLM fisheries biologist to prevent impacts to spawning bull trout. The three crossing locations are located in the SE¹/₄SW¹/₄ of Section 20, NW¹/₄SE¹/₄ of Section 29, and the SW¹/₄NW¹/₄ Section 33, Township 10 North, Range 24 East, BM (Map B). The primary crossing would

- be the one in Section 29.
- c) The Burnt Creek Exclosure would continue to be closed to livestock grazing with the exception of the above-mentioned crossing until an interdisciplinary team determines that the stream is in proper functioning condition and resource objectives are being met.
 - d) Six exclosure gates would be locked during the grazing season to maintain the integrity of the livestock exclosure. They are located at 1) SW¹/₄SW¹/₄, Section 20, 2) NW¹/₄SE¹/₄, Section 29, 3) SE¹/₄SE¹/₄, Section 29, 4-5) SW¹/₄NW¹/₄, Section 33, and 6) SE¹/₄SE¹/₄, Section 32, all in Township 10 North, Range 24 East, BM.
 - e) Salt and/or mineral blocks shall not be placed within ¼ mile of springs, streams, meadow riparian habitats, or aspen stands unless prior approval is given by the authorized officer.
 - f) Seasonal temporary electric fence may be used as a tool to protect sensitive areas along the East and West tributaries of Burnt Creek and upland spring areas, improve livestock distribution, and enhance wilderness values by improving riparian/wetland habitat conditions. The temporary electric fence would consist of one or two strands and would be removed once the livestock leave the allotment.

3. Grazing System

The Burnt Creek Allotment would be grazed in a two-pasture deferred grazing rotation. The East Pasture would be grazed for approximately 26 days and the West Pasture would be grazed for approximately 36 days. The East Pasture would be grazed first on odd-numbered years and second on even-numbered years. The West Pasture would be grazed first on even-numbered years and second on odd-numbered years. The allotment would be grazed by up to 342 cattle with a maximum total 670 AUMs. With a herd size of 342 and 670 total AUMs, the maximum days on the allotment would be 62 days. The beginning and ending dates listed above indicate the outside parameters in which grazing can occur. Grazing would be limited to a maximum of 62 days within these dates. Table 10 illustrates a multi-year grazing sequence, with the late and early turn-out dates.

Table 10. A potential grazing rotation.

Year	Grazing Sequence	
	First	Second
Odd (2009)	East Pasture (6/16 to 7/11) or (7/1 to 7/26)	West Pasture (7/12 to 8/16) or (7/27 to 8/31)
Even (2010)	West Pasture (6/16 to 7/21) or (7/1 to 8/4)	East Pasture(7/22 to 8/16) or (8/5 to 8/31)

This grazing strategy would require crossing or fording of Burnt Creek twice during the grazing season. Each crossing area is limited in extent along Burnt Creek to less than 50 feet of stream. Three crossing areas have been identified. They are located at points A,

B, & C on Map B. Location B is the primary crossing area. When cattle are in the East Pasture the latter half of the season, gathering would require crossing Burnt Creek during late August. This could potentially overlap with the spawning period in years if spawning is initiated early (spawning normally occurs in September). Redd monitoring would be used to determine if spawning has been initiated early and if any redds are located within, or immediately downstream of the crossing to minimize the potential for take. If redds are found in or within 100 meters downstream of the crossing, an alternative strategy would be used to gather livestock from the east pasture in order to avoid exposing redds to potential trampling. The alternative strategies would be to utilize one of the other two identified crossing areas or to trail livestock on the east side of the enclosure through the Upper Pahsimeroi Allotment and cross Burnt Creek at the Upper Pahsimeroi Road crossing. The time to ford the stream is estimated to be less than 5 minutes. An assessment of a previous fording of Burnt Creek with 271 cows, was conducted to determine the timing of access. The crossing period was 3 minutes.

Any necessary fording of livestock would occur within approved fording areas. Cattle would not be permitted to be in the enclosure after the fording(s) occurs. Crossing areas are identified on Map B. Crossing areas A and B were identified in the 2003 Biological Opinion. Crossing area C has been identified as a third location for crossing and would be used as the secondary crossing area because there is a lower likelihood of bull trout spawning occurring lower within the stream.

The permittee would ride or provide a rider to move livestock away from the tributaries to minimize use in those areas during their grazing period.

4. Allowable Use Indicators/Criteria

Allowable Use Indicators/Criteria definitions are defined under the Proposed Action on page 14 of this EA.

The following Allowable Use Indicators/Criteria would apply to the Burnt Creek Allotment under Alternative 3:

Upland Areas:

- a) Utilization of upland key species including bluebunch wheatgrass, Idaho fescue, Indian ricegrass, and upland bluegrass species would be limited to 40 percent of the current year's growth.

Riparian Areas

- a) Browse utilization (percent frequency of nipping of current year leaders for woody species) at the East (BCET-KA2) and West (BCWT-KA1) Tributaries riparian key areas would be 50 percent or less on willow or aspen in order to

maintain or expand existing woody riparian plant communities and protect stream banks.

- b) The median end of growing season stubble height for herbaceous hydric plant species in riparian key areas would be 6 inches or greater at the West Tributary riparian key area until a good ecological status is reached. Once the ecological status is rated at or above 61, the median end of growing season stubble height for herbaceous hydric plant species would be 4 inches or greater. Key species include deep-rooted sedges, deep-rooted rushes, and American manna grass.
- c) Total bank alteration by livestock at the East (BCET-KA2) and West (BCWT-KA1) Tributaries riparian key areas would be 20 percent or less of the total bank in order to limit mechanical damage of stream banks by livestock.

5. Range Improvements

The permittee would have maintenance responsibility for all range improvements within the Burnt Creek Allotment, including maintaining the Burnt Creek Exclosure and installing seasonal/annual temporary electric fence prior to turnout.

- a) Approximately 0.5 miles of temporary barbed wire drift fence with two gates would be constructed between the Burnt Creek and Dry Creek Allotments at the two locations shown on Map G. All fence construction would follow guidelines in BLM Manual Handbook H-1741-1 as described above in the Proposed Action.

The BLM would construct the temporary drift fences with BLM-purchased materials and the permittee would be responsible for maintaining the fences and gates. The materials would be packed into the location by horses or by foot.

- b) Approximately 3.0 miles electric fence would be replaced by temporary barbed wire fence along the Burnt Creek Exclosure, and 0.2 miles of temporary barbed wire fence would be constructed between the existing Cook Allotment Fence and Burnt Creek Exclosure to enlarge the Burnt Creek Exclosure to include the lower reach of the West Tributary of Burnt Creek (Map F3). All fence construction would follow guidelines in BLM Manual Handbook H-1741-1.
The BLM would construct the temporary fence with BLM-purchased materials and the permittee would be responsible for maintaining the fence.
- c) Fence construction, and subsequent removal if necessary, would be completed using the least ground disturbing tools possible. Motorized vehicle use off of existing roads and vehicle ways would not be permitted. Any clearing of vegetation would be kept to the minimum necessary to align the fence and would be accomplished without use of motorized vehicles.

- d) Construct one water development in each pasture in order to provide alternate water sources from the East and West Tributaries for livestock. The troughs would occur in T.10 N., R.24 E., Sec. 33 SE $\frac{1}{4}$ NW $\frac{1}{4}$ and Sec. 30 NE $\frac{1}{4}$ NE $\frac{1}{4}$.(Map F3) The pipe would be laid on the surface of the ground to prevent any soil disturbance and to be easily removable in the case of wilderness designation. A hydroscreen would be placed into each of the tributaries to provide water to the troughs. The materials to install the pipeline and troughs would be hauled onto the site on existing ways and through non-motorized where there is no existing ways. The troughs would be floated so that only the water being used would be removed from the tributaries. Bird escape ramps would be placed into each trough.

The troughs would be located to be substantially un-noticeable in trees and in natural bowl. These projects cannot be located outside of the WSA and achieve the goals from them because the entire Burnt Creek Allotment is within the Burnt Creek WSA. If over time, monitoring shows that these water troughs are not meeting the intended goal for them, the BLM would remove them from the WSA.

- e) Relocate approximately one mile the Burnt Creek Exclosure fence onto the bench above the creek to include Burnt Creek Spring #1. See Map F3
- f) Install annually .27 miles (600' x 100') of electric fence at T.10N., R.24E., Sec. 29, NE $\frac{1}{4}$, which would be in place for approximately 45 days per year to protect a spring/meadow complex; and install one trough outside of the electric fence to provide alternative water to Burnt Creek Spring #1. The pipe would be on the surface of the ground. An escape ramp would be placed into the trough. All materials would be hauled onto the site on existing ways and through non-motorized means where there are no existing ways.
- g) The permittee would have maintenance responsibility for all range improvements within the Burnt Creek Allotment including the Burnt Creek Exclosure.

Alternative 4: Alternative 4 was developed based on input from the public and addresses the timing of the use, allowance of a recovery period, removal of livestock removed from the allotment before bull trout spawning initiates, inclusion of allowable use indicators/criteria, and a reduction of range improvements within the Burnt Creek WSA in order to enhance wilderness values.

1. Mandatory Terms and Conditions

Table 11. Permitted Number, kind and season of livestock use for the Burnt Creek Allotment.					
Number	Kind	Begin	End	%Public Land	Permitted Use (AUMs)
180	Cattle	7/1	8/31	96	352
5	Horse	7/1	8/31	96	10
Total					362

2. Other Terms and Conditions

- a) All trailing to and from the Burnt Creek Allotment would be done within the dates of the authorized use. Trailing to and from the allotment would take three days to complete each direction.
- b) Trailing to and from the West Pasture would occur along the Burnt Creek Road, west of the Burnt Creek Exclosure. Trailing to and from the East Pasture would occur east of the Burnt Creek Exclosure. Livestock would cross Burnt Creek at the Upper Pahsimeroi Road crossing in the E½ of Section 5, Township 10 North, Range 24 East, B.M. (Map B).
- c) The Burnt Creek Exclosure would be closed to livestock grazing until an interdisciplinary team determines that the stream is in proper functioning condition and resource objectives are being met.
- d) Six exclosure gates would be locked during the grazing season to maintain the integrity of the livestock exclosure. They are located at 1) SW¼ SW¼, Section 20, 2) NW¼ SE¼, Section 29, 3) SE¼ SE¼, Section 29, 4-5) SW¼ NW¼, Section 33, and 6) SE¼ SE¼, Section 32, all in Township 10 North, Range 24 East, BM.

3. Grazing System

The Burnt Creek Allotment would be grazed in a two-pasture rest rotation. Each year one pasture would be grazed by 180 cattle and 5 horses for 62 days while the second pasture would be rested. See Table 12 for the rotation.

Table 12. A potential grazing rotation.

Year	Graze 7/1 – 8/31	Rest
Odd (2009)	East Pasture	West Pasture
Even (2010)	West Pasture	East Pasture

4. Use Allowable Use Indicators/Criteria

The following Allowable Use Indicators/Criteria would apply to the Burnt Creek Allotment under Alternative 4:

- a) Utilization of upland key species including bluebunch wheatgrass, Idaho fescue, Indian ricegrass, and upland bluegrass species would be limited to 40 percent of the current year’s growth.
- b) Browse utilization (percent frequency nipping of current year leaders for woody species) at the East (BCET-KA2) and West (BCWT-KA1) Tributaries riparian key areas would be 50 percent or less on willow or aspen in order to maintain or expand existing woody riparian plant communities and protect stream banks.
- c) The median end of growing season stubble height for herbaceous hydric plant species in riparian key areas would be 6 inches or greater at the West Tributary riparian key area until a good ecological status is reached. Once the ecological status is rated at or above 67, the median end of growing season stubble height for herbaceous hydric plant species would be 4 inches or greater. Key species include deep-rooted sedges, deep-rooted rushes, and American mannagrass.
- d) Bank shearing by livestock at the East (BCET-2) and West (BCWT-1) Tributaries riparian key areas would be 20 percent or less of the total bank in order to limit mechanical damage of stream banks by livestock.

5. Range Improvements

The Cook Allotment Fence, #364006 (Map F4) and the corral that occurs on the West Tributary, would be removed by BLM personnel.

Alternative 5: Alternative 5 was developed to address resource issues on the BLM Rock Creek Allotment, USFS Upper Pahsimeroi Allotment, and the Burnt Creek Allotment to provide for better management flexibility, to provide periodic rest for each grazing unit, and achievement of desired future conditions.

1. Mandatory Terms and Conditions

Table 13. Permitted Number, kind and season of livestock use for the Burnt Creek Allotment.

Number	Kind	Begin	End	%Public Land	Permitted Use (AUMs)
430	Cattle	6/1	9/15	96	841
5	Horse	6/1	9/15	96	17
Total					858

2. Other Terms and Conditions

- a) The three crossing locations are located in the SE¹/₄SW¹/₄ of Section 20, NW¹/₄SE¹/₄ of Section 29, and the SW¹/₄NW¹/₄ Section 33, Township 10 North, Range 24 East, BM (Map B).
- b) The Burnt Creek Enclosure would be closed to livestock grazing with the exception of the above-mentioned crossings until an interdisciplinary team determines that the stream is in proper functioning condition and resource objectives are being met.
- c) Six enclosure gates would be locked during the grazing season to maintain the integrity of the livestock enclosure. They are located at 1) SW¹/₄SW¹/₄, Section 20, 2) NW¹/₄SE¹/₄, Section 29, 3) SE¹/₄SE¹/₄, Section 29, 4-5) SW¹/₄NW¹/₄, Section 33, and 6), SE¹/₄SE¹/₄, Section 32, all in Township 10 North, Range 24 East, BM (Map F).
- d) Seasonal temporary electric fence may be used as a tool to protect sensitive areas along streams and upland spring areas, to improve livestock distribution, and to enhance wilderness values by improving riparian/wetland habitat conditions. The seasonal temporary electric fence would consist of one or two strands and fiberglass posts and would be removed once the livestock leave the allotment.
- e) Salt and/or mineral blocks shall not be placed within ¼ mile of springs, streams, meadow riparian habitats, or aspen stands unless prior approval is given by the authorized officer.
- f) Grazing on the Burnt Creek Allotment would only occur for a maximum of 63 days (26 days in the East Pasture and 37 days in the West Pasture) during the grazing use period described in Table 13 for a total of 858 AUMs.

3. Grazing System

The grazing management of the Burnt Creek Allotment would be combined with the BLM Rock Creek Allotment and the USFS Upper Pahsimeroi Allotment. The Rock Creek and USFS Upper Pahsimeroi Allotments are currently being managed as a four pasture deferred rotation system with the lower two pastures comprising both BLM and USFS managed lands and the upper pastures being comprised completely of USFS managed lands. The Burnt Creek Allotment East and West Pastures would be added to the sequence of grazing that would allow for one or more pastures of the combined allotments to be rested each year. The grazing rotation for a particular grazing season would be decided at the annual operator meeting held jointly with the BLM, USFS, and the permittee. The following guidelines would be used in developing the annual rotation:

- a) Postponing grazing to outside the critical growth period for bluebunch wheatgrass (usually ending June 20) at least once every five years.
- b) More than one use area may be used at one time.
- c) Resting a pasture at least once every five years.
- d) Burnt Creek would not be crossed after spawning had been initiated in any given year.
- e) Previous years grazing results and current resource conditions would be used to adjust the grazing sequence, rest pastures, and placement of temporary electric fencing along sensitive riparian/wetland areas.
- f) Management of the BLM Rock Creek Allotment and the USFS Upper Pahsimeroi Allotments would continue within the parameters of their current permitted authorizations.

4. Allowable Use Indicators/Criteria

The following Allowable Use Indicators/Criteria would apply to the Burnt Creek Allotment under Alternative 5:

- a) Utilization of upland key species including bluebunch wheatgrass, Idaho fescue, Indian ricegrass, and upland bluegrass species would be limited to 40 percent of current year's growth on BLM-administered public lands.
- b) Browse utilization (percent frequency of nipping of woody species) at the East and West Tributaries riparian key areas would be 50 percent or less on willow or aspen in order to maintain or expand existing woody riparian plant communities and protect stream banks.
- c) The median end of growing season stubble height for herbaceous hydric plant species in riparian key areas would be 6 inches or greater at the West Tributary riparian key area until a good ecological status is reached. Once the ecological status is rated at or above 61, the median end of growing season stubble height for herbaceous hydric plant species would be 4 inches or greater. Key species include

- deep-rooted sedges, deep-rooted rushes, and American mannagrass.
- d) Bank shearing by livestock at the East and West Tributaries riparian key areas would be 20 percent or less of the total bank in order to limit mechanical damage of stream banks by livestock.

Alternative Comparison Table:

The following table shows the basic differences between each alternative:

Table 14 Alternative comparison table.

Comparison Factor	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Number of Livestock	322 cattle 5 horses	245 cattle 5 horses	400 dry cows 5 horses	342 cattle	180 cattle 5 horses	430 cattle 5 horses
Season-of-Use	6/16 to 9/21	6/16 to 9/30	9/10-11/10	6/16 to 8/31	7/1 to 8/31	6/1 to 9/15
Total AUMs	858	858	858, includes 65 unscheduled AUMs	670	362	858
Days on the Allotment	83	109	61	62	62	62
Rotation Type	deferred	deferred	deferred	deferred	rest	rest
Improvements	1) Burnt Creek/Dry Creek drift fence, 2) Burnt Creek exclosure (buck and pole), 3) Cross-fences at livestock crossing locations in the Burnt Creek Exclosure (buck and pole)	None	1) .2 miles of temporary electric fence protecting the West Tributary between the Burnt Creek Road and the existing exclosure, 2) use of seasonal temporary electric fence to protect sensitive areas	1) Burnt Creek/Dry Creek drift fence, 2) Burnt Creek exclosure (barbed wire), 3) West Tributary exclosure fence below Burnt Creek Road, 4) Installation of one alternative water sources in each pasture, 5) relocation of one mile Burnt Creek Exclosure Fence, 6) install annually .27 miles of electric fence to protect spring/meadow complex, and 7) 1 temporary trough associate with fence.	1) Remove Cook Allotment Fence and Corral on the West Tributary	None
Allowable Use Indicators/Criteria	1) 40% upland util. 2) 50% freq. of nipping 3) 4-6 inch stubble height 4) 10% bank shearing	1) 40 - 60% upland util. 2) 50% freq. of nipping 3) 4-6 inch stubble height 4) 20% bank shearing	1) 40 - 60% upland util. 2) 50% freq. of nipping 3) 4-6 inch stubble height 4) 20% bank shearing	1) 40% upland util. 2) 50% freq. of nipping 3) 4-6 inch stubble height 4) 20% total bank alteration	1) 40% upland util. 2) 50% freq. of nipping 3) 4-6 inch stubble height 4) 20% bank shearing	1) 40% upland util. 2) 50% freq. of nipping 3) 4-6 inch stubble height 4) 20% bank shearing

Alternatives Considered but not Analyzed in Detail:

An alternative requiring the livestock operator to truck his livestock to the allotment was considered but discarded due to the lack of adequate space adjacent to a roadway to turn a livestock truck around on the allotment.

A “no grazing” alternative was considered but not analyzed in this EA. Resolution of any present issues or conflicts would continue to be obtained through properly managed livestock grazing in accordance with direction given in the RMP: “Manage livestock grazing activities to ensure achievement and maintenance of, or significant progress toward achieving fundamentals of rangeland health, and standards for rangeland health and guidelines for livestock grazing management.” (USDI-BLM 1999). In addition, a “no grazing” alternative would not be consistent with the purpose and need.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for the comparison of alternatives.

GENERAL SETTING

The Burnt Creek Allotment is located approximately 36 miles southeast of the town of Challis in Custer County, Idaho. The allotment lies within the BLM-Challis Resource Area. The Allotment is bounded by the Salmon-Challis National Forest on the south, the BLM-administered Upper Pahsimeroi Allotment on the north, the BLM-administered Rock Creek Allotment and the Salmon-Challis National Forest on the west, and the BLM-administered Dry Creek Allotment on the east. The Allotment is divided into the East and West Pastures by the riparian enclosure that runs along Burnt Creek (Map A), drift fence, and topography. The Allotment lies entirely within the Burnt Creek WSA, except for a “cherry-stem” of non-WSA that allows for the use of Burnt Creek Road (Map D). There are no Areas of Critical Environmental Concern within the allotment. Elevations on the allotment range from 7,600 feet along Burnt Creek to 9,800 feet at the allotment’s southeast corner.

The Burnt Creek Allotment is comprised of 4,884 acres of BLM-administered public lands. There are approximately 200 acres of USFS-administered lands within the allotment. The allotment is managed by the BLM.

There are no known sensitive plant species populations on the allotment (Elzinga 1997).

CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT			OTHER IMPORTANT ELEMENTS OF THE HUMAN ENVIRONMENT		
The following elements of the human environment are subject to requirements specified in treaty, statute, regulation, or executive order and must be considered in all environmental assessments			The elements of the environment listed below are not included on the "critical elements" list, but are important to consider in assessing all impacts of the proposal(s).		
All the following elements have been analyzed. Elements denoted by an "X" in the <i>not affected</i> column are not affected by the proposed action or alternatives and will receive no further consideration.					
Elements	Not Affected	Affected	Elements	Not Affected	Affected
Air Quality	X		Paleontological Resources	X	
Areas of Critical Environmental Concern	X		Indian Trust Resources	X	
Cultural Resources	X		Wildlife		X
Environmental Justice (EO 12989) (minority and low-income populations)	X		Availability of Access/Need to Reserve Access	X	
Farm Lands (prime or unique)	X		Recreation Use, Existing and Potential		X
Floodplains	X		Existing and Potential Land Uses		X
Invasive, Non-native Species	X		Vegetation types, communities; vegetative permits and sales; Rangeland resources		X
Migratory Birds		X	Fisheries		X
Native American Religious Concerns	X		Forest Resources		X
Threatened/Endangered Plants; Sensitive Plants	X		Soils		X
Threatened/Endangered Fish; Sensitive Fish		X	Wild Horse and Burro Designated Herd Management Areas	X	
Threatened/Endangered Animals; Sensitive Animals		X	Visual Resources		X
Wastes, Hazardous or Solid	X		Economic & Social Values		X
Water Quality – Surface		X	Mineral Resources	X	
Wetlands/Riparian Zones (including uplands)		X			
Wilderness		X			
Wild & Scenic Rivers	X				
Tribal Treaty Rights	X				

SOILS**Affected Environment**

Upland soil complexes and associations make up greater than 99% of the total area of the allotment. The Arbus gravelly loam soil unit developed primarily on terraces and fans. This mapping unit contains the Burnt Creek riparian corridor. The riparian soils along Burnt Creek developed within the areas mapped as Arbus gravelly loam. The remaining soil units developed primarily on slopes. Most of the soils on the Burnt Creek Allotment are gravelly or cobbly loams.

Table #15. Soil mapping units and surface textures on the Burnt Creek Allotment.

Soil Unit	Soil Surface Texture/Characteristics	Acres
Parkay-Donkehill complex, 20-50% slopes	Gravelly loam on north and east slopes and in concave areas on south and west slopes, Very gravelly loam in south and west slopes, very deep soils, moderate hazard of water erosion, medium runoff potential, well drained soils	1,695
Donkehill very gravelly loam, 20-50% slopes	Very gravelly loam, shallow to bedrock, moderate hazard of water erosion, medium runoff potential, well drained soils	1,654
Parkay-Friedman association, 20-50% slopes	Gravelly loam, very deep soil, moderate hazard of water erosion, medium runoff potential, well drained soils	941
Zeale-Meegero complex, 20-40% slopes	Gravelly loam in convex and linear areas and very gravelly loam in concave and northeastern areas, all mixed with rock outcrop, very deep soils, moderate hazard of water erosion, medium runoff potential, well drained soils	291
Lag-Klug association, 50-70% slopes	Organic layer over cobbly loam in concave to linear areas and gravelly loam in convex areas, very deep soils, severe hazard of water erosion, rapid runoff potential, well drained soils	208
Arbus gravelly loam, 1-4% slopes	Gravelly loam, very deep soils, slight water erosion hazard, slow runoff potential, somewhat excessively drained soils	136
Lag very cobbly loam, 20-40% slopes	Organic layer (litter) over very cobbly loam, very deep soils, severe hazard of water erosion, rapid runoff potential, well drained soils	36

There are three upland key areas on the Burnt Creek Allotment that monitor trend of vegetation attributes through nested frequency and 3X3 photo trend methods. They are designated BRNT-01, BRNT-02 and BRNT-03. The BRNT-01 and BRNT-02 nested frequency plots and 3X3 plots were re-examined in the spring of 2005. Photos were taken at the BRNT-03 site but it was not read at the time. A step point transect was read in the general area of BRNT-03.

Ground cover by vegetation, litter and rock has increased at both BRNT-01 and BRNT-02. All three key area locations had vegetative cover at or above the expected level from the NRCS ecological site guides. BRNT-01, BRNT-02 and BRNT-03 showed “none to slight” deviations from the expected rangeland health indicators relating to soil/site stability and hydrologic function. BRNT-01 did however show “slight to moderate” for pedestals and terracettes and “slight” for rills and soil surface resistance to erosion. Overall, the three sites show “none to slight” from the expected rangeland health indicators and Standard 1 (watersheds) is being met. The summary of the data is contained in the Rangeland Health Assessment, Evaluation, and Determination for the Burnt Creek Allotment, which is available at the Challis Field Office.

Biological soil crusts are a complex mosaic of cyanobacteria, green algae, lichens, mosses, microfungi, and other bacteria. Cyanobacterial and microfungal filaments weave through the top few millimeters of soil, gluing loose particles together and forming a matrix that stabilizes and protects soil surfaces from erosive forces. Existing literature in reference to biological crusts for the area of the CFO is limited. No inventory of biological crusts has been completed on the Burnt Creek Allotment. Moss and lichen were included in the ground cover transects for the nested frequency and step-point transect sites on the allotment, but less visible biological crust elements such as cyanobacteria were not visible at the time of the assessment so they were not counted. Cover by moss and lichens at these transects ranged from trace to two percent. Due to near or above average ground cover by rock, vegetation, and litter, biological soil crusts are a small component of ground cover on the Burnt Creek Allotment.

Belnap et al. (2001) gave variables that influence the potential for the development of biological soil crusts. This reference does not give expected numeric amounts of biological soil crust for specific soil or vegetation types such as those found on the Burnt Creek Allotment, but it gives relative amounts. The primary factor cited in the reference is the amount of bare ground. In general, there is a larger potential for biological soil crust area in areas with high amounts of natural bare ground. Cover data for the Burnt Creek Allotment show that bare ground mostly ranges from 15 to 25 percent. Bare ground cover is close to or lower than what would be expected on range sites on the allotment. Soil crusts may diminish as vascular plant cover increases, with an increase in elevation, with an increase on rock cover, with deeper soils, and with more coarse textured soils. The soils on the Burnt Creek Allotment have vascular plant cover that is within or exceeds the expected range, commonly have a high percentage of rock or gravel ground cover, and are medium to coarse-textured soils. The current information shows that the soils on the Burnt Creek Allotment would not be expected to have high amounts of cover from biological soil crusts.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Under the Proposed Action, both pastures in the Burnt Creek Allotment would be deferred from critical growing season grazing every other year. The early pasture grazing would begin within a week of seedripeness. Seedripeness generally occurs around June 20 within the Challis Field Office. Periodic deferral of grazing would be expected to improve or maintain plant cover conditions and reduce the potential for soil loss (USDA-NRCS 1976). Allowable use indicator/criteria for uplands under the proposed action would be forty percent or less. These criteria would be used to ensure that utilization does not exceed desirable levels in order to promote vegetative and litter ground cover. A forty percent or below utilization level would leave sufficient residual vegetation to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. Microbiotic crusts would be maintained at their current levels. There would be some surface disturbance at the salting locations. These sites would be monitored and treated appropriately if noxious weeds or invasive plant species were found at these sites.

Maintaining the current ground cover which is at or above the expected values for the sites is an appropriate objective. The current ground cover is allowing the attainment of Standard 1 (watersheds). The proposed action would maintain the current ecological conditions at mid to late seral conditions with a static to slightly upward trend because of the applied allowable use indicator/criteria and the deferred grazing system. Therefore, the ground cover would remain the same or slightly improve under the proposed action. Rasmussen (1994) found that 50% use would allow for plants to recover from herbivory as long as the meristematic tissue is not removed. The long term productivity and competitiveness of the plant would not be affected. Grazing during stem elongation (generally depending on timing of precipitation and temperature is between mid June and mid July) is when the plants are most vulnerable to removal of current meristematic tissue. Grazing would be deferred on one pasture each year until after seedripeness. The early pasture use would occur primarily after seedripeness as well. Use after seed set will not alter the long term productivity of the plant. Furthermore, Holechek (1999) found with moderate grazing (40-45%) slight improvement occurred in trend of ecological condition. Therefore, with 40% use the trends should be static to slightly upward. Continued proper grazing use would maintain enough cover to protect the soil by leaving adequate litter and standing dead plant material and maintain or improve the quantity and quality of desirable vegetation.

Since no motorized vehicles would be used off the access road to construct the riparian area buck and pole fences, there would be little soil disturbance except where poles are set in the ground. Soil disturbance in the area of the barbed wire drift fence would be limited to the soil disturbance and compaction at the t-post and gate post locations. Neither of these construction activities would be expected to produce more than very small amounts of loose soil.

There may be some trampling of soils by cattle along fencelines (7.5 miles of fencelines, 18.5 inches wide cattletail, <1.5 acres of trampling) because cattle trail along fences. Cattle

trailing along the fence lines may result in decreased water infiltration thus increasing the potential for erosion to occur along the trail.

Alternative 1: No Action -- January 2001 Decision

Impacts to soils under this alternative would be similar to those described for the Proposed Action, except there would not be the soil disturbance from fence poles, posts, and gate installation. Allowable use criterion would be 40% during the critical growing period and 60% or less during the late season pasture use when the plants are dormant. This utilization level would leave sufficient residual vegetation to protect the soil and maintain or improve the quantity and quality of the desirable vegetation (Rasmussen 1989). Microbiotic crusts would be maintained at their current levels.

Alternative 2: 2002 Grazing Decision

Under this alternative, both pastures in the Burnt Creek Allotment would be deferred from critical growing season grazing every year. Annual deferment would be expected to improve plant cover and reduce soil loss (USDA-NRCS 1976). Upland utilization allowable use criteria would be used to ensure that utilization does not exceed desirable levels in order to promote vegetative ground cover. Ground cover would be expected to increase or stabilize above the expected range for upland range sites on the allotment. Uplands on the Burnt Creek Allotment would be expected to physically function with sufficient vegetation, litter and other ground cover to maintain or improve site stability (Rasmussen 1989, Holechek 1999).

Upland utilization would be at levels that would not be expected to negatively impact biological soil crusts on the allotment.

Since no motorized vehicles would be used in the WSA, there would be only very small amounts of soil disturbance and compaction at the locations of post installations for the seasonal temporary electric fence. There may be some concentrated use by livestock at the upper end of the electric fence on West Tributary, which would result in soil compaction locally.

Alternative 3:

There would be local compaction of soils during construction of the fence, especially at fence posts, fence corners, and gates. Subsurface disturbance effects would be discontinuous at post sites.

Cattle trailing along the fence would create soil compaction along the upland side of the fence line resulting in decreased water infiltration increasing the potential for erosion to occur along the trail.

The pipe from the proposed water developments would be laid on the surface of the ground, so no soil disturbance would occur from this action. The soils at all trough sites would be

impacted due to trough installation and subsequent livestock activity around the structures. Livestock trailing to and from the water troughs would occur. Soil compaction would be the dominant potential impact. The possibility of erosion at the troughs and along any trail is considered minimal due to the flat topography of the trough sites and the horizontal contour of the cattle trailing (cattle tend to trail on grade and not perpendicular to the slope).

Materials would be brought to the allotment on existing routes. Non-motorized means would be used to get the troughs, pipe, other pipeline materials, and fencing materials from the existing routes to their location.

There may be some soil disturbance at the salting locations.

Alternative 4:

Impacts to soils under this alternative would be similar to those described for the Proposed Action with the following exceptions: There would be no construction of new fence so there would be no additional impacts related to fence construction or trailing.

Each pasture on the allotment would be completely rested every other year. Litter accumulation would be expected to be the greatest with this alternative. However, desirable key forage species would likely be grazed at higher levels and less desirable plants at lower levels than with all other alternatives. These species would be rested every other year and have time to recover from the grazing use. Little change from existing uplands vegetative cover of soil is anticipated.

There would be minor disturbance of soils where the Cook Allotment Fence and West Tributary Corrals are removed. However, the impacts from recreationalists primarily during the hunting season utilizing the West Tributary Corrals would be eliminated.

Alternative 5:

Impacts to soils under this alternative would be similar to those described for the Proposed Action. Each pasture on the allotment would be completely rested at least every sixth year. Little change from existing uplands vegetative cover of soil is anticipated.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>SOILS</p> <ul style="list-style-type: none"> maintain ground cover limit soil disturbance and accelerated erosion 	<ul style="list-style-type: none"> Maintain ground cover Trampling along fence Soil disturbance at construction sites of fences 	<ul style="list-style-type: none"> Maintain ground cover Trampling along fence 	<ul style="list-style-type: none"> Maintain ground cover Trampling along fence 	<ul style="list-style-type: none"> Maintain ground cover Trampling along fence Soil disturbance at construction sites of fences Soil disturbance at salting locations Soil disturbance at trough locations 	<ul style="list-style-type: none"> Maintain ground cover Trampling along fence 	<ul style="list-style-type: none"> Maintain ground cover Trampling along fence

VEGETATION TYPES; COMMUNITIES; RANGELAND RESOURCES

Affected Environment

Uplands in the lower elevations and drier sites on the Burnt Creek Allotment are dominated by low sagebrush (*Artemisia arbuscula*) and Sandberg bluegrass (*Poa secunda*), Indian ricegrass (*Achnatherum hymenoides*) and needle-and-thread (*Hesperostipa comata*). At higher elevations and slightly wetter sites, the vegetation transitions into mountain big sagebrush and bluebunch wheatgrass. Above these types and on still wetter sites, the bluebunch wheatgrass is replaced mostly by Idaho fescue. Three-tip sagebrush (*Artemisia tripartita*) replaces mountain big sagebrush on windswept areas throughout the allotment. There are some stands of Douglas-fir (*Psuedotsuga menziesii*) and alpine fir (*Abies concolor*) at the higher elevations. The spatial distribution of these vegetation types is in a mosaic, depending on the local site conditions. Aspect and effective annual precipitation are often more important than elevation as determining factors. State-listed noxious weeds have not been found in the uplands of the allotment. Cheatgrass (*Bromus tectorum*) is present in small amounts along roadways and at disturbed sites. Riparian vegetation is discussed in the Wetland/Riparian Areas.

Range conditions were evaluated on the allotment in 1979. At that time, 2% of the Allotment was in early seral, 61% was in mid seral, 21% was in late seral and 16% was at the potential natural community. Trends in vegetative attributes have been monitored at three key areas,

BRNT-01, BRNT-02, and BRNT-03 utilizing nested frequency and 3X3 photo trend plot methodologies. The BRNT-01 and BRNT-02 sites are dominated by Mountain big sagebrush and a mixture of Idaho fescue and bluebunch wheatgrass. The BRNT-03 is dominated by a mixture of Mountain big sagebrush and low sage brush, and bluebunch wheatgrass and Sandberg bluegrass.

In summary, the long term monitoring indicates that grass species were stable or increasing, and shrub species frequencies were stable over the monitoring period. All three key areas were near the natural site potential for biotic factors as compared to Natural Resource Conservation Service (NRCS) ecological site guides. Upland plant communities are composed of native species that have adequate distribution, diversity, and composition to provide maintenance of soils and the ecological processes. Forage plant vigor is high over almost all of the allotment. Further information on the nested frequency readings and the qualitative assessment sites can be found in the 2007 Standard and Guideline Assessment for the Burnt Creek Allotment and the original data files on file at the CFO (USDI-BLM 2007).

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Prescribed grazing is the controlled harvest of plants by grazing or browsing animals managed to achieve specific objectives. Four factors of livestock grazing affect vegetation and how animals graze. These factors are timing, duration, frequency, and intensity. The Proposed Action prescribes a late spring/summer season of use with a 2 pasture deferred rotation grazing system. Deferment, which is postponing grazing or resting grazing land for a prescribed period usually until after the critical growing period (seedripeness is usually around June 20 within the Challis Field Office), is part of the prescribed grazing. Half of the allotment would be deferred each year until after the critical growing period. Deferment improves plant vigor and permits desirable species to produce seed. Periodic deferment would be expected to hasten natural re-vegetation by improving plant vigor and permitting desirable species to produce seed (USDA-NRCS, 1976).

The meeting of upland allowable use indicator/criteria of 40% on key forage species would be expected to maintain existing plant vigor. An end of grazing season 40% utilization criteria on bluebunch wheatgrass, Idaho fescue, and Indian ricegrass allows for carbohydrate production and root growth productivity to continue active growth as adequate leaf surface area remains for photosynthetic activity.

The proposed action, through prescribed grazing of a deferred rotation with a trigger to move livestock based on a 40% utilization level and riparian use triggers, would continue to allow achievement of the rangeland health standards and maintain the current trends in vegetation. A utilization level of 40% or below would leave sufficient residual vegetation to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. With light use (21-40%), the key species may be topped, skimmed, or grazed in patches. Between 60 to 80% of current seedstalks would remain to produce seed. Adequate leaf area would remain for photosynthesis and recovery of growth after grazing. Forty percent use prior to seedripeness

allows for carbohydrate production and root growth productivity to continue active growth (Holechek 1999 & Rasmussen 1994).

The allotment was inventoried in 1979, and 98% of the allotment was in mid seral to the potential natural community. The long term trends indicated the allotment is static to improving. The long term trends would continue with the proposed action.

Alternative 1: No Action -- January 2001 Decision

Impacts to upland vegetation types, communities and rangeland resources under this alternative would be similar to those described for the Proposed Action. Allowable use criterion would be 40% during the critical growing period and 60% or less during the late season pasture use when the plants are dormant. These utilization levels would leave sufficient residual vegetation to protect the soil and maintain or improve the quantity and quality of the desirable vegetation (Rasmussen 1989, Holechek 1999).

Alternative 2: 2002 Grazing Decision

Under this alternative, both pastures in the Burnt Creek Allotment would be deferred from critical growing season grazing every year. Complete annual deferment would be expected to hasten natural revegetation by improving plant vigor and permitting desirable species to produce seed prior to grazing (USDA-NRCS, 1976). Allowable use criterion outlined in the RMP (60 percent on key forage species) would be expected to maintain existing plant vigor (Rasmussen 1989).

This alternative differs from all the other alternatives because grazing would occur when most upland grass and forb species are dormant. When compared to the other alternatives, this alternative prescribes a fall season, larger herd sizes, shorter grazing periods, and dry cows. Under this alternative, the cattle are more likely to disperse over the pasture that they are using. This would be expected to result in lighter, more evenly spaced livestock use within a pasture compared to the other alternatives. Impacts to upland key forage species and forbs would be expected to be the least for all the alternatives.

The meeting of upland utilization criteria on key forage species would be expected to maintain existing plant vigor.

Alternative 3:

Alternative 3 proposes reducing the number of AUMs authorized from 858 AUMs to 670 AUMs in order to meet desired allowable use indicator/criteria. The number of AUMs proposed is based on the average actual use that has occurred between 1986 and 2001 in order to meet riparian objectives on the Burnt Creek Allotment. The duration of use would shorten with this alternative. Shortening the duration decreases the opportunity for selective regrazing of preferred plants. This decreases the intensity of use on preferred plants allowing for improved quality and quantity of desired species.

Holechek (1999) found that with light stocking an upward trend occurred and with moderate stocking, slight improvement occurred. Decreasing the permitted use by 22% and triggering livestock movement based on use triggers on uplands and riparian areas is expected to result in less than 40% use in the uplands or light stocking level. Therefore, the uplands should continue to meet the resource objectives and may improve.

A two pasture deferred grazing system is proposed under Alternative 3. Deferment, which is postponing grazing or resting grazing land for a prescribed period usually until after the critical growing period, is part of the prescribed grazing. Half of the allotment would be deferred each year until after the critical growing period. Deferment improves plant vigor and permits desirable species to produce seed. Periodic deferment would be expected to hasten natural re-vegetation by improving plant vigor and permitting desirable species to produce seed (USDA-NRCS, 1976).

Alternative 3 also proposes to construct additional/alternative water sources which would improve livestock distribution by managing water availability. Managing water availability would shift livestock use, so that the use is more uniform and not concentrated at a few water sources. Alternative 3 would shift more use to uplands by redistributing the number of cows utilizing riparian vegetation versus the uplands. The areas of use would remain the same, but the patterns of use would change. The upland allowable use indicator/criterion limits the amount of use on the uplands to allow for maintenance or improvement of upland vegetation. Having light use dispersed across the pasture would promote increased herbaceous cover by improving plant vigor and leaving more residual vegetation across the entire pasture (Holechek 1999, Holechek 2004).

Disturbance would occur to the vegetation around the trough locations. The disturbance would promote more forb species to occur. No known noxious or invasive species have been documented within the project area, so it is unlikely that they would invade at the trough locations. The BLM would monitor these areas and treat appropriately if noxious or invasive species occurred.

Alternative 4:

Under this alternative, each pasture would be rested every other year. Each pasture would be deferred from critical growing season grazing in the years they are rested. Periodic rest would be expected to hasten natural revegetation by improving plant vigor and permitting desirable species to produce seed, at least every other year. Utilization criteria, 40% on key

forage species, would be expected to maintain existing plant vigor in the grazed pastures (Holechek 1999 and Holechek 2004).

The pastures would be grazed for longer periods with lower numbers of livestock than any of the other alternatives. Desirable key forage species would likely be grazed at higher levels and less desirable plants at lower levels than with all other alternatives. However, these species would be rested every other year and have time to recover from the grazing use.

Alternative 5: Joint BLM/Forest Service Allotment Alternative

Impacts would be similar to the Proposed Action.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Vegetation <ul style="list-style-type: none"> • manage for late to pnc seral vegetation • seasonal timing of livestock effects • livestock behaviors and forage preferences; affects plant vigor • intensity of use affects vegetation vigor and response to livestock grazing 	<ul style="list-style-type: none"> • Seasonal Timing – cool season/hot season • Duration of use –83 days; 41/42 days per pasture • Intensity of use –40% upland use at end of grazing season • Grazing system - deferred • Meet objectives 	<ul style="list-style-type: none"> • Seasonal Timing – cool season/hot season • Duration of use –109 days; 54/55 days per pasture • Intensity of use –40% upland use critical growing period; 60% use during dormancy • Grazing system- deferred • Meet objectives 	<ul style="list-style-type: none"> • Seasonal Timing – fall use • Duration of use –61 days; 30/31 days per pasture • Intensity of use –60% upland use during dormancy • Grazing System- deferred • Meet objectives 	<ul style="list-style-type: none"> • Seasonal Timing – cool season/hot season • Duration of use –62 days; 26 days in East Pasture, 36 days in West Pasture • Intensity of use –40% upland use at end of grazing season • Grazing System – Deferred • Meet objectives 	<ul style="list-style-type: none"> • Seasonal Timing – cool season/hot season • Duration of use –62 days; one pasture grazed each year • Intensity of use –40% upland use at end of grazing season • Grazing system – rest rotation • Meet objectives 	<ul style="list-style-type: none"> • Seasonal Timing – cool season/hot season • Duration of use –62 days; 26 days in East Pasture, 36 days in West Pasture • Intensity of use –40% upland use at end of grazing season • Grazing System – deferred/rest rotation system • Meet objectives

WETLAND/RIPARIAN ZONES

Affected Environment

The stream riparian areas within the Burnt Creek Allotment include the mainstem Burnt Creek, the East and West Forks of Burnt Creek, and the East and West Tributaries. The mainstem of Burnt Creek is a small perennial stream that owes it permanency to a complex of springs located in the southeast corner of Section 32. Burnt Creek is a low gradient channel (2-3%). It has a predominately gravel substrate and temperatures are controlled by the cold, springs at the headwaters. As of 1999, all of mainstem Burnt Creek within the allotment has been fenced to protect the creek from excess livestock use. Herbaceous vegetation is greater in extent than woody vegetation along the Burnt Creek streambanks within this allotment. Herbaceous vegetation includes sedges, rushes and mesic grass species; and woody vegetation includes willows, aspen, water birch (*Betula occidentalis*), and Woods rose (*Rosa woodsii*). During the 2007 field season, Canadian thistle was inventoried along the main stem of Burnt Creek. The BLM would continue to use the integrated weed management approach to detect and treat weeds.

The East Fork of Burnt Creek is an intermittent drainage that has a stream gradient of 5%. Woody vegetation dominates the stream channel, including Engelmann spruce (*Picea engelmannii*), Douglas-fir (*Pseudotsuga menziesii*), common snowberry (*Symphoricarpos albus*), and wild currant (*Ribes* spp.). The West Fork of Burnt Creek is ephemeral with no riparian vegetation present.

The East and West Tributaries have stream gradients of 2-4%, and channel substrates are non-consolidated silts, sands, clays, and gravel. Examination of the East and West tributaries of Burnt Creek shows that channels in both tributaries are intermittent and scoured, and not well developed. The portions of the East and West Tributaries with no discernable channels or poorly developed channels include areas such as the mouths of the tributaries, small segments where the water only flows sub-surface, and in the West Tributary where old beaver dams exist.

Winward (2000) developed 10 capability groups based upon the features that influence the amount and kind of vegetation expected to resist erosion. Using mapped gradient and observations within the tributary channels, the East and West Tributaries appear to fit Winward's Group VI (stream gradient 2-4%, and substrates of non-consolidated silts, sands, and clays). In this group, the percentage of greenline represented by late seral community types or anchored rocks/logs, should be 80% to be functioning properly.

The following summarizes the proper functioning condition inventories, multiple indicator monitoring (MIM), and use indicator monitoring for the Burnt Creek Allotment.

a) Proper Functioning Condition (Stream Functionality)

Proper functioning condition surveys were completed on mainstem Burnt Creek in

1995, on the East Fork of Burnt Creek in 1994, on the West Tributary in 2000, and on the East Tributary in 2001 using the protocol from Technical Reference 1737-9, Riparian Area Management (USDI 1993) (Map H). Results of the inventories can be found in the Burnt Creek Rangeland Health Assessment, Evaluation, and Determination located at the Challis Field Office. Four reaches were identified on the mainstem of Burnt Creek. Two reaches, totaling 44% of Burnt Creek stream length within the Burnt Creek Allotment, were determined to be in proper functioning condition. Both of these reaches had been excluded from livestock grazing use since the late 1980's. The remaining two reaches, totaling 56% of Burnt Creek stream length within the Burnt Creek Allotment, were functioning at risk. Both of these reaches were unfenced and accessible by livestock at the time of the survey. These reaches were functioning at risk due to the percent of vegetation with deep binding root masses, less than 35%. Both of these reaches have been excluded from excessive livestock use since 1999. They are now in an upward trend. Two reaches were identified on the East Fork of Burnt Creek. As stated above, the East Fork is an intermittent/ephemeral drainage. The survey shows these two reaches as functioning at risk due to the low percentage of composition of riparian vegetation with deep binding root masses. This type of vegetation is typical for ephemeral and portions of intermittent channels. Two reaches were identified on the West Tributary of Burnt Creek. Both reaches were surveyed as functioning at risk due to the composition of riparian vegetation with deep binding root masses being below 80% as described in Winward 2000. The East Tributary of Burnt Creek was surveyed as one reach, and was found to be functioning at risk. This was due to the percent bank cover and stability being below the site potential.

b) Multiple Indicator Monitoring

Multiple Indicator Monitoring (MIM) is the protocol being used to monitor riparian habitats. This monitoring protocol addresses seven indicators for lotic riparian areas. Four indicators used for long-term effectiveness monitoring include: modified greenline, modified woody species regeneration, streambank stability, and greenline to greenline width. In the 2007, the protocol added three in-channel indicators: maximum water depth, water width, and substrate composition. These indicators would be measured during future monitoring efforts. The remaining three indicators stubble height, woody browse, and bank alteration would be used to evaluate whether current livestock grazing is meeting the use indicator criteria to meet the planned duration and intensity of use. These implementation monitoring procedures provide information needed to refine and make annual changes in livestock grazing management practices necessary to meet long term management and resource objectives. MIM data has been collected at BRNT-KA4, BCET-KA2, and BCWT-KA1. A summary of 2005/2006 monitoring results for the four indicators for long-term effectiveness monitoring is summarized in Table #16 below:

Table #16. Summary of 2005/2006 Multiple Indicator Monitoring conducted on BRNT-KA4 (Burnt Creek), BCET-KA2 (East Tributary), and BCWT-KA1 (West Tributary)					
Location	Greenline		Bank Stability	Woody Regeneration	Comments
	Ecological Status	Wetland Indicator Status			
BRNT-KA4 Burnt Creek mainstem	22% (Early)	74% (Good)	90%	Data not collected.	Significant increase in percent composition of sedges and rushes from 7% in 1993 to 21% in 2005.
BCET-KA2 East Tributary of Burnt Creek	46% (Mid)	63% (Good)	75%	9% young, 91% mature	34% hydric species with deep binding root masses. Tufted hairgrass and Booth and Geyers willows are the dominant vegetation. Baseline data collected in 2006.
BCWT-KA1 West Tributary of Burnt Creek	46% (Mid)	81% (Good)	85%	Data not collected.	38% hydric species with deep binding root masses. Booth and Bebes willow make up the dominant vegetation. Baseline data collected in 2005.

c) Allowable Use Indicator/Criteria of Livestock Grazing Management Implementation

Herbaceous vegetation consists of Kentucky bluegrass, redtop, sedges, and rushes. The average herbaceous stubble height on the Burnt Creek Allotment measured prior to the construction of the Burnt Creek Exclosure was 3.8 inches at BRNT-KA3 and 2.8 inches at BRNT-KA4. One measurement has been taken at BRNT-KA4 since the exclosures on hydric species (*Carex spp.*) and it was 11 inches.

The average median herbaceous stubble height on the East Tributary at BCET-KA1 prior to 2002 was 2.5 inches at the end of the grazing season, and during the 2002-2003 grazing seasons was 4 inches. In 2001, the Burnt Creek Allotment was used for a total of 63 days. The East Tributary had a median herbaceous stubble height of 3 inches, 3% streambank shearing, and the woody use ranged from slight to light. In 2002, the length of time grazing occurred within the East Pasture was 9 days for 35 AUMs. The pre-livestock measurements were 5 inch median herbaceous stubble height and 1% streambank shearing. End of grazing season measurements were not taken in 2002 due to snow cover. In 2003, the East Pasture was used for 14 days for 88 AUMs. The end of grazing season measurements was 3" median herbaceous

stubble height and 4% streambank shearing. In 2004, while the allotment was in non-use, the stubble height was 5 inches on hydric species (sedges and rushes). Unauthorized livestock from the neighboring allotment did make some use within the East Pasture of the Burnt Creek Allotment. In 2006, a second DMA area was established on the East Tributary. The mean stubble height was 15 inches on tufted hairgrass.

The average median herbaceous stubble height at BCWT-KA1 on the West Tributary prior to 2002 was 3 inches and during the 2002-2003 grazing season was 6.5 inches. In 2001, the West Tributary had 5 inch median herbaceous stubble height, 3% streambank shearing, and less than 50% woody use at the end of the season. In 2002, the length of time grazing occurred within the West Pasture was 38 days for 270 AUMs. Pre-livestock measurements on the West Tributary were 8 inches of median herbaceous stubble height and 0% streambank shearing. End of season measurements were not taken due to snow cover. In 2003, the West Pasture was used for 20 days for 168 AUMs. The end of season median herbaceous stubble height was 5 inches. In 2005, while the allotment was in non-use, the average median stubble height was 8.8 inches on baltic rush and sedges. In 2006, the average median stubble height was 9 inches on Kentucky bluegrass, tufted hairgrass, and American mannagrass. The cattle guard on the Burnt Creek Road between the Upper Pahsimeroi Allotment and the Burnt Creek Allotment was damaged by a wide load going through the cattle guard. Cows from the Upper Pahsimeroi Allotment made use of the West Pasture during the weekend. The rider had cows removed from the Burnt Creek Allotment by Monday afternoon. The mean stubble height on herbaceous vegetation was 7.7 inches. Tufted hairgrass was the dominant herbaceous species and it had a mean stubble height of 8.59 inches. The total bank alteration was 13% and the bank shearing was 4%.

After livestock were trailed across Burnt Creek at Crossing C (See Map B) during the 2007 grazing season, allowable use indicator/criteria monitoring data was collected. Total bank alteration was 47% with bank shearing being 7%. The mean stubble height was 7 inches. The mean stubble height of the dominant species, Kentucky bluegrass, measured on the transect was 6.18 inches. Nebraska sedge had a mean stubble height of 10.33 inches. The woody use was 5.9% on Booth willow. The use on the willow appeared to have occurred during the early spring season by elk. The area impacted by the cattle crossing was 0.1 miles.

d) Wetland Riparian Areas

During the 2006 Field Season, an ID team consisting of Challis Field Office staff and an Idaho State Office Resource Specialist made field observations/assessments of the conditions of lentic/lotic areas in the East Pasture, along an ephemeral/intermittent drainage to the East Fork of Burnt Creek and Burnt Creek Lake.

The ephemeral/intermittent drainage to the East Fork of Burnt Creek had similar resource conditions as the East Tributary of Burnt Creek. The lotic portions of the

drainage had a diverse age-class distribution of herbaceous and woody species and the composition of the vegetation was diverse. The streambank vegetation includes plant species with root masses capable of withstanding high streamflow events; however, there was not adequate vegetative cover present to protect banks and dissipate energy during high flows (80% per Winward 2000). Similar to the East Tributary, the plant species along the channel consists of booth willow, Geyer's willow, sedge species, tufted hairgrass, baltic rush, Kentucky bluegrass, and mesic forbs. This drainage is functioning at risk with no apparent trend.

In the spring/meadow complex on the bench above the creek, the species consist of shrubby cinquefoil, Kentucky bluegrass, tufted hairgrass, baltic rush, wheatgrass species, and mesic forbs. The mesic forbs consist of yarrow, cinquefoil, dandelion, lupine, and elk thistle (a native thistle), and other upland species. The spring/meadow complex gradually transitions from a wet meadow to a dry meadow to upland plant communities. There is a diverse age-class and composition of riparian-wetland vegetation as shown by the above listed species. Vegetation composition is comprised of those plants or plant communities that have root masses capable of withstanding overland flow events. However, there is not adequate riparian-wetland vegetative cover present. The riparian zone has not reached its potential extent. The spring/meadow complex showed hoof action and hummocks that were altering the natural surface flow patterns. The hummocks have re-vegetated however and are naturally rehabilitating themselves. The lentic areas within this drainage are functioning at risk with no apparent trend.

Unauthorized livestock from the neighboring allotment utilized this drainage during the 2006 grazing season and the mean herbaceous stubble height was 4 inches. The ID team determined that the DMA on the East Tributary would represent the conditions and use that would occur within this drainage. If the allowable use indicator/criteria were met at the East Tributary, they should be met on the ephemeral/intermittent drainage to the East Fork of Burnt Creek as well.

The ID team also assessed Burnt Creek Lake and found it to be in proper functioning condition. The vegetation consisted of sedges and conifers along the edge of the lake. The fluctuation of water levels is not excessive. The riparian-wetland zone has achieved its potential extent. The surface or subsurface flows are not altered by disturbance. The riparian-wetland is in balance with water and sediment being supplied by the watershed. Trailing by wildlife and cattle occurred up in the conifers with only a few access points to the lake for water. Very little cattle sign was evident around the lake.

On August 16, 2007, an ID team consisting of Challis Field Office Resource Specialists and Resource Specialists from the Idaho State Office conducted a lentic proper functioning condition inventory on the spring/meadow complex in the same drainage above Burnt Creek Spring #1.

Burnt Creek Spring #1 is a developed spring. The spring was dug out and made into a pond in 1969. At the upper end of the spring a willow is present. Below the willow, what was once a pond is now bare ground with water flowing across the surface. Cattle trampled this area in order to access the water. This drainage provides the water for the north end of the East Pasture. The ID Team discussed and decided to include this spring in the enclosure fence re-alignment that is proposed in this EA.

The ID team then continued up the drainage and conducted a proper functioning condition inventory on the spring/meadow complex. The spring/meadow complex is approximately 1.15 acres. It was determined that the spring/meadow complex is functioning at risk with an upward trend. The riparian-wetland area is saturated at or near the surface or inundated in “relatively frequent” events. This is evident due to the facultative wetland and obligate species present at the site. Surface water was present at the site as well. Fluctuation of water levels is not excessive. The hydric species present are being maintained. The riparian-wetland has not received its potential extent. There is bare ground between some of the hummocks and vertical stability could be improved. The upland watershed is not contributing to riparian-wetland degradation. The uplands are in late seral condition. Natural surface and subsurface flow patterns are altered by hummocks. Hydric vegetation is starting to fill back in between the hummocks.

The site has a diverse age-class distribution and composition of vegetation. The vegetation consists of beaked sedge, Nebraska sedge, baltic rush, and mesic forbs. The vegetation is comprised of those plant communities that have root masses capable of withstanding overland flows. Riparian-wetland plants exhibit high vigor- seedheads are present and no yellowing of plants. The upper end of the meadow has adequate vegetative cover to protect soil surface and dissipate energy during overland flows. The lower section, however, has only about 50% cover.

The saturation of soils is sufficient to compose and maintain hydric soils. There was standing water in the spring complex in mid August.

Use had occurred on this meadow from authorized cows for a week. The stubble height was 8+ inches on sedge and rush species.

The spring/meadow complex was determined to be functioning at risk with an upward trend. The upward trend was determined because the areas between hummocks are beginning to fill in with sedges and rushes and the top of the hummocks have sedges and rushes growing on them as well.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Success of grazing systems depends in part upon the managerial control of seasonal timing, duration of use, and degree of forage utilization (Clary and Webster 1989). The proposed action is consistent with the traditional seasonal timing of use that has occurred on the Burnt Creek Allotment since the allotment was adjudicated in 1957 with 76 more cows and 9 fewer days of grazing. The seasonal timing of use under the proposed action would have a mix of cool season use (spring/early summer) with hot season use in the early pasture, and all hot season use in the late pasture. Cool season use is typified by readily available water and succulent forage in the uplands. The water sources are the East and West Tributaries and small seeps and springs dispersed across the allotment. Livestock tend to disperse well into upland sites. With livestock dispersed and a rider present to keep livestock dispersed during the early season, concentration in riparian areas should be limited. Movement of livestock to the next pasture based on use indicators should limit intensity of use. Livestock would be moved into the next pasture, leaving sufficient time for re-growth of riparian plants.

Hot season grazing is typified by higher temperatures, livestock seeking shade, desiccation of upland forage, and scarcity of water, resulting in concentrated use in riparian areas. Concentrated use may contribute to increased trampling damage to banks, soil compaction, utilization of woody species, fecal pollution to the water, and a reduction in the amount of late summer herbaceous regrowth. Livestock management, such as allowable use indicators/criteria to trigger livestock movement, under the proposed scenario would alleviate the problems normally encountered under season long hot season use (MT Riparian Technical Bulletin No. 4, 1998).

The proposed action proposes limiting the intensity of use through several different allowable use indicator/criteria. The allowable use indicator/criteria are based on vegetation composition, current bank stability, and resource conditions in relation to desired conditions. They would be used to trigger livestock movement between pastures and time to be removed from the allotment. The West Tributary would have a 6 inch stubble height on herbaceous hydric species (sedges, rushes, and American mannagrass) until the desired conditions/resource objectives are met. A four inch stubble height would be used on the West Tributary once the desired conditions/resource objectives are met (MT Riparian Technical Bulletin No.4, 1998)

The literature suggests that a four to six inch stubble height on hydric deep rooted herbaceous species would maintain plant vigor, provide streambank protection, and aid deposition of sediments to rebuild degraded banks (Clary and Webster 1989). A shift to shrub use does not usually occur if the livestock are moved when the four inch hydric stubble height is reached (Clary and Webster 1989). The literature also suggests in many cases, leaving a residual herbaceous stubble height of about 4 inches usually results in little or no use of willows. The more conservative stubble height of six inches would help to ensure that a shift to woody vegetation does not occur and would allow for increased establishment of woody vegetation along the streambank. Vegetation plays a dominant role in the erosional stability of

streambanks and in the rebuilding of degraded streambanks. Streamside vegetation serves as a natural trap to retain sediments during high flows. These sediments form the physical basis for new bank structure, and stream bank aggradations serve to narrow and deepen stream channels (Elmore and Beschta 1987, as cited in Clary and Webster 1989). Improved vegetative vigor and residual cover would provide for sediment filtering, increased bank stability, and further development of floodplains (Myers 1989). A six inch stubble height is consistent with the Challis RMP (July 1999) Goal 1, Rationale 5(b) that states livestock would be managed to maintain a six inch minimum stubble height on streams that are functioning at risk with a static or downward trend until an upward trend is reached. The proper functioning condition survey did not assess a trend for the West Tributary. The baseline data for long term trend was established in 2005 and trend has not yet been determined from this data. Ocular observations suggest that the tributary is in an upward trend, but as the resource objectives state, a six inch stubble height would be applied until the resource objectives are met. Once resource objectives are met on the West Tributary, the stubble height trigger would be 4 inches. The site conditions would have more channel resistivity and resilience. The vegetation composition would be comprised of predominately of herbaceous vegetation having deep root binding masses and woody species that would reduce the vulnerability of banks for trampling. The vegetation along the East Tributary is predominately and herbaceous species not conducive to stubble height measurements, so other use indicators, woody use and bank shearing, would be used (Clary and Leininger 2000).

Furthermore, Clary and Leininger (2000) state, “Best Management Practice Guidelines developed under the Idaho Agricultural Pollution Abatement Plan (IDEQ-ISCC 1993) suggest that stubble height criteria should be used where streambank stability is dependent upon herbaceous plants. Alternatively, woody plant utilization or streambank disturbance should be used as a management guide in situations where streambank stability is controlled by substrate or the stream is deeply incised.” This is the rationale used to include stubble height on the West Tributary as one of the use indicator criterion, but is not included on the East Tributary.

One of the resource objectives for the West and East Tributaries and the mainstem of Burnt Creek is to have a minimum of 90% bank stability. Currently, the East Tributary bank stability is 75%, the West Tributary bank stability is 85%, and the mainstem of Burnt Creek at BRNT-KA4 is 90%. The amount of unstable and vulnerable streambanks also affects the amount of physical alteration that can be repaired annually. It is necessary to limit the amount of bank alteration occurring annually, so banks can become stable and reduce sediment loading into the stream. Twenty percent bank shearing indicator is consistent with the Challis RMP (July 1999) Riparian Areas Goal #1, Rationale 6(b) and with *Guidelines for Establishing Allowable Levels of Streambank Alteration* (Ervin Cowley, 2002) for the East and West Tributaries because they are not occupied special status species habitat and the current level of bank stability. A use indicator to trigger livestock movement of 10% streambank shearing is prescribed with the proposed action for both the East and West Tributaries. This use indicator is more restrictive than the Challis RMP, and would allow for streambanks to be repaired annually and bank stability to be maintained or improved (Cowley 2002).

A 50% frequency of nipping on woody species use indicator is also proposed to limit the amount of use on woody species that are less than 4 feet tall. This use indicator is proposed to allow for the recruitment and establishment of woody species to improve the ecological status along the West and East Tributaries. Limiting the use would allow the woody species to mature and provide more cover and stability to the stream. The 50% frequency of nipping equates to about 30% utilization. A 30% allowable use criteria would not affect the normal growth form of the shrub. Furthermore, the movement based on 4 to 6 inch stubble height should preclude any significant use on the woody species because the literature states that livestock do not usually switch to woody species until the stubble height is below 3 to 4 inches. Light to moderate use on woody species generally appears to have little negative effects and, in some cases, may stimulate growth.

Successful riparian grazing systems typically prescribe less than 30 days of use per pasture (Myers 1989). Montana BLM Technical Bulletin No. 4, *Successful Strategies for Grazing Cattle in Riparian Zones* (1998) found that operations having healthy riparian zones did not exceed 45 days unless grazing occurred during the winter. The proposed action is proposing 35 days and 48 days duration of grazing respectively, in the East and West Pastures. This is based on the forage availability in the uplands. Typically, with increased duration of use, the potential severity of impacts from trampling and mechanical damage, soil compaction, and intensity of use (heavy utilization on herbaceous and woody species) increase (Myers 1989). These impacts, however, are mitigated by moving livestock through the use areas more quickly if the allowable use indicator/criteria are met sooner than the allowed time, and by increased riding and herding livestock away from the riparian areas by the permittee and/or hired rider. This is part of the adaptive management strategy for the Burnt Creek Allotment. Duration and timing of use would be altered on a year to year basis based upon current resource conditions, when triggers are met, and the past year's use indicator monitoring to ensure that progress is being made toward meeting the long term objectives.

Release of riparian vegetation generally occurs within 5 to 15 years of changes in livestock grazing management (Skovlin 1984 in Clary and Webster 1989), so resource objectives listed under **Resource Objectives and Associated Monitoring Common to All Alternatives** would be attainable with the proposed changes in livestock grazing management. The data from the Burnt Creek Allotment also shows a change in management takes 10 to 15 years to show a release of riparian vegetation (Burnt Creek RHA, 2007). Therefore, the timeframes in the Resource Objectives are appropriate.

The designated monitoring areas (DMA) within each use area represent the resource conditions and use that is occurring within the management unit. Stubble height, bank shearing, and frequency of nipping on woody use by livestock are being measured at these sites as appropriate (Clary and Leininger 2000). Livestock movement based on these allowable use indicator/criteria at the DMAs, as well as shortening the duration of grazing, would limit the impacts to other riparian areas such as springs and wet meadows. These areas should improve at the same rate as the designated monitoring areas. Furthermore, the Challis Field Office added an additional DMA within the East Pasture on a spring/meadow complex. It was determined by an ID team that the existing two DMAs within the East

Pasture may not represent the use and conditions on the spring/meadow complexes within the East Pasture.

Under the Proposed Action, the Burnt Creek Exclosure would remain closed to livestock grazing until an interdisciplinary team determines that the resource objectives are being met. The objectives of the exclosure fencing are to: 1) improve riparian conditions from poor to good; 2) allow for the reestablishment of woody riparian vegetation in order to stabilize streambanks; and 3) enhance fish habitat. At that time, prescribed grazing may occur within the riparian exclosure as a tool to maintain good vigor and health of the plants, and to assist in meeting other habitat alterations that may need to occur. For example, due to long term rest, litter may accumulate within the wet meadow complexes along Burnt Creek. Accumulation of litter retards herbage production and light grazing periodically is beneficial to maintain herbage production and vigor (Branson 1985, Volland 1978, and Bryant 1988 in Clary and Webster 1989).

Technical Reference 1737-20 *Grazing Management Processes and Strategies for Riparian-Wetland Areas* (2006) and MT Riparian Technical Bulletin #4. (1998) both recognize fences as a tool or technique to exclude livestock use or promote avoidance of riparian areas. Fences also influence distribution of cattle, so that the cattle do not linger along or in riparian/wetland areas. The Burnt Creek Exclosure has been in place depending on the location since 1985, 1986, 1987, or 1999. Data (See RHA 2007) has shown improved conditions and upland trend. Although livestock have entered the exclosure in the past and may again in the future, the fencing has limited the timing, duration, and intensity of use than what occurred under season long grazing without fencing.

The conversion of temporary high tensil electric and barbed wire fence to buck and pole fence, and the locking of gates in the Burnt Creek Exclosure would lessen the potential for livestock to breach the exclosure and access the mainstem of Burnt Creek. This would reduce the potential impacts of livestock use on riparian vegetation and bank trampling to Burnt Creek.

Crossing locations would be approved by BLM fish biologists to limit livestock impacts to stream banks within the exclosure when livestock need to cross Burnt Creek. The disturbance would be limited to three crossing sites (Map B) and for a brief time period. An assessment was conducted when cows crossed Burnt Creek in 2003. It took less than 5 minutes from when the cows crossed the creek for the water to clear. The disturbance to the streambanks was localized due to limiting the area the cows could access and cross the stream and the amount of gravel and cobble within the streambank soils makes the streambanks less vulnerable to streambank damage.

The long-term desired condition of tributaries is designed to minimize any potential negative affects to Burnt Creek. The long-term desired condition is to achieve stable channel conditions (NRST 2003). The INFISH riparian management objective for bank stability is >90%, and therefore applied to the East and West tributaries. The desired vegetative condition is "late" ecological status (Winward 2000). According to the Riparian Area Management (PFC Technical Bulletin, TR 1737-15), "Most plants that are obligate and

facultative wet have root masses capable of withstanding high-flow events.” The Wetland Rating is an index of the relative proportion of these kinds of plants on the greenline. The objective for the Wetland Rating is “Good”, which would indicate about 75% or more OBL and FACW plants.

Alternative 1: No Action -- January 2001 Decision

The impacts would be similar to the proposed action with two exceptions. One, the duration of use would be longer, 109 days versus 83 days. Secondly, the allowable use indicator/criterion for bank shearing would be 20% versus 10% as in the proposed action. The increased duration of use potentially would result in greater physical damage to streambanks, deterioration in plant vigor, and potential failure to provide residual cover for sediment entrapment. (Myers 1989).

The duration of use would be limited, however, by the allowable use indicator/criteria, which would over time establish the suitable length of the grazing treatment and the management would be adapted based on monitoring data (Tech.Reference 1737-20 2006). Twenty percent bank shearing would allow for bank stability to increase over time. Alternative 1 would maintain or improve the current bank stability on the mainstem of Burnt Creek. The East Tributary bank stability is 75% and the West Tributary bank stability is 85%. As stated in the Affected Environment, the East and West Tributaries are having little or no effect on increasing fine sediments to the mainstem of Burnt Creek. The objective for these two tributaries is to have a minimum of 90% stable banks. The amount of unstable and vulnerable streambanks affects the amount of physical alteration that can be repaired annually. It is necessary to limit the amount of bank alteration occurring annually, so that banks can become stable and reduce sediment loading into the stream. Twenty percent bank shearing is consistent with the Challis RMP (July 1999) Riparian Areas Goal #1, Rationale 6(b) and with *Guidelines for Establishing Allowable Levels of Streambank Alteration* (Ervin Cowley, 2002) for the East and West Tributaries because these streams are not occupied habitat for special status species. The twenty percent bank shearing would allow for the attainment of the objective of 90% bank stability.

Alternative 2: 2002 Grazing Decision

Under this alternative floodplains and riparian zones would continue to improve due to the change in season to late summer/fall, kind of livestock to dry cows (cows without calves) from cow/calf pairs, and the continued use of grazing use indicator criteria to trigger livestock movement. Seasonally wet soils should be dry by this time of year. Upland seep and spring areas should be drier, less attractive to livestock lounging and concentrating, and more resistant to trampling impacts. Riparian vegetation would be able to grow and set seed prior to livestock grazing each year. This should expedite the recovery and proliferation of riparian and aquatic species. With the cooler temperatures and dry cows, the livestock are more likely to disperse, resulting in less concentration of use within the riparian areas resulting in less trampling and mechanical damage to stream banks and vegetation, less soil compaction, and plant utilization. (MT Riparian Tech. Bulletin No. 4 1998). The application of allowable use indicator/criteria would help ensure riparian vegetation is not excessively

grazed or browsed by livestock (Clary and Leininger 2000). Undesirable riparian plant communities should succumb to hydric communities and functional-at-risk streams would become properly functioning streams. Under this alternative, however, with the fall grazing season, use on woody species would likely be increased by livestock and could hinder the recovery and regeneration of woody species. The use criteria of no more than 50% frequency of nipping of woody species, though should limit the amount of use (Stickney 1966). With the cows dispersing more and using the uplands more effectively, however, livestock trespassing onto neighboring allotments could result.

With construction of the temporary electric fence along the West Tributary below the road to the existing enclosure, riparian plant vigor is expected to increase and the plant community to become more diverse. Increased ground cover and root development would increase soil water storage and sediment trapping. The permittee having the ability to use seasonal temporary electric fence to protect sensitive riparian areas along the East and West Tributaries and other upland springs as needed, would allow for improved riparian plants, increase in the young class of willows, and maintain their time on the allotment (Tech. Reference 1737-20 2006).

An essential component of proper riparian management is finding ways to influence the amount of time livestock spend in the riparian areas. One technique is the use of annual/seasonal temporary electric fences (MT Riparian Tech. Bulletin No. 4 1998). Temporary electric fencing can be an effective tool for improving distribution so that parts of a pasture can be grazed while others are rested. Using annual/seasonal temporary electric fences from year to year to break up grazing patterns and facilitate implementation of rangeland management practices provides flexibility in obtaining long-term objectives (Tech. Reference 1737-20 2006). Livestock exclusion [from riparian zones] has consistently resulted in the most dramatic and rapid rates of recovery (Elmore and Kauffman 1994 in MT Riparian Tech. Bulletin No. 4 1998). Therefore, the use of annual/seasonal temporary electric fences should allow for improved riparian conditions by limiting the duration and intensity of use on riparian/wetland areas. Also, temporary electric fences placement based on monitoring data and current resource conditions provide the most flexibility for overall management of the Burnt Creek Allotment.

This alternative was implemented for two years, 2002-2003. The East Pasture was used for an average of 12 days and 62 AUMs and the West Pasture was used for an average of 30 days and 219 AUMs. The end of season stubble height was 3 inches on the East Tributary and 5 inches on the West Tributary. The bank shearing was 3% on both tributaries and woody browse was slight. The weather was a big factor on the duration of use and the distribution of use. October snow storms pushed cows down into the bottom and the cattle wanted to go home. This alternative is proposing to authorize cattle as long as annual indicators are met to be use the East Pasture for up to 28 days and the West Pasture for 34 days. It is likely that the East Pasture would not be used for the full number of days, but the West Pasture depending on the weather and annual indicators would likely be able to be used for the 34 days.

Alternative 3:

Impacts would be similar to the proposed action except for the duration of use, construction of off stream water, and salt/mineral block use to reduce the intensity of use by influencing distribution. The duration of use would be for 62 days versus 109 days, with the West and East Pastures potentially being used for approximately 36 days and 26 days respectively. Pastures with grazing use 30 days or less have been found to be successful in meeting riparian desired conditions (Myers 1989). Montana BLM Technical Bulletin No. 4, *Successful Strategies for Grazing Cattle in Riparian Zones* (1998), found that operations having healthy riparian zones did not exceed 45 days unless grazing occurred during the winter. The shorter duration of use along with the same allowable use indicator/criteria to trigger livestock movement between pastures and allotment off date would allow for riparian improvements similar to those described in the proposed action (Clary and Webster 1989). The early use pasture would have cold season grazing and the late pasture would have all hot season grazing as described under the proposed action. Alternative 3 also reduces the number of permitted AUMs by 22%. Myers (1981) found that stocking rates are important. He recommended using a light to moderate stocking rates in all cases where riparian habitat improvement is the goal. This reduction would be a light stocking rate.

Under Alternative 3, the allowable use indicator/criterion for streambank stability would be based on total bank alteration rather than bank shearing. The justification for this change is based on Cowley (2002), "Determining Streambank Alteration," which suggests a bank alteration of 16% with a 95% confidence, +/- 6%. The criterion would change from 10% bank shearing to 20% total bank alteration. This is consistent with the *Guidelines for Establishing Allowable Levels of Streambank Alteration* (Ervin Cowley, 2002) for the East and West Tributaries because they are not occupied special status species habitat and the current level of bank stability. This allowable use indicator/criterion would allow for streambanks to be repaired annually and bank stability to be maintained or improved. (Cowley, 2002) Additionally, assessing livestock impacts to streambanks based on total bank alteration (shears and tramples) rather than bank shearing alone will allow for more consistent data collection. For example, during our monitoring calibration training days, participants were able to agree on bank alteration, but there was high a degree of variability differentiating between bank shearing and trampling.

Relying on total bank alteration would result in a more representative assessment of livestock impacts on streambanks than bank shearing. For example, total bank alteration on the West Tributary in 2006 was 13% and the bank shearing was 4%; based on this relationship a bank shearing proportion of 10% would equate to 30% total bank alteration. As a further example, after livestock were trailed across Burnt Creek at crossing C during the 2007 grazing season, allowable use indicator/criteria monitoring data was collected. Total bank alteration was 47%, and bank shearing was 7%. This demonstrates that bank shearing met the 10% criterion, but the total bank alteration would be greater than the proposed 20% total bank alteration. Therefore, a 20% total bank alteration allowable use indicator/criterion would reduce alteration and allow for improved bank stability. It should be pointed out, however, there is not a bank alteration allowable use indicator/criterion for the Burnt Creek livestock crossing locations. Bank alteration would be applied to the designated monitoring areas

(DMAs) on the East and West Tributaries of Burnt Creek.

Influencing the amount of time livestock spend in the riparian area is an essential component of proper riparian management. Many techniques or strategies exist including but not limited to off-stream water, salting, fencing, and herding (MT Riparian Tech. Bulletin #4 1998 and TR-1737-20 2006). Of these, the single most important may be the development of off-stream (alternate) water.

The two troughs proposed to be installed to provide off-stream water from the East and West Tributaries and one trough from the Burnt Spring East Spring/Meadow complex would reduce the amount of time cows used the stream. Livestock prefer to drink from a clear source where they have good footing rather than a stream channel. Providing alternative water sources away from the East and West Tributaries and Burnt Spring East Spring/Meadow would change the use patterns occurring within the Burnt Creek Allotment. Less use would occur at the existing water sources (East and West Tributaries and springs) and more use would occur in the surrounding uplands where the alternate water sources occur. This would allow for improved riparian conditions. The riparian conditions would improve by having less bank alteration by livestock as they access the streams for water. This would assist in improving bank stability. Lower utilization levels by livestock would allow for maintenance and recovery of these streams by: 1) developing a diverse age-class distribution of riparian-wetland vegetation for recruitment, 2) obtaining a diverse composition of riparian-wetland vegetation, 3) riparian-wetland vegetation exhibiting high vigor, and 4) obtaining an adequate riparian-wetland vegetative cover present to protect banks and dissipate energy during high flows (MT Riparian Tech. Bulletin No. 4 1998 and TR 1737-20 2006).

Salting can contribute to livestock distribution when used in conjunction with the other techniques. Kinch (1989) recommended salt and supplements be placed a minimum of a quarter-mile from a stream and preferably at least a half-mile. Therefore, the placement of salt and/or mineral blocks shall not be placed within ¼ mile of springs, streams, meadow riparian habitats, or aspen stands unless prior approval is given by the authorized officer is an appropriate term and condition.

Alternative 3 also employs the use of annual/seasonal temporary electric fences (MT Riparian Tech. Bulletin No. 4 1998). Temporary electric fencing can be an effective tool for improving distribution so that parts of a pasture can be grazed while others are rested. Using annual/seasonal temporary electric fences from year to year to break up grazing patterns and facilitate implementation of rangeland management practices provides flexibility in obtaining long-term objectives (Tech. Reference 1737-20 2006). Livestock exclusion [from riparian zones] has consistently resulted in the most dramatic and rapid rates of recovery (Elmore and Kauffman 1994 in MT Riparian Tech. Bulletin No. 4 1998). Therefore, the use of annual/seasonal temporary electric fences should allow for improved riparian conditions by limiting the duration and intensity of use on riparian/wetland areas. Also temporary electric fences placement based on monitoring data and current resource conditions provide the most flexibility for overall management of the Burnt Creek Allotment.

Furthermore, an evaluation of the current temporary Burnt Creek Exclosure shows that a more effective location for the lower mile on the East side of the exclosure within the Burnt Creek Allotment would be on the bench above the stream. At the current location, cattle are drawn down and trail along the fence and try to access the stream. By relocating the fence on the bench above, the cattle would be less likely to access the exclosure. As stated above, exclosures have consistently resulted in the most dramatic and rapid rates of recovery. The relocation of the fence would also exclude Burnt Spring #1 from use. This spring was developed in 1969 by creating a pond at the spring source. Currently, there is a willow at the head of the spring and below the spring is a bare area where water flows intermittently. Excluding cattle use would allow this area to heal and hopefully in the long term have continuous water flow. Adjusting fence locations based on evaluation of effectiveness is a valid action according to TR 1737-20 (2006).

Alternative 4:

Alternative 4 would provide rest every other year for each pasture. The duration of use would be for 62 days which is twice as long as most successful grazing strategies for riparian improvement and maintenance (Myers 1989 and MT Riparian Tech. Bulletin No. 4 1998). The allowable use indicator/criteria triggering movement from the allotment, however, would limit the intensity of use to that which would allow for riparian improvement (Clary and Webster 1989). The removal of the Cook Fence would change the distribution of cattle. It would eliminate the potential for cattle to bunch up along the fence just above the Burnt Creek Road along the lower end of the West Tributary. However, it may put more pressure on the Burnt Creek Exclosure requiring more maintenance of the exclosure fence and more riding to ensure that cattle do not breach the exclosure.

Alternative 5:

The impacts would be similar to the proposed action except that one year out five each of the pastures would be rested and 1 year out of five early summer use or cool season use would occur while the upland forage was still succulent. Three out of five years the season of use would occur prior to the beginning of August allowing for regrowth of riparian vegetation for sediment filtering and bank stabilization for the next high flow event. The permittee having the ability to use seasonal temporary electric fence to protect sensitive riparian areas along the East and West Tributaries and other upland springs as needed, would allow for improved riparian plants, increase in the young class of willows, and maintain their time on the allotment (MT Riparian Tech. Bulletin No. 4 1998).

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>Wetland/Riparian zones</p> <ul style="list-style-type: none"> Seasonal timing of livestock grazing affects livestock behaviors and forage preferences Duration of use – literature states that successful riparian systems have less than 45 days of grazing Intensity of use – affects vegetation vigor, composition of vegetation, bank stability Protection of sensitive riparian areas Tools to influence time livestock spend in riparian areas Proper functioning riparian areas 	<ul style="list-style-type: none"> Seasonal Timing – cool season/hot season Duration of use – 83 days – 41/42 days per pasture Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing Burnt Creek Exclosure closed to livestock Converting Burnt Creek Exclosure from barbed wire/high tensil electric fence to buck and pole fence and including the West Tributary below the Burnt Creek Road Gates locked on the Burnt 	<ul style="list-style-type: none"> Seasonal Timing – cool season/hot season Duration of use - 109 days; 54/55 days per pasture Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 20% bank shearing Burnt Creek Exclosure closed to livestock Burnt Creek Exclosure continuing to be a mix of barbed wire and high tensil electric fence Gates not locked on the Burnt Creek Exclosure Crossing locations not identified 	<ul style="list-style-type: none"> Seasonal Timing – fall use Duration of use – 61 days; 30/31 days per pasture Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing Burnt Creek Exclosure closed to livestock Burnt Creek Exclosure continuing to be a mix of barbed wire and high tensil electric fence Gates not locked on the Burnt Creek Exclosure .2 miles of temporary electric fence protecting the West 	<ul style="list-style-type: none"> Seasonal Timing – cool season/hot season Duration of use –62 days; 26 days in East Pasture, 36 days in West Pasture Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 20% total bank alteration Burnt Creek Exclosure closed to livestock grazing Converting Burnt Creek Exclosure from barbed wire/high tensil electric fence to all barbed wire .2 miles of temporary electric fence protecting the 	<p>Wetland/Riparian zones</p> <ul style="list-style-type: none"> Seasonal timing of livestock grazing affects livestock behaviors and forage preferences Duration of use – literature states that successful riparian systems have less than 45 days of grazing Intensity of use – affects vegetation vigor, composition of vegetation, bank stability Protection of sensitive riparian areas Tools to influence time livestock spend in riparian areas Proper functioning riparian areas 	<ul style="list-style-type: none"> Seasonal Timing – cool season/hot season Duration of use – 83 days – 41/42 days per pasture Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing Burnt Creek Exclosure closed to livestock Converting Burnt Creek Exclosure from barbed wire/high tensil electric fence to buck and pole fence and including the West Tributary below the Burnt Creek Road Gates locked on the Burnt

	<p>Creek Exclosure</p> <ul style="list-style-type: none"> Crossing locations identified and cross fences added to exclosure to keep cattle within these crossing areas Drift fences constructed between the Dry Creek and Burnt Creek <p>Allotment to limit the potential for unauthorized use</p>		<p>Tributary between Burnt Creek Road and the existing exclosure fence</p> <ul style="list-style-type: none"> Crossing locations not identified Use of seasonal temporary electric fence to protect sensitive riparian areas 	<p>West Tributary between Burnt Creek Road and the existing exclosure fence</p> <ul style="list-style-type: none"> Relocation of one mile of the lower Eastside of the Burnt Creek Exclosure Gates locked on the Burnt Creek Exclosure Temporary electric Crossing locations identified and an alternative identified if spawning has been initiated Drift fences constructed between the Dry Creek and Burnt Creek <p>Allotment to limit the potential for unauthorized use</p> <p>Tools</p>	<p>riparian areas</p>	<p>Creek Exclosure</p> <ul style="list-style-type: none"> Crossing locations identified and cross fences added to exclosure to keep cattle within these crossing areas Drift fences constructed between the Dry Creek and Burnt Creek <p>Allotment to limit the potential for unauthorized use</p>
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WATER QUALITY

Affected Environment

Perennial surface water in the Burnt Creek sub-watershed emerges from spring surfaces on BLM administered lands in the Burnt Creek Allotment. Snow-melt also contributes surface water during spring runoff and contributes to recharge or spring sources in the headwaters. Much of the surface water in Burnt Creek arises from springs located in the southeast corner of Section 32, where the West Fork and East Fork of Burnt Creek have their confluence.

No Total Maximum Daily Load (TMDL pollutant allocation) has been developed by IDEQ for Burnt Creek or its tributaries (IDEQ, 2001); however, Burnt Creek, from source to mouth, was identified in Idaho Department of Environmental Quality's (IDEQ) 2002/2003 Integrated 303(d)/305(b) Report (the Clean Water Act 303(d) list) as impaired by "Unknown" pollutants (IDEQ, 2002). The listing of Burnt Creek includes the tributaries of the creek. The "Unknown" category, as described in the Integrated Report document, is used when existing data and information (biological, chemical or physical) are insufficient to support a water quality standard attainment determination. In the case of Burnt Creek, IDEQ feels it is reasonable and prudent to leave the cause as "Unknown," until a source or sources of impairment can be accurately determined in a subsequent (to 2001) subbasin assessment phase of the TMDL process. Another contributing factor to sources of impairment in Burnt Creek is intermittent reaches that occur on private and BLM lands well downstream of the Burnt Creek Allotment. In areas of livestock grazing, the most common water pollutants identified by IDEQ are sediment and temperature, which have been identified as pollutants to the mainstem Pahsimeroi River downstream from Burnt Creek (IDEQ, 2001).

Aquatic macroinvertebrates and resultant biotic indices are commonly used to evaluate water quality. In 1993, prior to the completion of the Burnt Creek exclosure fence, a quantitative aquatic macroinvertebrate sample was collected from Burnt Creek, within the Burnt Creek Allotment. The Modified Hillsenhoff Biotic Index (MHBI) is a biotic index commonly used to detect nutrient enrichment, high sediment loads, low dissolved oxygen, and thermal impacts (Vinson 1994; Hillsenhoff 1988). This index places sample sites into classes of nutrient enrichment, including: clean (0 – 2), slightly enriched (2 – 4), enriched (4 – 7), and polluted (7 – 10). The MHBI value reported for Burnt Creek in 1993 was 3.4, and corresponds to a rating of "slightly enriched." Given the exclosure fence was completed in 1999, and the mainstem of Burnt Creek has been minimally exposed to livestock since 1999 (exceptions include trespass, and limited stream crossings), this index is anticipated to have improved, and organic pollution is not appreciable in Burnt Creek.

In 2006 monitoring, it was determined that stream bank vegetation within the Burnt Creek exclosure offered substantial support to Burnt Creek stream banks. The vegetation was also found to be adequate to reduce excess sediment delivery to Burnt Creek within the exclosure. The percent of streambank stability for reaches BRNT-KA4, BCWT-KA1, and BCET-KA2 are: 90%, 85%, and 75%, respectively. The INFISH riparian management objective and Challis RMP *Attachment 15: Minimum Riparian and Aquatic Habitat Conditions* for bank

stability is >90%, the objective for the Burnt Creek Allotment streams. One of the three streams on the allotment has reached 90% stable banks. The remaining two streams are in an upward trend and are close to meeting the INFISH and RMP objective. Riparian vegetation along the Burnt Creek tributaries was relatively intact in 2002, and was found to support stream bank stability such that no excess sediment transport from tributaries into Burnt Creek was identified in 2002 (Burton, 2002).

A summary of Tim Burton's 2002 report follows:

In 2002, and then again in 2006, the potential impacts of livestock use in the East and West tributaries was evaluated by evaluating the substrates of Burnt Creek immediately upstream and downstream of the mouth of the West Tributary. Pebble counts were used to evaluate fine sediment conditions in the substrate, as suggested by Potyondy and Hardy (1995), King and Potyondy (1993), and Bevenger and King (2001). Results indicated that substrate fine sediments were significantly greater upstream of the mouth of West Tributary in both 2002 and 2006, suggesting that the tributary had little or no effect on increasing fine sediments to Burnt Creek. Photo points in the East and West Tributaries indicated that the incisions in those channels are old, showing side slopes which have achieved the angle of repose, and aged riparian vegetation on the bottom of the channel. This suggests that erosion there in this area resulted from historic overgrazing and not recent disturbances. Relatively dense riparian vegetation created locally stable channel conditions within the tributaries. Such vegetation concentrations would reduce the effect of floods and erosion/sedimentation on Burnt Creek by redistributing fine sediments, during flood, onto the adjacent floodplains. It was estimated that approximately 5% of the channels were receiving impacts from recent cattle trampling on the banks.

Burnt Creek water temperature is discussed in the **Threatened/Endangered Fish; Sensitive Fish; Fisheries** section.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

The mainstem Burnt Creek is currently protected from excessive livestock grazing by high tensile electric and barbed wire enclosure fencing. The long term trend data is showing an upward trend and the bank stability is 90% at key area BRNT-KA4. This key area is along a reach that was fenced in 1999. The proposed action would maintain or improve the current bank stability on the mainstem of Burnt Creek. The East Tributary bank stability is 75% and the West Tributary bank stability is 85%. As stated in the Affected Environment, the East and West Tributaries are having little or no effect on increasing fine sediments to the mainstem of Burnt Creek. The objective for these two tributaries is to have a minimum of 90% stable banks. The amount of unstable and vulnerable streambanks affects the amount of physical alteration that can be repaired annually. It is necessary to limit the amount of bank alteration occurring annually, so banks can become stable and reduce potential sediment loading into the stream. Twenty percent bank shearing is consistent with the Challis RMP

(July 1999) Riparian Areas Goal #1, Rationale 6(b) and with *Guidelines for Establishing Allowable Levels of Streambank Alteration* (Ervin Cowley, 2002) for the East and West Tributaries because these streams are not occupied habitat for special status species. An allowable use indicator/criterion to trigger livestock movement of 10% streambank shearing is proposed with the proposed action. This allowable use indicator/criterion is more restrictive than the Challis RMP, and would allow for the streambank to be repaired annually, and bank stability to be maintained or improved. This in turn, should limit the amount of sediment being added to the Burnt Creek and improve water quality.

The Resource Objective to improve ecological condition would result in an increase in hydric species with deep binding roots (Winward 2000). An increase in hydric species with deep binding roots is essential to water quality. The presence of herbaceous vegetation improves water quality by enhancing sediment deposition. This process often facilitates the channel restoration process particularly in small-stream (e.g., ~5 m width or less) systems (Hawkins 1994, Clary et al. 1996, Pearce et al. 1998a in Clary and Leininger 2000).

One issue of concern that arose during scoping was unauthorized livestock grazing in the Burnt Creek Exclosure. The proposed action would change the fence from high tensil electric and barb wire to a buck and pole exclosure fence. With this proposal, the exclosure fence would likely experience less pressure from livestock and decrease the potential of livestock breaching the exclosure fence. Riparian vegetation on the mainstem of Burnt Creek would continue to provide stabilization for stream banks and some shade for the water, and thus maintain or improve instream sediment and temperatures.

In the past, unauthorized livestock use in the Burnt Creek exclosure has occurred. The cattle entered the exclosure primarily through gates that had been left open. This alternative (also alternatives 3, 4, and 5) proposes locking 6 gates. There would be two gates which would remain unlocked allowing people to access the exclosure and the East Pasture from the West Pasture. In 2003, with locked gates, the gates remained closed and cattle did not access the exclosure.

Because no motor vehicles would be used off the access road, construction of the temporary buck and pole exclosure fence, would likely have no negative impact on water quality.

Livestock crossing of Burnt Creek would occur in approved fording areas (see Map B). Localized affects to Burnt Creek, such as streambank trampling, disturbance of the streambed, and short term bursts of instream turbidity, would be expected to occur from livestock crossing the stream. It is expected that sediment delivered into Burnt Creek due to livestock crossing would be suspended in the water column for a short duration. Since sediment particles would be predominantly silt-sized, it is anticipated they would fall out of the water column within the next three miles, but would be available in the channel for remobilization. An assessment was conducted when cows crossed Burnt Creek in 2003. It took less than 5 minutes from when the cows crossed the creek for the water to clear. The disturbance to the streambanks was localized due to limiting the area the cows could access and cross the stream and the amount of gravel and cobble within the streambank soils.

Alternative 1: No Action -- January 2001 Decision

The Burnt Creek enclosure fence would remain in place under this alternative which would continue to exclude livestock grazing within the riparian area adjacent to Burnt Creek. Therefore, impacts would be similar to the proposed action and to those described under the **Wetlands/Riparian Zones and Threatened/Endangered Fish; sensitive fish; fisheries** sections under Alternative 1. However, livestock crossing locations are not specified under this alternative; impacts identical to those described under the Proposed action would occur, but not in known specified locations as under the Proposed Action and Alternative 3.

Under this alternative, one of the allowable use criterion for riparian areas is 20% bank shearing. Twenty percent bank shearing is consistent with the Challis RMP (July 1999) Riparian Areas Goal #1, Rationale 6(b) and with *Guidelines for Establishing Allowable Levels of Streambank Alteration* (Ervin Cowley, 2002) for the East and West Tributaries because these streams are not occupied habitat for special status species. The current bank stability ratings for BRNT-KA4 is 90%, for BCWT-KA1 is 85%, and for BCET-KA2 is 75%. The amount of unstable and vulnerable streambanks affects the amount of physical alteration that can be repaired annually. The current conditions are at or near the minimum bank stability objective of 80%. The banks therefore would be able to withstand the 20% bank shearing and still be able to maintain or improve the bank stability on the East and West Tributaries to meet the 80% bank stability objective.

The stubble height criteria would allow for the trigger to be 4 inches if the use occurred prior to July 10, but any use after July 10 would require a 6 inch stubble height trigger. Use prior to July 10 would allow for sufficient regrowth of riparian plants for maintenance of plant vigor and streambank protection. The 6 inch stubble height trigger would provide sufficient herbaceous forage biomass to meet requirements of plant vigor maintenance, bank protection, and sediment entrapment.

Improving bank stability and moving towards late seral riparian vegetation would indirectly improve water quality by decreasing the amount of sediment that enters the stream.

An increased potential exists for unauthorized livestock grazing under this alternative because locking of 6 gates was not included as a term and condition. Thus, potential impacts from unauthorized livestock to the riparian area would be greater than if the gates were locked.

Alternative 2: 2002 Grazing Decision

The impacts would be similar to the Proposed Action and to those described under the **Wetlands/Riparian Zones and Threatened and Endangered Fish; Sensitive Fish; Fisheries** sections of Alternative 2.

However, water quality in West Tributary would be further protected through construction of an additional 0.2-mile of electric fence below the road (Table 14). Although, there may be concentrated livestock use above the fence.

An increased potential exists for unauthorized livestock grazing under this alternative because locking of 6 gates was not included as a term and condition. Thus, potential impacts from unauthorized livestock to the riparian area would be greater than if the gates were locked.

Alternative 3:

The impacts to water quality in mainstem Burnt Creek would be similar to the Proposed Action and to those described under the **Wetlands/Riparian Zones** and **Threatened/Endangered Fish; Sensitive Fish; Fish** sections of Alternative 3 of this EA. However, additional fencing, upland water developments, and fence relocations (Table 14) would reduce the impacts to water quality in upland spring sources and the West tributary to Burnt Creek over the current situation.

The mainstem Burnt Creek, protected from grazing by temporary exclosure fencing, would experience little change from current impacts under this alternative when the fence is closed to livestock access of the exclosure. Riparian vegetation on the mainstem Burnt Creek, where protected, would continue to provide stabilization for stream banks and some shade for the water, and thus maintain and improve sediment levels and water temperatures in Burnt Creek.

Approved crossing locations, and short-duration cattle crossing of Burnt Creek would minimize crossing impacts to the stream banks, especially trampling, although there would likely be some small input of sediment to Burnt Creek during the crossing.

The troughs that would be located near the West and East Tributaries to Burnt Creek and the Burnt Spring East would serve to reduce livestock pressure and alteration in these areas. The proposed trough locations are anticipated to be far enough from the drainage channel that sediment would not be delivered except under the most extreme weather conditions. The use of the troughs instead of the surface water for livestock watering would reduce the likelihood and amount of sediment transfer from channel and spring banks into the surface water. Delivery of instream sediment to Burnt Creek would likely not occur during the grazing season, as runoff generally occurs by mid-June.

Miner, Buckhouse, & Moore (1995) determined that over 99% of the time, the fecal coliform in a stream in a rangeland pasture is dominated by direct deposition of animal fecal matter, rather than fecal material which is “washed” into the stream during a runoff event. This study also determined that under winter feeding conditions the amount of time that the animals spend in a stream can be reduced by more than 90 percent through the presence of a watering trough. Similar patterns of use would be anticipated under this alternative during summer use. The literature further states that the potential for this mode of surface water contamination depends upon the density and the availability of access by livestock to the stream, and the amount of time livestock are on site. Clawson (1993) found that summer stream use dropped from 4.7 to 0.9 minutes/cow/day and bottom land use dropped from 8.3 to 3.9 minutes/cow/day when a water trough was provided as an alternate water source.

Therefore, providing alternative water sources generally reduces the amount of time cattle spend in a stream. This in turn can be expected to reduce direct deposition of fecal matter, which would decrease the potential for adverse affects to surface water from grazing livestock.

Alternative 4:

The impacts to Burnt Creek would be similar to the Proposed Action and to those described under the **Wetlands/Riparian Zones** and **Threatened/Endangered Fish; Sensitive Fish; Fish** sections of Alternative 4 of this EA.

The mainstem Burnt Creek, protected from grazing by exclosure fencing, would experience little change from current impacts under this alternative when fence is closed to livestock access of the exclosure. Riparian vegetation on the mainstem Burnt Creek, where protected, would continue to provide stabilization for stream banks and some shade for the water, and thus keep instream sediment and temperatures much as they currently are.

The crossing of Burnt Creek at the culvert off of the allotment would minimize crossing impacts to the stream banks, especially trampling, although there would likely be some small input of sediment to Burnt Creek during the crossing.

The locked gates on the exclosure fences will further reduce potential for impacts to riparian areas along Burnt Creek within the exclosure from unauthorized livestock use.

Alternative 5:

The impacts to Burnt Creek within the exclosure would be similar to the Proposed Action and to those described under the **Wetlands/Riparian Zones** and **Threatened/Endangered Fish; Sensitive Fish; Fish** sections of Alternative 5 of this EA.

Summary

Element	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<ul style="list-style-type: none"> • Bank stability • Meet Riparian Health Standard • Sediment • Proper functioning condition riparian areas 	<ul style="list-style-type: none"> • Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing • Crossing locations identified and cross fences added to enclosure to keep cattle within these crossing areas 	<ul style="list-style-type: none"> • Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing • Crossing locations not identified • Use of seasonal temporary electric fence to protect sensitive riparian areas 	<ul style="list-style-type: none"> • Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing • Crossing locations identified and an alternative identified if spawning has been initiated • Use of seasonal temporary electric fence to protect sensitive riparian areas • Seasonal temporary electric fence around East Burnt Creek spring/meadow complex • 3 alternative water sources identified 	<ul style="list-style-type: none"> • Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing • Crossing locations not identified • Half of the allotment rested each year 	<ul style="list-style-type: none"> • Intensity – 50% frequency of nipping on woodies; 4-6” stubble height; 10% bank shearing • Crossing locations not identified • Rest incorporated into the system once every 5 years at a minimum 	

THREATENED/ENDANGERED FISH; SENSITIVE FISH; FISHERIES

Affected Environment

Fish species known to occur in Burnt Creek, within the Burnt Creek Allotment, include bull trout and rainbow trout. The BLM conducted fisheries surveys in Burnt Creek between 1994 and 1998. These surveys identified bull trout, rainbow trout, and possibly non-native brook trout/bull trout hybrids in Burnt Creek. In June, 2003, a USFS fisheries crew electrofished 10 reaches of Burnt Creek for a total of 692 meters, between the headwater springs and the private land in lower Burnt Creek. Bull trout and rainbow trout were documented during the survey. Brook trout/bull trout hybrids were not detected. Westslope cutthroat trout, a State of Idaho and BLM sensitive salmonid, are not present on the allotment.

The most recent fish sampling efforts in Burnt Creek, within the Burnt Creek Allotment, were conducted by BLM fish biologists during the summer of 2007 (7/25/07 – 8/8/07). A total of 4 sites were sampled; 2 sites were in the Upper Pahsimeroi Allotment below the West Tributary of Burnt Creek, and 2 sites were within the Burnt Creek Allotment. These sites were selected to repeat sampling effort that was conducted in 1986 (Angradi *et al.* 1986). The distribution of bull trout during both sampling efforts (1986, 2007) was primarily limited to the upper reaches of Burnt Creek, which occur entirely in the Burnt Creek Allotment. A single bull trout was documented downstream of the Burnt Creek Allotment in 2007; no bull trout were documented downstream of the Burnt Creek Allotment in 1986. It remains clear that bull trout in Burnt Creek almost entirely occur during the summer months within the Burnt Creek Allotment.

From 2001 through 2005, the BLM conducted spawning surveys on Burnt Creek to determine where the primary spawning areas are and when bull trout initiate spawning. The survey reach is from the headwater springs downstream to the lower allotment boundary. In 2001, a survey was done on September 17. Two “test” digs were noted but no completed redds were observed. In 2002, a survey was done on September 24, and two completed redds and numerous fish believed to be constructing redds were observed. In 2003, weekly spawning surveys were conducted from September 17 through October 23. The peak of spawning occurred between October 2 and October 16, with a total of 108 redds observed. In 2004, weekly surveys were conducted from August 16 through September 21. Redds were not observed until September 13th. In 2005, weekly spawning surveys were conducted from August 24 through October 12. The first redd was observed on September 13, and numerous redds were observed in late September and October. Similar temporal and spatial patterns of bull trout spawning activity were observed during spawning surveys conducted in 2007, from August 23 through October 10; redds were first documented on 9/12/2007. A total of 74 redds were documented in the mainstem of Burnt Creek, within the Burnt Creek Allotment, as of 10/10/2007.

The 1996 R1/R4 stream survey data collected at two locations (Exclosure 6 and BRN-KA4) indicate that stream channel conditions were being altered where livestock had access to the

creek. These alterations included stream channel widening, decreased stream bank stability, and increased fine sediments. To improve instream habitat conditions, exclosure fences were expanded to include the mainstem of Burnt Creek from the spring at the head of exclosure 7 (SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 32, Township 10 North, Range 24 East, BM) to the allotment boundary at exclosure 5 (SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 20, Township 10 North, Range 24 East, BM). By 1999, all the perennial segments of the mainstem of Burnt Creek on the allotment were within the exclosure. As a result, livestock no longer have access to Burnt Creek within the allotment. Subsequent BLM monitoring of the allotment indicate that riparian vegetation is recovering within the exclosure.

In July 2002, the BLM investigated the East and West Tributaries of Burnt Creek to determine if increased livestock use on the tributaries was affecting bull trout habitat in Burnt Creek (Burton 2002). A pebble count procedure was used to analyze substrates and determine if fine sediment from the tributaries was impacting spawning substrates, which could lead to reduced reproductive success by bull trout in Burnt Creek. The results of the pebble counts showed that the percentage of fines (< 6mm) above the West Tributary in Burnt Creek was 30%, and below the West Tributary the percentage of fines was 16%. The conclusion was there is no evidence that inputs of fine sediment, sufficient to cause degradation to bull trout habitats, are entering Burnt Creek from the West Tributary. It was also determined that there is no evidence that East or West tributary channel disruption is sufficient enough to cause changes in flood regime and disturbance of bull trout redds in Burnt Creek. There also was no evidence that nutrient supplies are limiting growth or other adverse physiological changes to bull trout within Burnt Creek (Burton 2002). In July of 2006 pebble counts were again conducted above and below the West Tributary in Burnt Creek, and the percentage of fines (< 6mm) observed above and below was 16% and 13%, respectively. This substantiates the previous conclusions that there is no evidence that inputs of fine sediment, sufficient to cause degradation to bull trout habitats, are entering Burnt Creek from the West Tributary. Furthermore, the amount of fine sediments in Burnt Creek was shown to have decreased.

Burton (2002) determined that the East and West Tributaries of Burnt Creek did not pose a threat to bull trout habitats and did not represent a reasonable certainty of take. The rationale for this determination is based on:

- a) The lack of a continuous, discernable, and well-developed channel in either tributary.
- b) No evidence of recent incision, suggesting that an increase in flood regime is not occurring. The old incision, now filled with riparian vegetation, likely resulted after beaver dam failures and disturbance associated with beaver removal, intense sheep grazing and/or wildfires.
- c) High densities of riparian vegetation within the tributary channels suggests that nutrient supply potentials have not been adversely affected by grazing.

On May 21, 2003, the National Riparian Service Team (NRST) visited the Burnt Creek Allotment with the BLM and the USFWS. The purpose of the visit was to review the riparian condition on the East and West Tributaries. The NRST walked the lower 1.4 mile of the West Tributary and noted that where the stream channel was protected by the riparian

exclosure, the width-to-depth ratios were much reduced and stream banks were stable and well vegetated. Woody plant species were a significant component of the plant community. The stream channel in May of 2003, during snowmelt runoff, exhibited a resorting of bedload with gravels beginning to emerge. Conditions in the exclosure were such that, during high flow events, the stream could escape the banks and spread out over a significant floodplain. On the mainstem of Burnt Creek, during flood events, the density and height of the herbaceous vegetation should filter out fine sediments coming from upstream, assisting in maintaining downstream bull trout habitat. The NRST noted the recovery of the riparian vegetation was narrowing and deepening the stream channel of Burnt Creek.

On the East Tributary, the NRST noted the tributary was well vegetated with herbaceous and woody plant species. This vegetation would serve to filter out flood-generated fine sediments produced from the watershed above the exclosure. It was also noted the incised stream channel was recovering from past livestock use, likely historic sheep use, but abundant riparian vegetation now exists along the channel (NRST, 2003). Evidence of the age of incision can be inferred by the shape of the gullies (sloped back on each side) and by the age of riparian vegetation growing within them. There was no evidence the incision was caused by the current grazing system (Burton 2002).

Water temperatures for Burnt Creek within this allotment, were monitored at the upstream end from 1999 through 2004; and the lower reaches of Burnt Creek within this allotment were monitored from 1999 to 2007. However, temperature from 2007 has not been analyzed in this EA. The upper site occurs near the headwater springs (Exclosure 7), and the lower site is 0.5-miles above the West Tributary (Exclosure 4) near the downstream boundary of the allotment. Water temperatures at the upper site consistently remained below 48 °F throughout the sampling periods for all years. This is a reflection of the strong groundwater influence of the headwater springs, and supports the predominance of bull trout spawning activity in this reach. At the lower site, water temperatures occasionally exceed Idaho State standards (<55°F maximum daily average, <48°F for spawning salmonids) during the hot summer months of July and August. The maximum seven-day average of maximum daily water temperatures (59°F, 1999; 64°F, 2000; 66°F, 2001; 70°F, 2002; 68°F, 2003; equipment malfunction, 2004; 59°F, 2005; and 60 °F, 2006.) exceeded the INFISH riparian management interim objectives. However, for all years sampled, water temperatures significantly declined prior to September 15th which has been observed to be near the onset of bull trout spawning. Water temperature regimes for Burnt Creek are expected to more closely meet PACFISH and INFISH standards as riparian conditions within the exclosure improve over time.

Environmental Consequences

Impacts to rainbow trout, threatened bull trout populations, and fish habitats which occur in the mainstem of Burnt Creek within the Burnt Creek Allotment would be similar for all alternatives. Impacts will be similar because livestock grazing will not be authorized within the exclosure, and the exclosure also limits the potential for unauthorized livestock grazing. The riparian exclosure which encompasses all of Burnt Creek on this allotment would be in place and maintained under all alternatives.

The potential for differences in impacts would occur among alternatives due to differences in 2 components of the grazing system, including: 1) the locations and season at which livestock crossings of Burnt Creek occur; 2) the extent to which livestock are present on the allotment during bull trout spawning activity. Impacts to fish populations and occupied habitat resultant of grazing outside of the enclosure in uplands, near the non-fish bearing tributaries of Burnt Creek, and upland spring sources would be the same across all alternatives. Burton (2002) determined that grazing along the west tributary was not having an impact on fish habitat in Burnt Creek. Therefore differences in alternatives related to grazing near the tributaries would not result in measureable differences in impacts to fish populations and habitats in Burnt Creek.

Proposed Action: Permittee's application to renew permit

The proposed action would require livestock to cross Burnt Creek as they are moved between the East and West Pastures. Each animal would cross Burnt Creek twice a year at one of three established fording areas (see Map B) with prior approval of BLM Fish Biologists. Crossing location approval will be based on professional judgment, localized sensitivity of habitat to bank alteration and the presence of spawning bull trout or bull trout redds. Localized impacts to the habitat in Burnt Creek would be expected to occur from moving livestock across the stream. Habitat impacts may include streambank trampling, disturbance of the streambed and/or redds, trampling of fish seeking refuge in undercut banks and aquatic vegetation, and short duration bursts of instream turbidity.

On odd numbered years, livestock would cross Burnt Creek as they enter the allotment, and following grazing of the East Pasture, would cross Burnt Creek to graze the West Pasture before bull trout initiate spawning activity (known to occur early to mid-September). There would be some localized affects to bull trout habitat from the crossing, but spawning bull trout or their eggs would not be affected by the crossing. However, on even numbered years the West Pasture would be grazed first. Livestock would then cross Burnt Creek to graze the East Pasture late in the season, and cross it again as they are trailed off of the allotment. The initial crossing would occur before bull trout spawning, but the late crossing would occur after the onset of spawning (known to occur early to mid-September) and the potential for established redds and eggs in the gravel would be high. Because the possibility of livestock trampling bull trout redds cannot be discounted, adverse affects to spawning bull trout or eggs in the gravel could occur. To minimize the potential for adverse affects of late-season crossings, a redd survey would be conducted prior to the crossing to determine which of the three established fording areas should be used. The fording area found to have the least likelihood of redds being trampled or spawning bull trout disturbed would be used. A proposed buck and pole fence at the crossing locations would further reduce the spatial extent of impact to habitat in Burnt Creek during the livestock crossings.

Under the Proposed Action, livestock would graze the East and West Tributaries to Burnt Creek, neither of which are fish bearing streams. The lower reaches of both tributaries near their confluence with Burnt Creek are excluded from grazing by the Burnt Creek enclosure. This greatly reduces or eliminates fine sediment inputs from the tributaries into Burnt Creek. Based on visual assessments by BLM fisheries biologists, fine sediments also settle out in

wet meadow areas with many diffuse channels near the confluences of these tributaries. Fine sediment resulting from erosion that occurs upstream of the enclosure in the East and West Tributaries is likely stored on-site due to the lack of a continuous, well developed channel necessary to transport sediment (Burton 2002). Allowable use indicator/criteria used as triggers to move livestock would protect and improve riparian conditions in the East and West Tributaries to Burnt Creek by limiting the intensity of livestock use. Limiting the intensity of use with indicators such as stubble height, bank shearing, and woody browse would provide sufficient herbaceous forage biomass to meet requirements of plant vigor maintenance, bank protection, sediment entrapment, and increased bank stability. Livestock grazing near the tributaries to Burnt Creek will not impact bull trout populations or occupied fish habitat.

Burnt Creek and the adjacent riparian area would be excluded from livestock grazing, except during the short periods that livestock would be crossing the creek while changing pastures. With this protection, riparian conditions in Burnt Creek are expected to improve at a natural rate. The expected riparian improvements include stream channel narrowing, deposition of fine sediments on the floodplain, and the stabilization of streambanks from increases in riparian vegetation. These same channel recovery characteristics were noted by Burton (2002) and the NRST (2003) during a field review of the allotment. Bull trout populations and occupied habitat in Burnt Creek would likely increase as riparian conditions continue to improve over time. The long term monitoring data collected on Burnt Creek at BRNT-KA4 demonstrates an upward trend in plant composition, an increase in herbaceous vegetation with deep binding root masses (sedges and rushes), and 90% bank stability since this reach was excluded from livestock use in 1999.

Under this alternative, livestock would be present on the allotment in September. Although livestock would be excluded from Burnt Creek, impacts to fish could result from livestock crossings of Burnt Creek and unauthorized use if livestock breach the enclosure. Because livestock would be present on the allotment during the spawning season, crossings and unauthorized use could result in localized streambank trampling, sediment input, and degraded spawning habitat. The spawning season for bull trout in Burnt Creek has been observed from approximately September 13 through late October. As defined under the ESA, livestock impacts to redds would be considered a "Take" of a federally listed species. A take is defined as any actions that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct pertaining to a listed species. Because the possibility of a "Take" cannot be completely discounted, during stream crossings, adverse affects to bull trout could occur under this alternative.

The proposed half-mile of temporary barbed wire drift fence between the Burnt Creek and Dry Creek Allotments (Map G), and the replacement of approximately three miles high tensile electric fence with temporary barbed wire fence (Map F) would address unauthorized cattle use concerns and improve the effectiveness of the Burnt Creek enclosure. Also, the season of use on the Dry Creek Allotment, a source of unauthorized livestock in the past, has been changed, so that livestock would not be on the allotment after August 24. These changes would reduce the potential for unauthorized livestock from the Dry Creek Allotment. Since the use of off-road vehicles would not be permitted during fence

construction and riparian vegetation would not be removed, the construction of the fence would not affect bull trout or Burnt Creek.

Due to topography within the allotment and the lack of allotment boundary fences, there is the potential for unauthorized livestock from the adjacent Dry Creek Allotment to be present on the Burnt Creek Allotment. Unauthorized use from livestock that enter the Burnt Creek enclosure, either through breaks in the fence or gates that are left open could occur. Frequent allotment inspections and BLM administrative process for unauthorized livestock use would be utilized to address these concerns. The BLM would continue to lock six gates in the enclosure that have been occasionally left open in the past. To address concerns with breaks in the enclosure fence, the BLM would maintain the fence prior to livestock turn-out and if the allotment is in non-use. The permittee would be responsible to maintain the fence while livestock are authorized to graze on the allotment. This should reduce the potential for cattle to enter the enclosure through breaks in the fence or if the gates are left open or vandalized. Cattle may still enter the enclosure for short periods of time and this would be dealt with through the BLM administrative process for unauthorized livestock use. The potential affects from these cattle on bull trout in Burnt Creek have been addressed in the ESA consultation with the U.S. Fish and Wildlife Service for the Burnt Creek Allotment, and are discussed in the Burnt Creek Allotment Biological Assessment (BA).

This alternative would not slow the rate of recovery of riparian areas to meet Riparian Management Objectives. This is supported by Platts (1991) where he states that corridor fencing allows riparian rehabilitation and maintains stream riparian habitats when uplands are properly managed.

Alternative 1: No Action -- January 2001 Decision

This action and associated impacts to fisheries would be similar to those described under the proposed action with two exceptions. First, the duration of use would extend into the bull trout spawning season for an additional week with 77 fewer cows present. Secondly, no additional fences or riparian enclosures are included in this alternative. The potential for unauthorized livestock access and detriments to spawning bull trout would occur under this alternative. One of the two livestock crossings of Burnt Creek would occur during bull trout spawning and could result in trampling of redds or sediment input near spawning habitats.

Changes in allowable use criteria along non-fish bearing tributaries would not result in impacts to bull trout populations or fish habitat that differ from those described under impacts related to the Proposed Action.

These adjustments to the grazing prescription would allow for continued significant progress to be made toward meeting or maintaining achievement of the rangeland health standards and resource objectives listed under **Resource Objectives and Associated Monitoring Common to All Alternatives.**

Alternative 2: 2002 Grazing Decision

The types of impacts to fish populations and occupied habitat under Alternative 1 would be similar to those described under the proposed action because the Burnt Creek Exclosure would remain closed to livestock grazing at this time. However, the grazing season would entirely occur (9/10 – 11/10) during bull trout spawning and immediately thereafter. The potential for greater impacts to spawning activity and a higher possibility for take of bull trout during livestock crossings of Burnt Creek would occur. Similarly, unauthorized livestock use during this season could also result spawning habitat degradation, as described under the impacts associated with the Proposed Action.

Impacts to unoccupied habitat in the East and West Tributaries would be similar to the Proposed Action. The extent would be reduced through late season grazing with dry cows to encourage livestock distribution into the uplands. Streambanks could be drier and inherently more stable in the fall than summer, hydric vegetation could have grown and expanded at a natural rate without being clipped by livestock and fewer fines could be introduced to the stream channel due to stabilized banks and increased hydric vegetation. This grazing system combined with the application of stubble, woody use and streambank shearing allowable use indicator/criteria as triggers to move livestock, could be expected to maintain or improve the riparian conditions in the East and West Tributaries. (MT Riparian Bulletin No. 4 1998).

Alternative 3:

The affects of this alternative on bull trout populations and occupied habitat in Burnt Creek would occur prior to the onset of bull trout spawning activity. Livestock would be present June 16 – August 31. The types of impacts associated with two livestock crossings and possible unauthorized use to bull trout populations and occupied habitat are similar to those described under the Proposed Action. However, under this alternative the duration and timing of use would eliminate direct impacts to bull trout spawning activity or spawning habitat.

The proposed drift fences and alternative upland water sources (Table 14) would reduce the potential for unauthorized livestock use on the allotment. The locking of exclosure gates and required permittee maintenance of the exclosure fence when cattle are on the allotment should further reduce the potential for unauthorized livestock use within the exclosure.

The proposed half-mile of temporary barbed wire drift fence between the Burnt Creek and Dry Creek Allotments and the replacement of approximately 3-miles of high tensile electric fence with barbed wire ould address unauthorized cattle use concerns and improve the effectiveness of the Burnt Creek exclosure. The actual construction of these fences would not impact fish populations or habitat in Burnt Creek.

The affects to Burnt Creek and the East and West Tributaries would be similar to those described under the Proposed Action. Measurable affects to Burnt Creek from livestock grazing in these tributary systems are not expected.

Alternative 4:

Impacts from livestock grazing to bull trout and occupied habitat would be similar to Alternative 3, because livestock would be removed prior to the onset of bull trout spawning activity. While livestock are present on the allotment, Burnt Creek would be excluded from grazing and would continue to improve at a natural rate. The locking of exclosure gates and required permittee maintenance of the exclosure fence when cattle are on the allotment should reduce the potential for unauthorized livestock use.

Since livestock crossings of Burnt Creek would still be required to access the East Pasture, localized effects to bull trout habitat, such as streambank trampling, disturbance of the streambed, and short term bursts of instream turbidity, should be expected to occur prior to the spawning season.

The effects to unoccupied habitat in the East and West Tributaries would be similar to those described under the Proposed Action. This grazing system combined with the application of stubble height, woody use and streambank shearing allowable use indicators/criteria, should be expected to maintain or improve the riparian conditions along the East and West Tributaries. The lower reach of both of the tributaries would continue to be excluded from grazing by the Burnt Creek exclosure, so the potential for the filtering of fine sediments from these tributaries would remain high (Burton 2002). Measurable effects to Burnt Creek from livestock grazing in these tributary systems are not expected.

Alternative 5:

The effects of this alternative on bull trout and Burnt Creek are similar to those described under the Proposed Action. The Burnt Creek riparian area would be excluded from grazing and would continue to improve at a natural rate. The locking of exclosure gates and required permittee maintenance of the exclosure fence when cattle are on the allotment should reduce the potential for livestock to enter the exclosure.

Since livestock crossing of Burnt Creek would still be required to access the East Pasture, localized effects to bull trout habitat, such as streambank trampling, disturbance of the streambed, and short term bursts of instream turbidity, should be expected to occur. The livestock crossing and possible unauthorized use in the Burnt Creek Exclosure during the bull trout spawning season could occur. Impacts would be similar to those described under the Proposed Action.

The affects to Burnt Creek and the East and West Tributaries would be similar to those described under the Proposed Action. This grazing system combined with the application of stubble, woody use and streambank shearing management indicators, should be expected to maintain or improve the riparian conditions along the East and West Tributaries. The lower reach of both of the tributaries should continue to be excluded from grazing by the Burnt Creek exclosure, so the potential for the filtering of fine sediments from these tributaries would remain high (Burton 2002). Measurable affects to Burnt Creek from livestock grazing in these tributary systems should not be expected.

	<p>Creek Allotment and Burnt Creek Allotment; 3) locked gates; 4) follow BLM administrative processes for unauthorized livestock use; 5) including the lower West Tributary within the existing Burnt Creek Exclosure</p>		<p>below the Burnt Creek Road to existing exclosure</p>	<p>locked gates; 4) follow BLM administrative processes for unauthorized livestock use; 5) Seasonal temporary electric fence on the West Tributary below the Burnt Creek Road to existing exclosure</p> <ul style="list-style-type: none"> • Alternative water sources for Burnt Creek and the East and West Tributaries 		
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THREATENED AND ENDANGERED TERRESTRIAL WILDLIFE, BLM SENSITIVE SPECIES AND MIGRATORY BIRDS

Affected Environment

No federally listed terrestrial species, i.e., Canada lynx (*Lynx canadensis*) (a Threatened species) is known to be present near this allotment. The Burnt Creek Allotment is in an identified potential Canada lynx linkage corridor which extends from the Sawtooth National Forest (White Knob Mountains) to the Salmon National Forest (Lemhi Range); no recent lynx presence is on record in either National Forest, or along the corridor. While the allotment does not contain the heavy conifer stands normally associated with lynx activities, the riparian zones with the extensive willows could provide acceptable cover for lynx movement as well as an attractant to alternate prey species, i.e., mountain cottontail rabbits (*Sylvilagus nuttallii*), hares (*Lepus sp.*), red tree squirrel (*Tamiasciurus hudsonicus*) and ground squirrels (*Spermophilus sp.*).

The Burnt Creek Allotment is in “unclassified” rather than “key” greater sage-grouse (*Centrocercus urophasianus*) habitats according to the IDFG greater sage-grouse habitat suitability map. The closest identified greater sage-grouse lek is over a mile to the north of the allotment. The 300-point transect results imply that the area surrounding upland key area BRNT-3 location is barely “marginal” for greater sage-grouse breeding habitat based primarily on the extent of the sagebrush canopy cover (10.7 percent for Wyoming big sagebrush and mountain big sagebrush only), a dominance of mountain big sagebrush in columnar growth form, and unsuitable average grass/forb height (4.2 inches); the canopy cover for grass and forbs were “suitable” at 34 percent and 15.3 percent, respectively. The vegetation attributes described above is due to the potential vegetative composition of this site (per Affected Resources/Values, items 2 and 3). This allotment has a considerable amount of steep topography which also could affect (reduce) nesting potential. No greater sage-grouse sign was found during the onsite evaluations but a sage-grouse hen was observed on the access road less than 100 meters from the northeast edge of the allotment. It is likely that the riparian areas of the Burnt Creek drainage would provide suitable brood-rearing habitat.

The closest documented pygmy rabbit (*Brachylagus idahoensis*) location is nearly two miles north of the allotment and no evidence of pygmy rabbit activities were found during the allotment assessments. While the taller mountain big sagebrush could provide the desired habitat, particularly accessible during the winter, the soils could be too gravelly to provide suitable habitat. Areas on both the East and West Tributaries were surveyed in 2006 and no evidence of pygmy rabbit activities was found; ground squirrel burrowing and fresh scat were observed along the West Tributary.

A breeding bird survey was conducted in June 1999 along Burnt Creek; a portion of this survey incorporated the allotment in T.10N, R.24E, Section 20 (Roberts 1999). A total of 15 avian species were documented which was the second highest diversity among the eight riparian locations surveyed. The BLM Sensitive Brewer’s sparrow (*Spizella breweri*) was

among the observed species. The principle vegetative component where birds were observed was *Salix* (willow) spp. overstory with *Ribes* (wild currant) spp. understory. Other data are available from 1987 and 1989 which document over 20 individual neotropical species.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Under the Proposed Action, no negative impacts to any federally listed species are anticipated. Following are specific issues associated with the Proposed Action:

- a) The main segment of Burnt Creek would remain a potential Canada lynx travel corridor since it is still protected by the enclosure.
- b) The fencing modifications would not impede lynx movements. If the buck and pole fence along Burnt Creek promotes vegetative cover, the ability of lynx to effectively, and secretively, move through the area could be enhanced. The various fencing modifications are not anticipated to alter the potential for lynx movements.
- c) The mid-June turnout date is generally past the prime greater sage-grouse nesting period. The grazing in the late season pasture could remove some residual grasses closest to the sagebrush; in the nesting season following grazing, residual grasses provide some degree of greater sage-grouse nest site camouflage (Connelly et al. 2000). One of the management requirements limits the use on upland key species to 40%. This should allow for sufficient residual vegetation for plant vigor and maintain the uplands in good condition. The dominant key species on the Burnt Creek Allotment, Idaho fescue, is a short stature grass that does not meet the 7 inch criteria for suitable nesting habitat without any grazing. The site potential limits the ability to meet nesting habitat needs for greater sage-grouse. This is offset by having the grazing period begin after most of the nesting is completed and by limiting the amount of use that does occur both in the uplands and in the riparian areas.
- d) The potential for removal of residual grasses is increased by the Other Terms and Conditions that allows for grazing to occur until September 21. However, because this allotment is considered "marginal" greater sage-grouse nesting habitat it is unlikely that the loss of camouflage, if any, would contribute appreciably to overall nest predation. Alternately, the residual grasses in the early season pasture could experience some post-grazing growth which could contribute to nest-site camouflage; it is still unlikely that these grasses would alter the greater sage-grouse reproductive potential in the area.
- e) The mid-June to early September season-of-use coincides with both early and late sage-grouse brood-rearing. All the riparian and upland spring areas that are accessible to livestock have the potential to support brood-rearing. As such, when forbs are removed by livestock the habitat support structure for sage-grouse is diminished. However, it is not anticipated that the livestock accessible riparian areas and springs in fact make an appreciable contribution to sage-grouse chick survival given the limited potential for nesting in the area. Therefore, while the "potential" impacts would remain "negative" the likelihood for impacts to occur is slight. The replacement of the Burnt Creek enclosure with a buck and pole fence may provide more opportunity for raptors to perch which could increase greater sage-grouse mortality from raptor predation. However, raptors prefer to perch on high vantage points, i.e., trees or rock outcrops, both of which are

available in the area so it is unlikely that buck and pole fence will contribute to greater sage-grouse mortalities.

- f) The seasons-of-use are generally past the nesting period for neotropical migratory birds so minimal disturbance and no adverse impacts to reproduction are expected. Raptor species would be nesting and/or fledging young during the first-half of the grazing season. While livestock likely would not disturb raptors, any activities accompanied by human presence could flush or distress adult birds. If nests are abandoned or incubating birds vacate a nest for an extended period of time, reproductive failure would occur for that breeding season, at that nest; this loss would not have a negative impact on any raptor population in the area.
- g) Fencing modifications are not anticipated to negatively impact migratory birds, and in fact could be beneficial. The potential for collision is greater with a barbed wire fence (which is being removed) than with a buck and pole fence (which is being constructed). However small the potential, bird injuries or mortalities might occur as a result of a collision with a fence.
- h) It is anticipated that the buck and pole fence along Burnt Creek could facilitate riparian habitat improvements which would benefit some types of habitat, i.e., nesting, foraging and/or protective cover.
- i) The construction of the drift fence between the Burnt Creek and Dry Creek Allotments would help to prevent habitat degradation attributed to unauthorized use.
- j) Generally, the various Other Terms and Conditions, Allowable Use Indicators/Criteria and Management Requirements are expected to promote satisfactory levels of habitat protection and provide for multiple types of habitat needs.

Alternative 1: No Action -- January 2001 Decision

Negative impacts to any federally listed species are not expected under Alternative 1.

Impacts under Alternative 1 would be different from the Proposed Action as follows:

- a) Potential upland utilization level increases because the Allowable Use Indicator/Criteria would allow for up to 60% use during the dormant period, combined with a slightly later potential end-of-season (9 days), likely would remove more grasses that could supply the residual grass camouflage around greater sage-grouse nests in the subsequent nesting season. However, a reduction in cattle numbers (from 322 to 245 pairs) could offset the potential impacts to residual grasses of an extended grazing season. As with the Proposed Action it is still unlikely that these grasses would alter the greater sage-grouse reproductive potential in the area.
- b) Livestock would still be prevented from entering the Burnt Creek enclosure by the existing fencing so it is anticipated that this riparian corridor would continue to function as a suitable travel corridor for Canada lynx.
- c) Since the drift fence between the Burnt Creek and Dry Creek Allotments would not be constructed, the potential exists for any “unauthorized use” to contribute to wildlife habitats being degraded, i.e., additional loss of residual vegetation. However, since changes in permitted livestock grazing has occurred on the Dry Creek Allotment, the potential for impacts from unauthorized cows has lessened.
- d) Fewer livestock could reduce potential impacts to riparian brood-rearing habitats, i.e.,

fewer forbs consumed.

- e) The potential for migratory bird injuries or mortalities from collisions with new fences is eliminated under Alternative 1. However, any habitat improvements that would occur from changes in livestock management attributed to these same fences would not occur. The specific extent to which these habitat changes would occur is unknown.

Alternative 2: 2002 Grazing Decision

There is some similarity with the Impacts under Alternative 1. Negative impacts to any federally listed species are not expected under Alternative 2.

Impacts under Alternative 2 would be different from the Proposed Action as follows:

- a) Potential upland utilization level increases due to Allowable Use Indicator/Criterion being 60% or less after plant dormancy, combined with the later season-of-use, has the potential to remove more greater sage-grouse nest camouflaging grasses. No post-grazing grass growth would be expected under Alternative 2. However, as with the Proposed Action because this allotment is considered “marginal” greater sage-grouse nesting habitat it is unlikely that the loss of camouflage, if any, would contribute appreciably to overall nest predation.
- b) Since the drift fence between the Burnt Creek and Dry Creek Allotments would not be constructed, the potential exists for any “unauthorized use” to contribute to wildlife habitats being degraded, i.e., additional loss of residual vegetation.
- c) No negative effect is expected to migratory bird species from the seasonal, temporary electric fence. Since it was identified under the Proposed Action and Alternative 1 that potential negative impacts could occur to sage-grouse late brood-rearing habitats on the East and West Tributaries and upland springs associated with livestock grazing, this temporary fence could help to alleviate potential negative impacts. However, since the season-of-use is generally past the late brood-rearing term there would be limited benefit specifically to retention of available forbs. Some continuing benefits would occur where this fence prevents other types of habitat degradation.
- d) The grazing season across both pastures is post-nesting for both neotropical birds and raptors so any potentially negative impacts would be reduced.

Alternative 3:

Impacts under Alternative 3 would be similar to the Proposed Action. As with the Proposed Action, negative impacts to any federally listed species are not expected under Alternative 3.

Impacts under Alternative 3 would be different from the Proposed Action as follows:

- a) The earlier end-of-season for individual pastures, as well as for the allotment as a whole, would allow for some post-grazing grass growth and a slight increase in the amount of residual grasses being available for greater sage-grouse nest site camouflage in the subsequent nesting season. The reduction in livestock numbers would contribute to an increase in residual vegetation. The extent to which these grasses would benefit sage-grouse reproduction is limited by the allotment’s overall “marginal” nesting habitat suitability due to the ecological site potential and topography.

- b) The conversion of the enclosure temporary electric fence to a temporary barbed wire fence is not anticipated to negatively impact any special status or migratory bird species. The potential for avian collision with a barbed wire fence that results in bird injury or mortality is greater with a wire fence than with a buck and pole fence (as would be constructed under the Proposed Action).
- c) The placement of a water trough near each of the tributaries likely would improve the riparian habitats for greater sage-grouse late brood-rearing and for migratory bird nesting and/or foraging by reducing livestock watering in the natural stream. Any riparian habitat improvements could facilitate Canada lynx movements by providing additional cover.
- d) The relocation of the Burnt Creek enclosure fence on the bench likely would not appreciably affect habitat for any special status species. However, the inclusion of the Burnt Creek Spring #1, including the season electric fence, would benefit the functionality of the spring and improve the lentic characteristic; to the extent that the habitat improves there likely would be greater potential for greater sage-grouse late brood-rearing use and possibly migratory bird nesting and/or foraging opportunities. If big game become attracted to the spring/meadow complex it is possible benefits to special status species could be reduced due to impacts on vegetation or soil.

Alternative 4:

Negative impacts to any federally listed species are not expected under Alternative 4.

Impacts under Alternative 4 would be different from the Proposed Action as follows:

- a) While the utilization levels would be the same as the Proposed Action, the reduced animal stocking rate, fewer AUMs, and a slightly shorter season-of-use could contribute to a slight increase in the amount of residual grasses. The extent to which these grasses would benefit sage-grouse reproduction is limited by the allotment's overall "marginal" nesting habitat suitability.
- b) Residual grasses in the rested pasture would afford a greater amount of sage-grouse nest site camouflage in the nesting season following pasture rest. The extent to which these grasses would benefit sage-grouse reproduction is limited by the allotment's overall "marginal" nesting habitat suitability.
- c) Since no fence modifications would occur along Burnt Creek under Alternative 4 any benefit derived from either the temporary barbed wire fence or the buck and pole fence on Burnt Creek proper would not be realized. Livestock would still be prevented from entering the Burnt Creek enclosure by the existing fencing so it is anticipated that this riparian corridor would continue to function as a suitable travel corridor for Canada lynx, and greater sage-grouse late brood-rearing and migratory bird habitats would continue to provide for these species in a satisfactory manner.
- d) Since the drift fence between the Burnt Creek and Dry Creek Allotments would not be constructed the potential exists for any "unauthorized use" to contribute to wildlife habitats degradation, i.e., additional loss of residual vegetation.
- e) The removal of the Cook Allotment fence and the corral on the West Tributary is not expected to impact any special status or migratory bird species.

Alternative 5:

Impacts under Alternative 5 are generally not comparable to the Proposed Action except for the impacts from the Other Terms and Conditions which are similar. The difference in season-of-use, stocking rates and common grazing areas between the Actions makes for inequitable comparisons. As with the Proposed Action, negative impacts to any federally listed species are not expected under Alternative 5.

Impacts under Alternative 5 would be different from the Proposed Action as follows:

- a) Since no enclosure fence modifications would occur along Burnt Creek under Alternative 5 any benefit derived from either the temporary barbed wire fence or the buck and pole fence on Burnt Creek proper would not be realized. Livestock would still be prevented from entering the Burnt Creek enclosure by the existing fencing so it is anticipated that this riparian corridor would continue to function as a suitable travel corridor for Canada lynx, and greater sage-grouse late brood-rearing and migratory bird habitats would continue to provide for these species in a satisfactory manner.
- b) Residual grasses in the rested pasture would afford a greater amount of sage-grouse nest site camouflage in the nesting season following pasture rest. The extent to which these grasses would benefit sage-grouse reproduction is limited by the allotment's overall "marginal" nesting habitat suitability.
- c) Pastures where grazing is "postponed" would provide some additional forbs for greater sage-grouse broods. Likewise, if multiple areas (pastures/allotments) are used simultaneously, then forb availability could be more evenly distributed but not necessarily more abundant.
- d) Since the drift fence between the Burnt Creek and Dry Creek Allotments would not be constructed the potential exists for any "unauthorized use" to contribute to wildlife habitats being degraded, i.e., additional loss of residual vegetation.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>Threatened And Endangered Terrestrial Wildlife, BLM Sensitive Species And Migratory Birds</p> <ul style="list-style-type: none"> • Timing of use • Intensity of use – ensure residual vegetation for • Fencing 	<ul style="list-style-type: none"> • Burnt Creek Exclosure provide travel corridor for Lynx • Timing of grazing use outside of sage grouse nesting period • Intensity of use is 40%; should leave sufficient residual vegetation for hiding cover • Conversion of exclosure fence to Buck and Pole could provide raptor perches 	<ul style="list-style-type: none"> • Burnt Creek Exclosure provide travel corridor for Lynx • Timing of grazing use outside of sage grouse nesting period and post late brood rearing • Intensity of use is 60%; less residual vegetation for hiding cover in the spring before start of new growth 	<ul style="list-style-type: none"> • Burnt Creek Exclosure provide travel corridor for Lynx • Timing of grazing use outside of sage grouse nesting period • Intensity of use is 60%; less residual vegetation for hiding cover in the spring before start of new growth • Seasonal fencing of riparian sensitive areas 	<ul style="list-style-type: none"> • Burnt Creek Exclosure provide travel corridor for Lynx • Timing of grazing use outside of sage grouse nesting period; potential for regrowth after livestock are removed from allotment • Intensity of use is 40%; should leave sufficient residual vegetation for hiding cover in the spring before start of new growth • Alternative water sources and inclusion of Burnt Spring #1 would improve riparian/wetland conditions 	<ul style="list-style-type: none"> • Burnt Creek Exclosure provide travel corridor for Lynx • Timing of grazing use outside of sage grouse nesting period; potential for regrowth after livestock are removed from allotment • Intensity of use is 40%; should leave sufficient residual vegetation for hiding cover in the spring before start of new growth • Only half of the allotment grazed each year – residual vegetation 	<ul style="list-style-type: none"> • Burnt Creek Exclosure provide travel corridor for Lynx • Timing of grazing use outside of sage grouse nesting period; potential for regrowth after livestock are removed from allotment • Intensity of use is 40%; should leave sufficient residual vegetation for hiding cover in the spring before start of new growth • Incorporates rest once every 5 years at a minimum • Seasonal fencing of riparian sensitive areas

WILDLIFE

Affected Environment

The Burnt Creek Allotment contains approximately 625 acres of elk winter range and 4,800 acres of Rocky Mountain bighorn sheep winter range. No designated “crucial” big games winter ranges are present on the allotment. Bighorn sheep are present year-round in the rocky habitat to the west of the allotment, on USFS-administered lands. A moderate amount of elk sign and a slight amount of mule deer sign was found around the allotment while conducting the range analysis. The only other wildlife observed during the range assessments or on sites were mountain cottontail rabbits, and sign of ground squirrel and pocket gopher (*Thomomys sp.*) presence. However, data from 1987 documented “probable” red fox (*Vulpes fulva*), “bear” (likely *Ursus americanus*) sign, and “maybe” a spotted frog (*Rana pretiosa*).

Within the Rock Creek Allotment (which is part of Alternative 5) there are ~1500 acres of bighorn sheep winter range, of which ~800 acres also are designated as “crucial” winter range. No other big game winter range designations are ascribed to the Rock Creek Allotment.

Environmental Consequences

Proposed Action: Permittee’s application to renew permit

The Proposed Action is not expected to have an adverse impact on any wildlife population. Following are specific issues associated with authorized activities in the Proposed Action:

- a) Big game winter forage availability could be negatively impacted in the pasture with the later season-of-use because grasses would not have an adequate regrowth period post-grazing. To some extent, the early pasture could have some post-grazing grass growth which would then contribute to available big game winter forage. The impacts to late season grazing also are limited by the management requirement of 40% use on upland key species. This should leave sufficient residual vegetation for big game winter forage.
- b) The later turnout date would make additional early green-up vegetation available to big game in transition to summer ranges. These early season grasses and forbs are an important dietary component for pregnant big game species which rely on the higher protein and mineral content for fetal development.
- c) The Other Terms and Conditions generally would support habitat improvements or prevent degradation. Additionally, the Term that allows for a delay in either the start or end to the grazing season could further alter winter forage availability.
- d) The Allowable Use Indicator/Criteria would be expected to sustain adequate habitats. The specific allowable use indicator/criterion that limits browsing on willows and aspen to $\leq 50\%$ frequency of nipping (equivalent of 30% use) would help to minimize negative impacts on this big game winter forage source.
- e) The barbed wire drift fence would create a barrier to big game movements but the

prescribed construction requirements would help to minimize movement difficulties. To the extent that the drift fence would contribute to better livestock grazing management, the vegetative resources would benefit and thus, the wildlife habitat would be expected to benefit.

- f) The replacement of the barbed wire and electric fencing with a buck and pole fence is not expected to appreciably alter big game movements as BLM fencing standards would apply. Because of the broader base width of a buck and pole fence, wild ungulates expend some additional energy reserves to jump this type of fence versus a traditional barbed wire or electric fence of a similar height. However, this additional energy expenditure is not considered to be large enough to adversely affect the health of big game.

Alternative 1: No Action -- January 2001 Decision

Impacts under Alternative 1 would be different from the Proposed Action as follows:

- a) Potential upland utilization level increases due to allowable use indicator/criterion allowing for up to 60% use during the dormant period, combined with a slightly later end-of-season would remove additional grasses that could provide wildlife winter forage. However, a reduction in cattle numbers (from 317 to 245 pairs) could offset the potential impacts of an extended grazing season.
- b) Since no enclosure fence modifications are identified for Alternative 1 any benefit derived from the buck and pole fence on Burnt Creek proper would not be realized. Livestock would still be prevented from entering the Burnt Creek enclosure by the existing fencing so it is anticipated that this riparian corridor would continue to function as a suitable habitat for big game.
- c) The potential impacts that any other new fences would have presented to inhibit big game movements is eliminated under Alternative 1. However, any habitat improvements that would occur from changes in livestock management attributed to these same fences would not occur. The specific extent to which these habitat changes would occur is unknown.

Alternative 2: 2002 Grazing Decision

There is general similarity with the Impacts under Alternative 1.

Impacts under Alternative 2 would be different from the Proposed Action as follows:

- a) There would be a greater loss of potential big game winter forage across the allotment due to increased utilization levels and to the later season-of-use.
- b) If used, the seasonal temporary electric fence would help to sustain enclosed areas for wildlife watering and forage production. It is not expected that the electric fence would impede wildlife movements, particularly, the seasonal movement from summer range to winter-use areas. The study by Karhu and Anderson (2006) with high-tensile electric fence (2-strand) and potential effects on big game movements reported few problems with either elk or mule deer but a high aversion to crossing the fence by pronghorn antelope. It is possible that big game movements could limit the effectiveness of the electric fence because of animals breaking the connectivity of the

fence, i.e., breaking of the wire(s) or posts or causing grounding of the wires.

Alternative 3:

Impacts under Alternative 3 would be similar to the Proposed Action with the following exceptions:

- a) The earlier end-of-season for individual pastures, as well as for the allotment as a whole, would allow for some post-grazing grass growth. This regrowth likely would contribute to a slight increase in the amount of residual grasses being available to wintering big game. The reduction in livestock numbers also would contribute to an increase in residual vegetation.
- b) The construction of a barbed wire fence instead of a buck and pole fence along the Burnt Creek enclosure (to replace the temporary electric fence) would better facilitate big game movements.
- c) The placement of a water trough near each of the tributaries could help to reduce livestock watering in riparian habitats and thus likely would improve the riparian habitats which provide forage, cover and water resources for multiple wildlife species.
- d) The relocation of the Burnt Creek enclosure fence on the bench would expand the interior area to big game exclusivity. However, it is possible that any additional attraction to or extended use by big game could diminish overall habitat suitability resulting from greater use. It would be strictly speculation as to either the actual future use or impacts by wildlife. The seasonal electric fence at Burnt Creek Spring #1 would improve the habitat. As mentioned previously, if the area of the spring becomes more heavily used by big game it is possible that anticipated future habitat improvements could be reduced, or just take longer to reach optimal results.

Alternative 4: Public Input Alternative

Impacts under Alternative 4 would include:

- a) The reduced animal stocking rate, fewer AUMs, and a slightly shorter season-of-use could contribute to a slight increase in the amount of residual grasses.
- b) Residual grasses in the rested pasture would afford a greater amount of potential winter forage.
- c) The removal of the Cook Allotment fence would eliminate an impediment to wildlife movement. The removal of the corral on the West Tributary would not affect wildlife in general since the actual footprint is too small to provide any suitable habitat.

Alternative 5:

Impacts under Alternative 5 are generally not comparable to the Proposed Action except for the impacts from the Other Terms and Conditions which are similar. The differences in season-of-use, stocking rates and common grazing areas between the Actions make for inequitable comparisons.

Impacts under Alternative 5 would be different from the Proposed Action as follows:

- a) Potential negative impacts to bighorn sheep winter ranges could occur if livestock grazing on the Rock Creek Allotment depletes potential residual grasses that might otherwise be available to wintering bighorns. This situation would have the greatest

potential negative effect in the ~800 acres of designated “crucial” winter range. The specific extent of any impact is unknown.

- b) Since no enclosure fence modifications would occur along Burnt Creek under Alternative 5 any benefit derived from either the temporary barbed wire fence or the buck and pole fence on Burnt Creek proper would not be realized. Livestock would still be prevented from entering the Burnt Creek enclosure by the existing fencing so it is anticipated that this riparian corridor would continue to provide for multiple species habitat requirements.
- c) Since the drift fence between the Burnt Creek and Dry Creek Allotments would not be constructed the potential exists for any “unauthorized use” to contribute to wildlife habitats being degraded, i.e., additional loss of residual vegetation.
- d) If used, the seasonal temporary electric fence would help to sustain enclosed areas for wildlife watering and forage production. It is not expected that the electric fence will impede wildlife movements, particularly, the seasonal movement from summer range to winter-use areas. The study by Karhu and Anderson (2006) with high-tensile electric fence (2-strand) and potential effects on big game movements reported few problems with either elk or mule deer but a high aversion to crossing the fence by pronghorn antelope. It is possible that big game movements could limit the effectiveness of the electric fence because of animals breaking the connectivity of the fence, i.e., breaking of the wire(s) or posts or causing grounding of the wires.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<ul style="list-style-type: none"> Residual vegetation for wintering wildlife Fencing 	<ul style="list-style-type: none"> Flexibility in turn-out Sufficient residual grasses with 40% allowable use criteria Drift fences – movement of big game- mitigated by following BLM fencing standards 	<ul style="list-style-type: none"> Residual vegetation less with 60% allowable use criteria 	<ul style="list-style-type: none"> Residual vegetation less with 60% allowable use criteria 	<ul style="list-style-type: none"> Sufficient residual grasses with 40% allowable use criteria Drift fences – movement of big game- mitigated by following BLM fencing standards 	<ul style="list-style-type: none"> Sufficient residual grasses with 40% allowable use criteria 	<ul style="list-style-type: none"> Sufficient residual grasses with 40% allowable use criteria

FOREST RESOURCES

Affected Environment

Forest stands within the allotment generally occupy northerly aspects and higher elevations where moisture retention is greatest; protected areas where snow deposition occurs; or are associated with riparian areas or areas with higher water tables.

Approximately 90% (300 acres) of forest stands are composed of- Douglas-fir (*Pseudotsuga menziesii*) with minor components of limber pine (*Pinus flexilis*) and aspen (*Populus tremuloides*). These stands occur in a relatively even band on the mid-slopes of the mountains, and because of the configuration of the allotment, are predominantly associated with the East Fork drainage. Trees begin to appear at approximately 7,000 feet and extend south to the crest zones within the Challis National Forest. At their lower extent, these bands may be discontinuous across canyons or changes in the topography. Since forested vegetation types vary with regard to slope, aspect, and to some extent, soils, coniferous trees or stands occasionally appear below 6,800 feet dispersed within the upland vegetation (sagebrush/ bunch grasses). As a result of fire exclusion, and past grazing practices, Douglas-fir encroachment has occurred in the sagebrush-grasslands.

Approximately 30 acres of quaking aspen (*Populus tremuloides*) are present in draws or snow deposition areas, and an incidental amount is associated with Douglas-fir stands indicating the successional replacement of aspen by Douglas-fir. Within the Burnt Creek Allotment, aspen are mostly associated with riparian vegetation communities particularly in the east and west tributaries areas and along the main Burnt Creek bottom. Aspen stands are usually small (mean area less than two acres) and often have a variety of deciduous shrubs which dominate the understory. The understory shrubs can interfere with aspen regeneration. Aspen stands in the allotment are uneven-aged and decadent; wild ungulates and domestic livestock have browsed the slower-growing suckers in the understory and have impacted this advance regeneration (seedling and sapling component) by making it sparse, slow-growing and hedged. One aspen stand in the East Fork of Burnt has been assessed for risk of loss using the Aspen Delineation Project method (Burton, 2003). It was determined that this stand was at 'moderate' risk of being lost primarily due to understory suppression by shrubs (rose spp.) and by browsing by wild and domestic ungulates. Walk through assessments of other stands in the allotment indicate that a moderate to high risk factor is applicable most aspen stands in the allotment.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Under the proposed action, grazing during the hot season would occur every other year when palatable grasses have dried or been consumed. This may increase livestock browsing on aspen seedlings, resulting in terminal shoot destruction, reduced growth, loss of aspen sucker regeneration, and loss of aspen stand vigor. Aspen stands in the allotment are already at moderate risk of being lost because of wild and domestic ungulate herbivory as noted in the

affected environment section. This browsing can be very severe, especially on young and succulent sprouts. Notably, the browsing on aspen is incidental to livestock grazing intensity on grasses and grass like plants; if grazing is light to moderate, then livestock browsing would be expected to be light. Management triggers such as stubble heights, and frequency of nipping of woody browse, that would be used to move livestock before utilization levels became high, would be expected to limit browsing of aspen. The addition of the drift fence would help eliminate un-authorized use of aspen and conifer stands by cattle that graze the Dry Creek Allotment.

Alternative 1: No Action -- January 2001 Decision

Impacts to forest resources under this alternative would be similar to those described for the Proposed Action except that under the longer season of grazing in the fall there may be increased browsing on aspen by cattle.

Alternative 2: 2002 Grazing Decision

Impacts to forest resources under this alternative would be similar to those described for the Proposed Action except that under the fall grazing schedule there would likely be increased utilization of aspen by cattle, presumably because nutritional quality of the preferred grass species decreases and cattle switch to woody browse.

Alternative 3:

Impacts to forest resources under this alternative would be similar to those described for the Proposed Action except that under the shorter season of grazing there would likely be less browsing on aspen by cattle. The addition of the drift fence would help eliminate unauthorized use of aspen and conifer stands by cattle that graze the Dry Creek Allotment.

Alternative 4:

Impacts to forest resources under this alternative would be similar to those described for the Proposed Action except that under the shorter season of grazing and the reduced AUMs there would likely be less impact to aspen and conifer resources.

Alternative 5:

Impacts to forest resources under this alternative would be similar to those described for the Proposed Action except that under the yearlong pasture rest, aspen would temporarily benefit. Because aspen stands in the allotment are uneven aged and decadent, and because the seedling and sapling components are hedged and suppressed a year long rest is not enough to allow growth to be out of reach of cattle.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<ul style="list-style-type: none"> • Forest Resources • Timing of use • Allowable use criteria 	<ul style="list-style-type: none"> • Cool season/Hot season – may switch to woodies during hot season • 50% frequency of nipping on woodies 	<ul style="list-style-type: none"> • Cool season/Hot season – may switch to woodies during hot season • 50% frequency of nipping on woodies 	<ul style="list-style-type: none"> • Fall grazing – potential for use on woodies • 50% frequency of nipping on woodies 	<ul style="list-style-type: none"> • Cool season/Hot season – may switch to woodies during hot season • 50% frequency of nipping on woodies 	<ul style="list-style-type: none"> • Cool season/Hot season – may switch to woodies during hot season • 50% frequency of nipping on woodies 	<ul style="list-style-type: none"> • Cool season/Hot season – may switch to woodies during hot season • 50% frequency of nipping on woodies

RECREATION

Affected Environment

The Burnt Creek area is very remote and presents opportunities for unconfined and unstructured recreation. The area provides recreationists the opportunities for enjoyment of natural appearing surroundings, and is utilized for dispersed recreation such as hunting, camping, horseback riding, wildlife viewing, and hiking/backpacking. These activities allow visitors to experience a certain amount of autonomy, escape from the pressures of the daily grind, and opportunities for challenge. Benefits resulting from these experiential opportunities are many and include a closer relationship to the natural world, improved health and well being, and greater personal enrichment through involvement with other people who enjoy similar experiences.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Recreation use, primarily access, would be affected under this alternative. The new fencing would limit unconfined recreational access year round. The recreational experience would also be expected to be altered somewhat as the new fence would represent an increased presence of human management of the area. Public land users familiar with the area are used to seeing this type of development, though this area's designation as a WSA compounds these impacts.

Alternative 1: No Action -- January 2001 Decision

Under this alternative, there would be no affect to the existing or potential recreational experience of the area because there is no change to the existing management condition as it pertains to recreation.

Alternative 2: 2002 Grazing Decision

Under this alternative, there would be no affect to the existing or potential recreational experience of the area. The temporary electric fencing would only be present for 2 months of the year, while cattle are present on the allotment, and would therefore not substantially affect the unconfined recreational experience of the visitor.

Alternative 3:

Recreation use, primarily access, would be somewhat affected under this alternative. The new fencing would limit unconfined recreational access year round. The recreational experience would also be expected to be altered somewhat as the new fence would represent an increased presence of human management of the area. Public land users familiar with the area are used to seeing this type of development, though this area's designation as a WSA compounds these impacts.

Alternative 4:

Under this alternative, the removal of the drift fence would reduce the number of physical impediments to unconfined recreation in the area. This action would also reduce the managerial presence for recreationists looking for a wilderness experience.

Alternative 5:

Under this alternative, there would be no affect to the existing or potential recreational experience of the area because there is no change to the existing management condition as it pertains to recreation.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<ul style="list-style-type: none"> • Recreation Freedom of movement (i.e. fencing) • Presence of management activities 	<ul style="list-style-type: none"> • Drift fences – access • Increase presence of human management in area 	<ul style="list-style-type: none"> • Current situation 	<ul style="list-style-type: none"> • Seasonal temporary electric fences – short duration (2 months per year) 	<ul style="list-style-type: none"> • Drift fences – access • Seasonal temporary electric fences – short duration (2 months per year) 	<ul style="list-style-type: none"> • Reduction of fencing through removal of Cook Fence and West Trib. corrals 	<ul style="list-style-type: none"> • Seasonal temporary electric fences – short duration (2 months per year)

VISUAL RESOURCES

Affected Environment

The Burnt Creek Allotment is located in the Northern Rocky Mountains physiographic province, though dominated by Basin and Range topography, and specifically along eastern foothills of the Lost River Range in the upper reaches of the Pahsimeroi Valley. The allotment is dominated by moderately steep, undulating hills which provide a foreground for high mountain peaks on adjacent USFS-administered lands. The vegetation is dominated by sagebrush grasslands with scattered conifer groves bisected by several streams characterized by aspen and willow complexes.

The allotment is very remote and straddles Burnt Creek. Several range developments and primitive roads and ways (jeep trails) are scattered throughout the area. There are several temporary fence projects in the area which have been constructed to protect riparian areas, with older drift fences and allotment boundary fences present as well.

The allotment is located in a Visual Resource Management (VRM) Class I designation. The objective of Class I is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Visual resources would be impacted slightly under this alternative. No changes would be expected to the land, water, and vegetative elements. Weak structural contrasts would be expected to be introduced with the addition of ½ mile of barb-wire fencing with two gates and wooden H-braces. The fence would be constructed below the ridgeline to eliminate any potential for 'skylining', and would be substantially unnoticeable to the casual observer. Conversion of fencing from electric to buck-and-pole would create more evident structural contrasts to the casual observer, though this style of fencing does appear more 'primitive' than either electric or barbed wire.

The anticipated direct visual contrasts from this alternative would be expected to be within the allowable limits for VRM Class I areas and not out of character for the site.

Alternative 1: No Action -- January 2001 Decision

Under this alternative, there would be no contrasts to the existing characteristic landscape because there is no change to the existing management condition as it pertains to visual resources.

Alternative 2: 2002 Grazing Decision

Under this alternative, there would be very weak contrasts to the existing characteristic landscape with the introduction of .2 of a mile of electric fencing along the West Tributary below the road connecting to the existing fencing. This would result in weak structural contrasts for approximately 2 months out of each year.

The anticipated direct visual contrasts from this alternative would be expected to be within the allowable limits for VRM Class I areas and not out of character for the site.

Alternative 3:

Visual resources would be impacted slightly under this alternative. No changes would be expected to the land, water, and vegetative elements. Weak structural contrasts would be expected to be introduced with the addition of ½ mile of barb-wire fencing with two gates and wooden H-braces, as well as from the addition of three troughs. All fencing would be constructed below ridgelines to eliminate any potential for ‘skylining’, and would be substantially unnoticeable to the casual observer. Conversion of fencing from electric to barbed wire would not be expected to create additional contrasts noticeable to the casual observer.

The anticipated direct visual contrasts from this alternative would be expected to be within the allowable limits for VRM Class I areas and not out of character for the site.

Alternative 4:

Under this alternative, 1.2 miles of barb wire drift fence and an old wooden corral would be removed from the WSA. This would reduce the amount of horizontal and vertical ‘man-made’ lines from the landscape in this area, returning the area to a more natural appearing landscape, indicative of a VRM Class 1 designation.

Alternative 5:

Under this alternative, there would be no contrasts to the existing characteristic landscape because there is no change to the existing management condition as it pertains to visual resources.

In summary, the only impacts to visual resources under any of the alternatives being analyzed would come as a result of fencing construction/removal which would affect the structural component of the landscape to varying degrees, Alternative 2 analyzes electric fencing which would be in place for 2 months of the year, and Alternative 3 would result in new fencing which would stay in place year round, and Alternative 4 would remove one section of existing drift fence.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<ul style="list-style-type: none"> • Evidence of manmade structures 	<ul style="list-style-type: none"> • Drift fences – weak contrast • Change in type of exclosure fence – buck and pole more visible, but appears more “primitive” 	<ul style="list-style-type: none"> • Current situation 	<ul style="list-style-type: none"> • Seasonal electric fences – weak contrast, short duration 	<ul style="list-style-type: none"> • Drift fences – weak contrast • Change in type of exclosure fence barbed wire, but would not create additional contrast • Seasonal electric fences – weak contrast, short duration 	<ul style="list-style-type: none"> • Reduction in fencing through removal of Cook Fence and West Trib. Corrals would reduce the amount of horizontal and vertical manmade lines 	<ul style="list-style-type: none"> • Seasonal electric fences – weak contrast, short duration

WILDERNESS

Affected Environment

The Burnt Creek Allotment falls entirely within the Burnt Creek WSA. The Burnt Creek WSA is managed so as not to impair its suitability for Congressional designation as wilderness. Generally this means that no new surface disturbance which would require reclamation or permanent placement of structures is allowed, although existing developments may continue to be maintained. The Burnt Creek WSA was found to have 8,300 suitable acres and 16,680 acres non-suitable for inclusion in the wilderness system. However, the entire 24,980 acres are managed as a WSA until such time as Congress determines the areas wilderness status. The eastern portion of the WSA is characterized by an open and sloping sage-grass covered area. The western portion is steep, hilly terrain and vegetation includes scattered stands of Douglas-fir and juniper. Several large rock outcrops occur in the western portion. The majority of the area has a natural appearance with opportunities for solitude found mostly in the western portion of the WSA. Opportunities for primitive and unconfined recreation were found to be outstanding in the western portion of the unit.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Under the proposed action, approximately 6 miles of enclosure fencing would be converted from electric fencing and barbed wire to buck-and-pole fencing, an additional ½ mile of barbed wire fencing would be constructed between Burnt Creek and Dry Creek, and .1 miles of buck-and-pole fencing would be constructed to connect the Cook Allotment fence to the Burnt Creek enclosure. Barbed wire fencing, while not as temporary in nature as the seasonal electric fencing described in Alternative 2, would still be easy to remove upon designation of this area as wilderness. Buck-and-pole fencing would also be easy to remove upon designation, and while the buck-and-pole style could be considered 'more primitive' in nature than electric or barbed wire fencing, it is also more visible and thus creates a more substantial 'imprint of man'. The proposed new fencing between Burnt Creek and Dry Creek allotments would not improve the wilderness values of the area as it is not designed to directly protect fragile riparian vegetation, soils, or streambanks. The purpose of the drift fence between the two allotments is to stop livestock movement between the two allotments. Indirectly, stopping drift from the Dry Creek Allotment would alleviate unauthorized use from occurring within the Burnt Creek Allotment outside of the grazing prescription. Eliminating this use or limiting its extent would improve riparian conditions within the Burnt Creek Allotment especially those within the East Pasture. Management on the Dry Creek Allotment was changed in 2005 to shorten the duration of use and season of use, so that cows are off of the Dry Creek Allotment by August 24 each year. This may in and of itself help to eliminate some of the drift that has occurred in the past. Under this alternative, the ability of Congress to designate the area as a wilderness would not be impaired.

Alternative 1: No Action -- January 2001 Decision

Under this alternative, there would be no new surface disturbing activities, nor permanent improvements within the WSA. Movement of cattle would be based upon vegetative and other ecological standards which would meet rangeland health standards for grazing. Under this alternative, the ability of Congress to designate the area as a wilderness would not be impaired.

Alternative 2: 2002 Grazing Decision

Under this alternative, there would be no new surface disturbing activities, nor permanent improvements within the WSA. Temporary electric fence would still be utilized to protect sensitive areas along the East and West Tributaries. While in place, this fencing would reduce the naturalness of the WSA in the short term, though improving the overall health and naturalness of the WSA over the long term. Movement of cattle would be based upon vegetative and other ecological standards which would meet rangeland health standards for grazing. Under this alternative, the ability of Congress to designate the area as a wilderness would not be impaired.

Alternative 3:

Under Alternative 3, approximately 3 miles of enclosure fencing would be converted from electric fencing to barbed wire, an additional ½ mile of barbed wire fencing would be constructed between Burnt Creek and Dry Creek, and 0.1 miles of barbed wire fencing would be constructed to connect the Cook Allotment fence to the Burnt Creek enclosure. Barbed wire fencing, while not as temporary in nature as the seasonal electric fencing described in Alternative 2, would still be easy to remove upon designation of this area as wilderness. The proposed new fencing between Dry Creek and Burnt Creek allotments would not improve the wilderness values of the area as it is not designed to protect fragile riparian vegetation, soils, or streambanks.

Also included in Alternative 3 is the installation of two new troughs, only if other use indicator criteria (movement based on stubble heights, woody browsing, etc.) do not result in improved conditions along the East and West Tributaries of Burnt Creek. Visual contrasts represented by these troughs would be expected to be low based on their coloration, location, and minimum tool installation and maintenance (no motorized vehicle use off existing routes, and pipelines laid above ground to minimize ground disturbance). These troughs would be installed to further the efforts of improving the condition of the East and West Tributaries of Burnt Creek. There would be some impact to the naturalness of the WSA via the introduction of new evidence of human activity. If the use of troughs in these two locations still do not result in improvement to the East and West Tributaries they would be considered for removal.

A third component of this alternative is the relocation of a section of the existing Burnt Creek Allotment fence to a location further up the hill and away from the drainage bottom. This would result in no additional fencing and would enclose and protect a mid-slope spring

source. This would also widen the enclosure, resulting in a larger riparian recovery area. Additionally, a new section of fencing would be tied into this portion of relocated enclosure fencing to protect a small meadow in a 'hanging' valley above the spring. A trough and above ground pipeline would be installed outside of the meadow area to provide a water source for the cattle excluded from the spring source. These range developments would be installed at a temporary cost to the naturalness of the WSA, but with a long term goal of improving the overall health to the vegetation, water, and scenic qualities of the Burnt Creek WSA.

Alternative 4:

Alternative 4 would result in no new surface disturbing activities, nor permanent improvements within the WSA. Under this alternative, 1.2 miles of barb wire drift fence as well as the corrals at the West Tributary would be removed from the WSA, removing evidence of the imprint of man. Movement of cattle would be based upon vegetative and other ecological standards which would meet rangeland health standards for grazing. The naturalness of the WSA would be improved and the ability of Congress to designate the area as a wilderness would not be impaired under this alternative.

Alternative 5:

Under this alternative, there would be no new surface disturbing activities, nor permanent improvements within the WSA. Movement of cattle would be based upon vegetative and other ecological standards which would meet rangeland health standards for grazing. Under this alternative, the ability of Congress to designate the area as a wilderness would not be impaired.

In summary, the only impacts to the WSAs under any of the alternatives being analyzed would come as a result of fencing construction/removal which would affect the naturalness of the area and landscape health to varying degrees. Alternative 2 analyzes electric fencing which would be in place for 2 months of the year, and Alternative 3 would result in new fencing which would stay in place year round, and Alternative 4 would remove one section of existing drift fence.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<ul style="list-style-type: none"> • Maintenance of primitive values 	<ul style="list-style-type: none"> • Drift fences – evidence of man’s imprint • Change in type of exclosure fence – buck and pole more visible, but appears more “primitive” 	<ul style="list-style-type: none"> • No new surface disturbing activities 	<ul style="list-style-type: none"> • Seasonal electric fencing of sensitive riparian areas – reduce naturalness in the short term for long term benefits 	<ul style="list-style-type: none"> • Drift fences – evidence of man’s imprint • Change in type of exclosure fence – barbed wire more visible, but appears more “primitive” • Two new troughs to provide alternative water - new evidence of human activity • Seasonal temporary electric fence and pipeline with trough - temporary cost to the naturalness of the WSA, but with a long term goal of improving the overall health to the vegetation, water, and 	<ul style="list-style-type: none"> • Reduction in fencing through removal of Cook Fence and West Trib. Corrals would reduce the evidence of the imprint of man 	<ul style="list-style-type: none"> • Seasonal electric fencing of sensitive riparian areas – reduce naturalness in the short term for long term benefits

EXISTING AND POTENTIAL LAND USES

Affected Environment

As noted in the “Background” section of this document, the primary land use within the Burnt Creek Watershed, other than wildlife habitat, has been livestock grazing. Production studies were conducted and the allotment was adjudicated in 1957. Production of usable forage was set at 858 AUMs on the BLM and 35 AUMs on the Forest Service. Adjustments in carrying capacity, and thus, permitted use are based on actual use and utilization data. Utilization pattern mapping has not been completed on the allotment since the completion of the consolidated Burnt Creek riparian enclosure in 1999, which changed the grazing management from a one pasture allotment to a two pasture deferred grazing system. Further, the allotment has been in non-use since 2004. A model derived from Holechek et al. 2003, was used to determine if the carrying capacity was still valid. Acres of each ecological site on the allotment were calculated. Production by forage species on each ecological site was calculated and totaled for total forage production for low and high production years. The utilization standard of 40 percent was used to adjust the total available forage. An adjustment factor for distance to water was not used since there are no parts of the allotment that are farther than 1 mile from water. Slope adjustments were not considered because they may or may not be accurate to the actual situation, depending on how the cattle actually distribute across the pasture, and the amount of herding used to improve cattle distribution. Since riparian and other mesic areas were not mapped as separate ecological sites on the allotment, the additional forage available at these sites was not considered in this model. Using the model, the following capacity in AUMs was estimated for each pasture and the total allotment utilizing the median forage production year.

Table #17. Estimated grazing capacity on the Burnt Creek Allotment using ecological site description estimates of forage production on a median year and a 40% utilization level.

Pasture	AUMs
East	720
West	1020
Entire Allotment	1740

This estimate is based on a model of expected grazing behavior on the allotment. Future utilization pattern mapping would give a clearer picture of the actual grazing capacity of the allotment in relation to the actual resource conditions on the allotment and the actual livestock grazing behavior.

During the 16 years actual use was analyzed for summer grazing, the full season of use occurred 25% of the time. The beginning date typically was June 16 with ending date being mid September. The average number of days grazed was 85 between 1986 and 2006.

During the time period while summer grazing was authorized, the average number of days grazed was 90 days. The maximum number of days used was 106 days during the summer season and minimum amount during the summer was 52 days. The minimum amount of days used during fall use was 34 days and the maximum amount of days used was 48 days.

The mean total AUMs grazed on the allotment was 627 AUMs from 1986 to 2003. The mean total AUMs grazed on the allotment while the operator had a summer season of use was 670 AUMs with a high of 862 AUMs and low of 488 AUMs. The mean total AUMs grazed on the allotment while the operator had a fall season of use was 280 AUMs with a high of 305 AUMs and a low of 255 AUMs.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

The proposed AUMs for this alternative are less than that predicted from Holechek's (2004) model described in the Affected Environment section for the median year's production. The allotment is in good condition and meeting the rangeland health standards with a stable/improving trend. With the management requirement of 40% utilization to trigger livestock movement, this is a conservative stocking rate. Even in dry years, the production should be adequate due to the good conditions of this allotment. However, if in the event that there is not sufficient vegetation, the use would be limited and adaptive management strategies, such as shortening the season, would be implemented. The proposed action would maintain the existing land use of livestock grazing within the Burnt Creek Allotment while still providing for fish and wildlife habitat.

Alternative 1: No Action -- January 2001 Decision

The impacts would be similar to the Proposed Action. The historic season of use and numbers would remain the same. Alternative 1 would include allowable use indicator/criteria in the terms and conditions of the permit. This would potentially cause the livestock to move through the rotation and off the allotment before the permitted season of use was concluded resulting in less AUMs being authorized in any given year.

Alternative 2: 2002 Grazing Decision

Alternative 2 would change the season of use from the historical late spring/early summer to fall grazing. It would also shorten the number of days authorized to graze from 109 days to 62 days. It does however increase the number and kind of livestock to graze from 245 cow/calf pairs to 400 dry cows. This would cause the permittee to change his ranch operation, so he could graze more cows for a shorter period of time during the fall on the Burnt Creek Allotment. In 2002 and 2003, the permittee followed this authorization. The AUMs utilized in the East Pasture averaged 63 and the number of days grazed averaged 12. The AUMs utilized in the West Pasture averaged 219 AUMs and the number of days grazed averaged 30 days.

Alternative 3:

The impacts would be similar to the Proposed Action with the exception that a shorter season of use would be authorized, 62 days compared to 83 days in the Proposed Action and 109 days with the historical season of use. There would also be a 22% reduction in the number of permitted AUMs, 858 to 670.

Alternative 4:

The season of use would be changed from early spring/summer to all hot season summer use. The duration of use would be shortened with this alternative from the historic grazing period of 109 days to 62 days. The number of cows authorized changes from the historical numbers of 245 cows to 180 cows. This alternative would require the operator to change his ranch operation to accommodate the changes in season of use, duration of use, and numbers of cows.

Alternative 5:

Alternative 5 would allow for use to occur during a majority of the historic season of use. The season of use would be shortened by 2 weeks from the historic season of use. However, the actual number of days authorized to graze would be shortened to 62 days. The remaining grazing season would occur on the Rock Creek Allotment. Management would be combined with the Rock Creek Allotment to add flexibility and rest into the grazing system. The number of cows authorized to graze the two allotments would be 400 cows. This is an increase over the 245 cows historically authorized to graze the Burnt Creek Allotment. This would require the operator to change the ranch operations to accommodate this change in grazing system and numbers of livestock authorized to graze on the Burnt Creek Allotment.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>Existing and Potential Land Uses</p> <ul style="list-style-type: none"> Historic/existing uses RMP allocation Carrying Capacity 	<ul style="list-style-type: none"> Maintain land use of livestock grazing 26 days less of grazing then historic season of use Within the modeled carrying capacity 	<ul style="list-style-type: none"> Maintain historic season of use Within the modeled carrying capacity 	<ul style="list-style-type: none"> Change season of use to fall from spring/summer Shorten number of days grazed Increase numbers Same number of AUMs authorized, but actual use AUMs expected to be less Within the modeled carrying capacity 	<ul style="list-style-type: none"> Shorten season of use 109 days to 62 days 22% reduction in AUMs Increase number of livestock Within the modeled carrying capacity 	<ul style="list-style-type: none"> Change season of use to all hot season use Reduction of AUMs Only half of the allotment grazed annually Shortened season from 109 days to 62 days Within the modeled carrying capacity 	<ul style="list-style-type: none"> Shortened grazing season from 109 days to 62 days Same number of AUMs Increase number of livestock Flexibility of grazing by combining management with two other allotments

ECONOMICS AND SOCIAL VALUES

Affected Environment

The BLM-administered grazing authorization on the Burnt Creek Allotment and family oriented agricultural enterprises contribute to the economic structure of five local communities in the area: Ellis, May, Patterson, Challis and Salmon. This family-oriented agri-business employs both permanent and seasonal work forces.

Environmental Consequences

Proposed Action: Permittee's application to renew permit

Individual ranch economies would likely be impacted by this alternative due to additional livestock handling requirements needed to successfully meet the allowable use indicator/criteria. Hiring additional riders or re-distributing the ranch personnel would likely be needed. These additional operating costs may be prohibitive and force the operator(s) to look for private pasture in another location. In addition, livestock control measures may need to be enhanced to keep cattle in the appropriate use area and distributed away from riparian areas. This requirement may necessitate hiring additional handlers, utilizing additional or different salting or supplement strategies than in the past, seeking alternative water sources, or further redistribution of ranch personnel at additional expense.

Furthermore, stubble heights and other utilization criteria may require livestock to move through grazing systems more rapidly and off the grazing allotment at an earlier date than permitted, unless the permittee takes actions to improve livestock management. This could result in annual livestock use below the permitted use.

In 2001, when allowable use indicator/criteria were applied to the allotment, the actual use was 487 AUMs and the season of use was reduced to 63 days. This is 57% of the permitted AUMs and 60% of the permitted season of use. The timing of use proposed under the proposed action is similar to that grazed in 2001. Unless changes occurred such as described above, livestock would move through the grazing rotation more rapidly resulting in the permittees needing to pasture and/or feed cows for a longer period of time. This may require the operator to find private pasture or purchase hay to compensate for the 40% reduction in time and season.

Alternative 1: No Action -- January 2001 Decision

The impacts would be similar to the Proposed Action because in order to meet the the allowable use indicators criteria additional livestock handling would be required and the duration of use may be shortened through the use of allowable use criteria triggers

Alternative 2: 2002 Grazing Decision

Similar to the Proposed Action, individual ranch economies would likely be impacted by this alternative due to additional livestock handling requirements needed to successfully meet the allowable use indicator/criteria. Hiring additional riders or re-distributing the ranch personnel would likely be needed. These additional operating costs may be prohibitive and force the operator(s) to look for private pasture in another location. In addition, livestock control measures may need to be enhanced to keep cattle in the appropriate use area and distributed away from riparian areas. This requirement may necessitate hiring additional handlers, utilizing additional or different salting or supplement strategies than in the past, seeking alternative water sources, or further redistribution of ranch personnel at additional expense.

Furthermore, stubble heights and other utilization criteria may require livestock to move through grazing systems more rapidly and off the grazing allotment at an earlier date than permitted, unless the permittee takes actions to improve livestock management. This could result in annual livestock use below the permitted use.

Based on monitoring data collected in 2002 and 2003, potentially the actual use would be decreased from 858 AUMs to 282 AUMs. This equates to potentially a 67% reduction in authorized use in any given year. Unless changes occurred such as described above, livestock would move through the grazing rotation more rapidly resulting in the permittees needing to pasture and/or feed cows for a longer period of time. This may require the operator to find private pasture or purchase hay to compensate for the 67% reduction in time and season.

Alternative 3:

The impacts would be similar to the Proposed Action with the exception that a shorter season of use would be authorized, 62 days compared to 83 days in the Proposed Action and 109 days with the historical season of use. There would also be a 22% reduction in the number of permitted AUMs, 858 to 670. These two actions would require the operator to find private pasture or purchase hay for those 46 days.

Alternative 4:

Alternative 4 would result in a reduction of AUMs from 858 AUMs to 362 AUMs. This is a 58% reduction in active AUMs. This may require the operator to find private pasture or purchase hay to compensate for the 58% reduction in time and season.

Alternative 5:

The impacts would be similar to the proposed action. Potentially, the livestock would move through the rotation more quickly than the authorized use would allow. The shortened duration of use and flexibility in management however would increase the likelihood of being able to meet the annual indicator criteria, thus being able to use the full active use on the permit.

Summary

Elements	Proposed Action	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<p>Economics and Social Values</p> <ul style="list-style-type: none"> • Costs • Changes in authorized AUMs 	<ul style="list-style-type: none"> • Increased costs to permittee – additional riders/redistribution of ranch help • Private pasture or purchase hay for time lost on public lands • Actual use expected to be below authorized use in order to meet allowable use criteria 	<ul style="list-style-type: none"> • Maintain historic permitted use • Actual use expected to be below authorized use in order to meet allowable use criteria 	<ul style="list-style-type: none"> • Increased costs to permittee – additional riders/redistribution of ranch help • Private pasture or purchase hay for time lost on public lands • Actual use expected to be below authorized use in order to meet allowable use criteria • 22% reduction 	<ul style="list-style-type: none"> • Increased costs to permittee – additional riders/redistribution of ranch help • Private pasture or purchase hay for time lost on public lands • Actual use expected to be below authorized use in order to meet allowable use criteria • 22% reduction 	<ul style="list-style-type: none"> • Increased costs to permittee – additional riders/redistribution of ranch help • Private pasture or purchase hay for time lost on public lands • Actual use expected to be below authorized use in order to meet allowable use criteria • 58% reduction 	<ul style="list-style-type: none"> • Increased costs to permittee – additional riders/redistribution of ranch help • Private pasture or purchase hay for time lost on public lands • Actual use expected to be below authorized use in order to meet allowable use criteria • Flexibility of grazing by combining management with two other allotments in

CUMULATIVE IMPACTS

Proposed Action: Permittee's application to renew permit

Historically, the Pahsimeroi Valley was grazed by a mixture of cattle, horses and sheep. The Burnt Creek Allotment was grazed primarily by cattle with a few ranch horses since it was adjudicated in 1957.

The Burnt Creek Allotment was originally a cattle and sheep use operation. The allotment changed to cattle only in 1947 and was established as a private allotment in 1955. The allotment was adjudicated in 1957 and there were no reductions implemented. Production of usable forage was 858 AUMs on the BLM and 35 AUMs on the Forest Service "on-off" use area. The allotment was permitted as follows:

240 Cattle	6/16 to 9/30	100%PL	840 AUMs
5 Horses	6/16 to 9/30	100%PL	18 AUMs

Other Terms and Conditions were added to include use indicator criteria for uplands and riparian areas in 2001 in order to implement the 1999 Challis RMP. The actual use in 2001 was 489 AUMs, 57% of permitted use. The season was shortened by 45 days due to use indicator criteria triggering livestock to be removed from the allotment.

In 2002, a new decision was issued changing the season of use from June 16 through September 30 to September 10 through November 10 with 400 dry cows and 5 horses. The actual use in 2002 was 305 AUMs, 36% of permitted use, and in 2003 was 255 AUMs, 30% of permittees use.

Changes in grazing management began occurring in the Pahsimeroi Valley in 1993 with the listing of Snake River spring/summer Chinook salmon and Snake River steelhead trout. Further refinements occurred after the listing of Columbia River Basin bull trout, the signing of the Challis RMP in July 1999, and the Pahsimeroi Watershed Grazing Permit Renewal EA was completed and decisions issued. Through the permit renewal decisions, movement of livestock is based on stubble heights, bank shearing, frequency of nipping on woody species along the greenline of riparian areas and upland utilization criteria has been implemented. Previously, the movement of livestock was based solely on a calendar date. Movement based on utilization criteria limits the duration and intensity of use by livestock on upland and riparian areas. This has shortened the season of use, particularly for those operators who graze on the public lands administered by the BLM during the hot season (mid June through September). As a result, the permittees do not utilize their full active use. The Final EIS for the Challis RMP states that with the above listed requirements placed on the ranchers for livestock grazing on public lands, a 25% reduction in AUMs would occur. The requirements would constrain livestock management and could increase permittee's costs and efforts to manage their livestock on BLM public land. Long term results of meeting these requirements would be improved riparian and upland conditions. However, this could result in heavier use of private lands. Cumulative impacts could occur on the permittees' private

land by the increase in livestock use on private lands. The increased use could impact water quality by increasing levels of sediment, temperature, and nutrients due to altered plant communities. This in turn could negatively affect occupied sensitive fish habitat and the species by increasing sediments to the spawning habitat, altering riparian vegetation and in so doing increasing water temperatures, and creating unstable banks.

Movement of livestock based on utilization criteria limits the duration and intensity of use by livestock on upland and riparian areas. Limiting the duration and intensity of use, results in improved riparian and upland conditions by improving vegetation vigor, changing plant communities to desired species, stabilizing streambanks, and providing sufficient residual cover for soil stability and sediment filtering. With the above improvements due to movement based on allowable use criteria, the Pahsimeroi Valley is moving toward proper functioning upland and riparian areas. Furthermore, similar management actions have been applied to all four of the other allotments within the Burnt Creek WSA to allow for the enhancement of the natural ecological conditions of the vegetation, the visual conditions of the lands and waters, erosion would not be accelerated above natural conditions, and wildlife and fish habitats would be improved. Cumulative impacts to the WSA would include a continuation of ecological site health and scenic appeal as vegetative vigor improves with sustainable rangeland management practices.

Fencing has been utilized throughout the Challis Field Office area as a means to protect riparian areas and springs and to delineate allotments and ownership boundaries. The Burnt Creek WSA is no exception. Fencing is kept to a minimum, with special care taken to ensure the temporary and non-impacting nature of these projects. These fences, none of which cause substantial direct impacts on their own, can be expected to begin resulting in cumulative impacts to the primitive character and natural setting of the Burnt Creek WSA. Currently there are approximately 14 miles of fence within the WSA, with an additional 0.6 miles proposed with this project. As small fencing projects begin to accumulate in a WSA, they can be expected to begin impacting the primitive setting of the area, the contiguous nature of the landscape, and condition of the land health.

One potential cumulative effect of fencing within the WSA is the creation of a more noticeable human influence on the land, which may begin impacting the visual and natural character of the landscape. Additionally, increased fencing may begin to result in a decline in the recreational experience on these lands. As fencing begins to divide the landscape, the recreationalist's mobility throughout the WSA may be increasingly inhibited or interrupted, thereby impacting the wilderness experience.

Unlike a large portion of the fencing in the Burnt Creek WSA, most of the additional fence proposed in this alternative is not designed to improve riparian areas or springs directly. The fencing would indirectly improve riparian conditions by limiting/eliminating unauthorized livestock use in the Burnt Creek Allotment. The proposed drift fence of this alternative is designed to help keep cattle from the Dry Creek Allotment from impacting the Burnt Creek Allotment.

There is a number of existing range improvement projects occurring within the Burnt Creek Allotment. There are 2 troughs and 1 waterhole. One of the spring developments was recommended for abandonment in 1976. Inspections were not completed on these projects to determine their current condition. The existing fencing includes approximately: 5.3 miles for the Burnt Creek Exclosure; 1.1 miles for the Cook Drift Fence in the West Pasture; and 1.2 miles for the Horn Drift Fence between the Upper Pahsimeroi Allotment and the Burnt Creek Allotment. An additional .2 miles of temporary electric fence has been constructed and removed yearly that protects the West Tributary from below the Burnt Creek Road to the existing Burnt Creek Exclosure. This totals 7.8 miles of fence primarily along existing roadways and on the exterior of the Burnt Creek Allotment. The fencing projects are necessary for the implementation of the grazing system for the Burnt Creek Allotment. Their presence was not showing any negative impacts during the Rangeland Health Assessment and in fact, the Burnt Creek exclosure fencing are allowing for riparian conditions (vegetation composition, vegetation vigor, and bank stability) along Burnt Creek to improve.

There is an ongoing issue of unauthorized use on the Burnt Creek Allotment by livestock from the Dry Creek Allotment. This issue could add cumulative impacts to this alternative because the prescription for grazing on the Burnt Creek Allotment may not be met. This is particularly true of the timing, duration, and intensity of use. Not following these prescriptions, could hinder maintenance and improvement in uplands and riparian areas. All administrative actions would be taken to limit the degree to which this could impact upland and riparian areas on the Burnt Creek Allotment. Further, an adjustment in the length of the season of use on the Dry Creek Allotment has been reduced through a 2005 grazing decision. The season of use was reduced by approximately one month. The latest off date for cattle on the permit is August 24, which is prior to any documented initiation of the bull trout spawning within the Burnt Creek drainage. This change in duration of use on the Dry Creek Allotment would lessen the potential impacts to the Burnt Creek Allotment.

Rangeland Health assessments, evaluations, and determinations have been being conducted within the Challis Field Office since 1998. The Pahsimeroi Valley has 23 allotments that comprise 249,330 acres, of which portions of two of the allotments occur within the Little Lost River Valley. Of the 23 allotments, 15 allotments or 84% of the acreage has been assessed, evaluated, and determinations made. Of the completed rangeland health allotments, 12 are meeting all eight of the standards for rangeland health. The remaining three, at the time of the assessment were not meeting one or more of the standards. Actions have been taken on all three allotments in the grazing management practices to ensure significant progress is being made toward attainment of the rangeland health standards. The actions have included incorporating use criteria to trigger livestock movement through a grazing season, shortening the season of use, and construction of range improvements to better distribute the livestock. The proposed action would allow for the continuation of significant progress toward meeting the rangeland health standards within the Pahsimeroi Valley.

Alternative 1: No Action -- January 2001 Decision

The cumulative impacts would be similar to the Proposed Action except that no new structures such as fences would be added within the Burnt Creek WSA. This would result in no additional cumulative impacts to the WSA.

Alternative 2: 2002 Grazing Decision

Cumulative impacts from Alternative 2 are similar to the Proposed Action with the exception that temporary electric fence may be constructed and removed each grazing year to protect sensitive wetland/riparian zones from livestock use.

Alternative 3:

Cumulative impacts from Alternative 3 are similar to those described in the Proposed Action.

With the increased fencing of springs, seeps, and creeks comes the need to provide alternate sources of water for the permitted use of cattle in the form of water troughs and pipelines. All such improvements which have been installed since wilderness inventory are designed to be temporary in nature and easily removed in the case of designation as wilderness. However, until that time, while not visually evident to public land users from distances beyond a few hundred feet, these improvements can also be expected to begin incrementally affecting the naturalness of WSAs at a localized scale.

Alternative 4:

Cumulative impacts from Alternative 4 are similar to those described in the Proposed Action with the following exception.

Fencing has been utilized throughout the Challis Field Office area as a means to protect riparian areas and springs and to delineate allotments and ownership boundaries. The Burnt Creek WSA is no exception, though fencing is kept to the minimum possible, with special care taken to ensure the temporary and non-impacting nature of these fences. These fences, none of which cause substantial direct impacts on their own, can be expected to begin resulting in cumulative impacts to the primitive character and natural setting of the Burnt Creek WSA. Currently there are approximately 14 miles of fence within the WSA. 1.2 miles of fence are to be removed under this alternative. The removal of this fence within the WSA they can be expected to improve the primitive setting of the area and the contiguous nature of the landscape.

Alternative 5:

The cumulative impacts would be similar to the Proposed Action.

SUMMARY

No significant direct, indirect, or cumulative impacts are expected as a result of the proposed action or any of the alternatives. All of the alternatives are consistent with the guidelines for livestock grazing management and would ensure maintenance or significant progress toward meeting the six applicable standards for rangeland health from the *Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management FINAL 1997*.

IV. REFERENCES

Individual data sets are not listed but are found in CFO files.

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V. CONSULTATION AND COORDINATION

Persons and Agencies Consulted:

American Wildlands
Blue Ribbon Coalition
ID Department of Parks and Recreation
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ID Outfitter and Guide Association
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Western Watersheds Project
Idaho Wildlife Federation
Sierra Club
Custer County Commissioners
The Wilderness Society
Foundation for North American Wild Sheep, Idaho Chapter
Idaho Department of Environmental Quality
NRDC
Idaho Conservation League
Challis Ranger District, USFS
Idaho Department of Lands
Custer County Farm Bureau
Idaho Cattlemen's Association
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VI. APPENDIX: MAPS

Map A. Burnt Creek Allotment and Pasture Boundaries
Map B. Burnt Creek Allotment Livestock Crossings Areas
Map C. Burnt Creek Allotment Existing Range Improvements
Map D. Burnt Creek Allotment within the Burnt Creek WSA
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Map H. Burnt Creek Allotment Upland Key Areas & Riparian Designated Monitoring Areas