

**UNITED STATES DEPARTMENT OF THE INTERIOR
BLM, BOISE DISTRICT**

ID-120-2008-EA-45 Scoping Document

Applicant (if any):_Gordon King #1101607, John Anchustegui #1100291, John Anchustegui (OCP lease) #1100397, Paul Black #1101661	Proposed Action: To authorize livestock grazing on the East Castle Creek Allotment in conformance with the Bruneau Management Framework Plan and Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management			EA No. ID-120-2008-EA 45
State: Idaho	County: Owyhee	District: Boise	Field Office: Bruneau	Authority: 43 CFR 4100
Prepared By: Bruneau ID Team	Title: Various			Report Date: TBD

LANDS INVOLVED

Allotment	Meridian	Township	Range	Sections	Acres
East Castle Creek	Boise	06S -09S	2W- 3E	Various, see maps	96,578

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1.0 Introduction

The Bureau of Land Management (BLM) is preparing an Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This document is for scoping purposes to solicit input prior to developing the Final Environmental Assessment (EA). Supporting documentation, including more detailed analyses of project area resources, is on file in the project planning record in the Bruneau Field Office at 3948 Development Avenue, Boise, Idaho. Throughout this scoping document, references to supporting documentation contained in the project record are shown in parentheses.

This scoping document is being distributed to allow the public, local governments, interested publics and tribes the opportunity to comment on the preliminary alternatives being considered. In order to understand the alternatives it helps to review the purpose and need and affected environment within the East Castle Creek Allotment (see Map 1).

1.1 Purpose and Need

This action is needed to address rangeland health issues identified in the East Castle Creek Rangeland Health Assessment, conducted in conformance with the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 2008a) and documented in an Evaluation and Determination (BLM 2008b). This assessment identified several standards are not met and progress towards meeting those standards is not occurring as a result of current livestock grazing management. The specific Standards and Guidelines and the locations of concern are listed below:

- **Standard 1 (Watersheds)** is not met in pastures 8B, 8BI, 8BIII and 10B due to early spring use during the critical growing season.
- **Standard 2 (Riparian Areas and Wetlands)** is not met on: Poison Creek in pastures 8B and 12; Sheep Creek in pasture 28A; and on 70% of wetlands and springs located primarily in pastures 17, 19, 28, 29A, and 44. Excessive hoof shearing and pugging of streambanks and wetland soils are restricting wetland plant recruitment and cover.
- **Standard 3 (Stream Channel/Floodplain)** is not met on portions of Poison Creek in pastures 8B and 12. High levels of grazing of streamside vegetation are destabilizing banks and channels.
- **Standard 4 (Native Plant Communities)** is not met in pastures 8B, 8BI, 8BIII, 10B and 12 due to depletion of deep rooted perennial bunchgrasses, and the season and intensity of livestock use; pastures 28 and 28A are not meeting due to high utilization of bitterbrush and mahogany.
- **Standard 7 (Water Quality)** is not met on portions of Poison Creek in pastures 8B and 12 and on Sheep Creek in pasture 28A due to high levels of grazing of riparian vegetation

and excessive amounts of bank alteration. The cold water aquatic life beneficial use is not fully supported and IDEQ has set a Total Maximum Daily Load for sediment for Poison Creek (IDEQ 2004).

- **Standard 8 (Threatened and Endangered Plants and Animals)** is not met on springs and wet meadows throughout the allotment for sage grouse brood rearing habitat. It is also not met in pasture 5B due to grazing and trampling associated with a water haul site near one population of Mulford's milkvetch. Portions of West Fork Shoofly Creek in pasture 8B do not meet the standard for special status fish because of heavy livestock use and excessive levels of streambank alteration.

Upon completion of a Rangeland Health Assessment and identification of unmet standards changes in grazing management that will make progress towards meeting the Standards must be made prior to the next grazing season. In addition, the BLM must respond to the applications for permit renewal (CFR 4130.1). The four 10-year grazing permits are expired and grazing during 2008 is being authorized under the 2004 Interior Appropriation Bill.

The purpose of the proposed action is to authorize livestock grazing consistent with BLM policy and in a manner that maintains or improves resource conditions towards achieving objectives as described in the Bruneau Management Framework Plan (MFP). Livestock grazing on the East Castle Creek allotment would be carried out through grazing use permits which would include: Gordon King (#1101607), John Anchustegui (#1100291), John Anchustegui (OCP lease #1100397), and Paul Black (#1101661).

Objectives of this action include:

- Increase ground cover in pastures 8B and 10B while maintaining or improving watershed trend elsewhere in the allotment.
- Improve riparian areas associated with Poison Creek in pastures 8B and 12 and Sheep Creek in pasture 28A to proper functioning condition while maintaining trend in the rest of the allotment. Improve non-functioning or functioning-at-risk wetlands and springs to proper functioning condition in pastures 11B, 12, 17, 19, 28, 29A, and 44, while maintaining trend elsewhere.
- Improve frequency, cover and vigor of native or seeded plants in pastures 8B, 8BI, 8BIII, 10B and 12 while maintaining trend elsewhere.
- Improve condition of mountain mahogany and bitterbrush communities by reducing hedging caused by livestock utilization in pastures 28 and 28A while maintaining trends elsewhere.
- Improve water quality, by improving channel morphology and streamside riparian vegetation in Poison Creek and Sheep Creek while maintaining trends elsewhere.
- Improve sage grouse brood rearing habitat by reducing erosion and improving appropriate plant composition and vigor for wet meadows and springs in pastures 10B, 11B, 12, 28, 28A, 29A and 44.
- Improve redband trout habitat in West Fork Shoofly Creek in pasture 8B by improving streambank stability and cover and vigor of riparian vegetation.

- Reduce soil disturbance and improve general habitat conditions for Mulford's Milkvetch populations near water haul site in Pasture 5B.

1.2 Location and Setting

East Castle Creek Allotment (#893) is located in Owyhee County southwest of Grand View, Idaho, and south of State Highway 78 (Map 1). The allotment extends southwest about 34 miles into the Owyhee Mountains. It is bordered by West Castle Creek Allotment (#801) on the west and Battle Creek Allotment (#802) on the east. Elevations range from approximately 2,700 feet to over 7,000 feet within the allotment.

There are three major landforms in East Castle Creek Allotment: the Snake River Plain or lakebed landform (predominantly composed of deposited lakebed sediments) at the north end of the allotment; the mountainous landform of the Owyhee Mountains on the western portion of the allotment; and the plateau landform at the southern end of the allotment. Streams that drain the Owyhee Mountains within East Castle Creek Allotment include Shoofly, West Fork Shoofly, Poison, Battle, Birch, Magpie, and South Fork Castle creeks.

The allotment includes 96,578 acres of BLM-administered public land, 8,944 acres of State of Idaho land, and 7,611 acres of private land. The total allotment acreage is divided into 29 pastures and the total permitted Animal Unit Months (AUMs) is currently 10,872.

1.3 Allotment Background Information

Livestock Grazing Management

Control of livestock grazing management on public land was established by the Taylor Grazing Act (TGA) of 1934. The goal of the TGA was to stop injury to the public grazing lands by preventing overgrazing and soil deterioration, to provide for their orderly use, improvement, and development, to stabilize the livestock industry dependent upon the public range, and for other purposes.

To the extent practical and feasible by the TGA, injury to public land was curtailed. Reductions in livestock numbers and shorter seasons of use were implemented. The TGA authorized the construction of range improvements such as water developments and partitioning of grazing units into allotments and pastures. Partitioning has been accomplished by fencing. Fencing of spring and summer pastures allowed for progressively delayed livestock turnout into these pastures. A winter pasture was created that is grazed only during the dormant season for plant growth. Range improvements allowed for the implementation of deferred and rest rotation grazing systems on many allotments. As a result of these actions on a broad scale and over a lengthy time period, improvement in condition of upland vegetation has occurred since 1934.

The Federal Land Policy and Management Act of 1976 (FLPMA) authorized the following; inventory and identification of public lands, land use planning, public involvement and participation. FLPMA also provides BLM with broad management authority under principles of multiple use and sustained yield. Land use planning resulted in the preparation of land use plans such as the Bruneau Management Framework Plan (MFP 1983). The Bruneau MFP identified

objectives, Range Management (RM)-1.1, 1.4, 1.5, 2, 2.1, and 5; (WS)-1.1 and WL-3.1 and 3.2, that allow for direct and indirect improvement in upland vegetation and in associated wildlife habitat values. The Bruneau MFP identified additional objectives, Wildlife (WL)-4.3 and 6.1 and Wildlife-Aquatics (WL-aq)-2.1, 2.2, 2.3, 2.4, and 2.6 that allow for direct and indirect improvement in riparian habitats and in associated wildlife habitat values.

The Public Rangelands Improvement Act (PRIA) (1978) mandates that livestock grazing be managed to improve range condition and maintain the highest level of productivity. These objectives were integrated into the range section of the Bruneau MFP as RM-1.1, 1.4, 1.5, 2, 2.1.

Past Analyses of East Castle Creek Allotment

The first evaluation of livestock grazing management in the Castle Creek Allotments was the Castle Creek Allotment (0801) Analysis, Interpretation and Evaluation (AIE) (1983-1997). Both the current East and West Castle Creek allotments were considered together in the AIE in order to track with the Bruneau MFP decisions. This AIE considered the Bruneau MFP recommendation that livestock AUMs be reduced by 36% in the Castle Creek Allotments in light of available inventories and subsequent monitoring in the two allotments. However, the Bruneau Rangeland Program Summary (RPS) stated that monitoring rather than the one-point-in-time inventory in the Bruneau MFP would be used to adjust livestock AUMs. This was in compliance with BLM policy resulting from court decisions. The Castle Creek Allotment was also split among various permittees by construction of fences during 1989 through 1993 and then formally divided by Rangeline Agreement. Therefore, the 36% reduction wasn't implemented as originally recommended for the allotment as a whole.

The Castle Creek Allotment Final AIE (1997) was completed prior to full implementation of the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management. The AIE (as summarized in Appendix AE of EA#ID-01-97-103) concluded that limited progress would be made without changes in previous livestock management for objectives RM-1, 1.1, 1.5 and WL-3.2. The AIE concluded that little or no progress would be made without changes for objectives RM-3, 3.1, 3.2, and 5.1; WS-1 and 1.1; WL-2, 2.1, 2.7, 3, 3.3, 4, 4.3, 4.4, and 6.1; and WL-aq-2, 2.1, 2.2, and 2.6. The AIE also concluded that little or no progress would be made toward compliance with Idaho DEQ water quality standards without changes to previous livestock management. The Proposed Action of EA#ID-01-97-103 imposed a 25% reduction on East Castle Creek Allotment, along with grazing systems for various pastures, supporting projects, and enclosures.

Elements of the 1997 Final Decision were appealed and implementation was stayed through the 2004 grazing season. In 2005, a Settlement Stipulation was implemented, continuing through the 2007 grazing season. Since the permit reissuance process was not completed in time for the 2008 grazing season, the expiring permits were reissued under the 2003 Appropriation Act pending completion of the reissuance process.

The East Castle Creek Evaluation and Determination (2008) is the second in-depth analysis of livestock grazing management in the pastures now included within the East Castle Creek Allotment. The Evaluation/Determination identifies the Standards that are currently being met and also those that are not being met.

1.4 Conformance with Land Use Plan

The Bruneau Management Framework Plan (MFP) was approved in March, 1983, and is the land use plan for public lands managed by the Bruneau Field Office. The relevant objectives for Rangeland Management identified in the MFP are:

Objective One – Develop range programs and management techniques to:

- Increase the vigor, density and production of desirable vegetation on 421,436 acres within 20 years.
- Increase 333,532 acres currently in poor range condition to fair condition in 20 years. Increase 343,522 acres currently in fair condition to good condition in 20 years. Maintain the condition class of 283,849 acres currently in good condition and excellent condition. Maintain and/or improve 86,367 acres currently in a disturbed, burned, or seeding condition. Following this 20 year period, the goal would be to improve all range to good condition.

Objective Three – Allocate livestock forage in each of the allotments in the Bruneau planning unit within the limits necessary to maintain and/or enhance the range and soil resources.

Additional Resource Objectives that be impacted by livestock grazing management include:

Provide sufficient food, cover, space, and water for big game in accordance with The Bruneau MFP objectives, WL-2.1, 3.1 and 3.3.

Manage all lands in a manner which will provide or enhance rare and endangered plants where they exist throughout the planning unit.

Manage sensitive species habitats in the Boise Planning Unit to maintain existing or potential populations.

To enhance diversity and abundance, all riparian habitats and meadows will be managed to attain and/or maintain a good ecological condition, based on the Soil Conservation Service ecological site classification system or reasonable equivalent.

Improve fisheries habitat from poor to fair to good condition through intensive livestock management on riparian areas of 40 stream miles on public lands, including Birch Creek (5.6), Poison Creek (1.2), and Rock Creek (3.1).

Allocate no more than 50 percent of vegetation to consumptive use, minimize erosion by maintaining a perennial vegetation cover where it exists and where feasible/economical strive for establishing perennial cover to benefit all uses.

All the objectives are consistent with the purpose and need identified in this E.A. and as such the Proposed Alternative will be consistent with the Bruneau MFP.

1.5 Relationship to Laws, Regulations, Policy, Other Plans

On August 12, 1997, Idaho's Standards for Rangeland Health and Guidelines for Livestock Grazing Management were approved. Subsequently, livestock management practices must be in conformance with Idaho's Standards and Guidelines. If a determination is made that an allotment is not meeting one or more Standards, then changes must be made before the next grazing season that will result in making significant progress towards meeting the Standard(s). BLM has completed Draft and Final Standards and Guidelines Assessments for the East Castle Creek Allotment. The subsequent Evaluation and Determination for East Castle Creek Allotment identifying what Standards were not being met was signed May 21, 2008. This is in compliance with Instruction Memorandum (IM) No. ID-2004-086 (July 12, 2004).

Federal regulations authorize BLM to issue grazing permits to qualified applicants (43 CFR 4110 and 4130). Permittees may graze livestock on public lands that are designated as available for livestock grazing through the MFP. In addition, the following laws, acts, manuals, policies, and regulations provide the foundation for managing livestock use on the public lands:

- The Taylor Grazing Act (TGA), 1934 as amended – provides for the orderly use of public land;
- The Federal Land Policy and Management Act (FLPMA), 1976– organic act;
- The Public Rangelands Improvement Act (PRIA), 1978– manage for sustained yield;
- Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, 1997 – integrates FLPMA, PRIA, ESA, CWA;
- Title 43, Code of Federal Regulations (43 CFR), Subpart 4100 – Grazing Administration, Exclusive of Alaska – requires compliance with Standards and Guidelines;
- Correspondence from Idaho BLM Deputy State Director for Resource Services, January 29, 1999 and response from Idaho State Historic Preservation Office, February 23, 1999 for programmatic Section 106 obligations of the National Historic Preservation Act (as amended) regarding issuing grazing permits.
- Interim Management Policy for Lands Under Wilderness Review (IMP)- BLM Manual section 8550-1, 1995.

Other laws that are relevant to issuing grazing permits include:

- Clean Water Act 1972 – integrated into Standards and Guidelines;
- Endangered Species Act 1974 – integrated into Standards and Guidelines;
- Native American Graves Protection and Repatriation Act, 1990 – prescribes a term and condition on all new grazing permits protecting human remains.

1.6 Public Involvement

The Bruneau Field Office interdisciplinary team has met several times to identify issues and develop and refine proposed management actions on the allotment. For the 2007 field work season, the interested publics and permittees were invited by mail, phone calls, and email to participate in the field data collection in preparation for the East Castle Creek Rangeland Health Standards and Guidelines Assessment (DOI-BLM 2008). Also in preparation of the Standards and Guidelines Assessment, letters were sent to interested publics, state governments, tribal representatives and permittees soliciting data and information relevant to the allotment for

inclusion in the Assessment. As a result of this participation occurred and information and data were received. The BLM sent letters with the Final East Castle Creek Rangeland Health Standards and Guidelines Assessment soliciting proposals for the Environmental Assessment. The East Castle Creek Rangeland Health Standards and Guidelines Assessment and Evaluation/Determination identified which Idaho Standards are not met, where resource concerns exist and whether or not livestock grazing management contributes to the standards not being met.

Meetings to develop and discuss management on the allotment began in the fall of 2007. Several meetings with the BLM and permittees occurred through August 2008 to develop management alternatives that address the issues identified. As part of the BLM policy (BLM Instruction Memorandum No. ID-2004-086) involving livestock grazing permit renewals, the permittees submitted grazing applications for livestock management to the BLM. There followed several meetings in which the BLM and permittees worked to refine their submissions. In addition, this project (EA ID-120- 2008-45) was posted on the BLM website <http://www.blm.gov/id/st/en/info/nepa.2.html>, and <http://www.id.blm.gov/planning/nepa/databases/project.php?id=763> as part of the ongoing scoping process. Using comments received during scoping (see administrative record for meeting notes and permittee proposals) and the resource issues identified in the Standards and Guidelines assessment, the interdisciplinary team refined the list of issues and concerns to address.

1.7 Issues

Issues are defined as concerns directly or indirectly caused by implementing the proposed action; these are used to develop alternatives to the proposed action. Relevant public comments in response to this scoping document will be used to develop and refine alternatives to be analyzed. Comments not considered issues to analyze are: 1) outside the scope of the proposed action and thus irrelevant to the decision being made; 2) already decided by law, regulation, RMP, or other higher level decision; 3) conjectural and not supported by scientific or factual evidence¹; 4) not necessary for making an informed decision. The analysis used the following issues and measures to describe the impacts of the proposed action. Impacts will be quantified to the extent practicable. When measures cannot be quantified, a qualitative narrative based on the expertise of an appropriate resource specialist will be presented.

As a result of the initial public outreach we received no specific issues for the public. However the permittees have expressed the need to have additional water sources provided to help with the distribution of cattle in some of the pastures. The East Castle Creek Assessment and Determination identify which Standards from the Idaho Standards for Rangeland Health are not being met under the current livestock management in the East Castle Creek Allotment. These standards are summarized in the Need for and Purpose of Proposed Action (Section 1.1). The primary issue being addressed in the need to make progress toward achieving those standards that are not being met while maintaining and continuing to improve areas that are meeting standards. In order to continue to make progress toward meeting standards, long term

¹ The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..."

management must provide sufficient flexibility to adapt to changing resource conditions. Additional issues of concern are:

- Economic impacts of livestock grazing as a result of changes in management or livestock numbers.
- Impacts of grazing on global warming and the impact of climate change on grazing.

2.0 Description of the Alternatives

2.1 Alternative Development Process

In accordance with DOI BLM Instruction Memorandum No. ID-2004-086: “The applicant’s grazing proposal contained in the Application for Livestock Grazing [are] the proposed action[s].... However, when the applicant’s proposal is not likely to start making progress toward meeting the standard(s), BLM will develop and analyze at least one alternative that is likely to start making progress toward meeting the standard.” The permittees and BLM worked together to develop their applications. The initial applications submitted by the permittees were reviewed by the BLM and discussed at meetings with the permittees. Feedback was provided to the permittees and they resubmitted their applications with revisions. Feedback was again provided to the permittees based on their new applications. Based on these discussions, Alternatives B and C reflect the permittees applications as modified and agreed by the permittees where the BLM felt it necessary to meet the purpose and need and to conform to livestock grazing regulations.

From the fall of 2007 through August 2008 BLM met with the permittees to discuss the alternatives developed at that time and to review the permittees’ latest applications. Four alternatives were presented to the permittees in July and August, 2008: Alternative A – No Action; Alternative E, presented in this document; a two-pasture rest rotation alternative and a three- pasture rest rotation with an April 1 turnout, both of which were not carried forward and are discussed in the Section 2.2.

Based on feedback received by the BLM during these meetings, the BLM decided to develop an adaptive management alternative, included as Alternative D. It was developed by examining the 2004 Settlement and adjusting the management within the settlement, where it was determined to be inadequate, to meet the purpose and need. It results in a lower reduction in AUMs than the previous alternatives presented to the permittees.

2.2 Alternatives Considered But Not Carried Forward

2004 Settlement

The 2004 Settlement (“Stipulation to Adjust/Modify Final Decisions Relating to the East Castle Creek Allotment” dated July 9, 2004), agreed to upon by lawyers for King, the BLM, Owyhee County, and Western Watersheds Project, was not carried forward as an alternative. The management under the settlement resulted in many standards not being met (USDI-BLM 2008). For example, management under the settlement did not meet Standard 8 (Threatened and

Endangered Plants and Animals) for the BLM sensitive species Mulford's milkvetch. The placement of temporary water troughs in close proximity to a Mulford's milkvetch population resulted in adverse impacts to the species habitat. These impacts include an increase in weed species and soil trampling in and around the population. Likewise, standards 2, 3, and 7 were also not met due to impacts to streams and riparian areas. Utilization in the summer pastures, 28 and 28A, also resulted in Standard 4 not being met.

The team determined that an alternative reflecting the 2004 Settlement as written would, therefore, not meet the purpose and need. The team did, however, use the 2004 Settlement as the starting point for Alternative D and developed adaptive management tools to refine and adjust the 2004 Settlement where it was felt to be inadequate to address resource concerns. The 2004 Settlement was used as a starting point for the development of Alternative D for several reasons: use in pasture 8B was reduced from previous years and forage utilization was within MFP limits of 50% utilization. The reduction imposed in the 2004 Settlement was used in development of Alternatives D and E.

The 2004 Settlement states: "BLM will assess and consider in the 2008 decision-making process the following:

- a. Construction of a 2.5 mile pasture boundary fence in Pasture 5B to provide for public highway safety, especially during the school year.
- b. Adjustment of the pasture 8B and 10B boundary fence.
- c. Development of water at the mine site in Pasture 12, placing trough on the sidehill.
- d. Horsehead Spring Pipeline Extension to 10B & 12; Pasture 11B Spring Development; Anthill Pipeline Extension to Pastures 29A; Rat Spring Pipeline Extension; Poison Creek Pipeline Extension to Pasture 8B; Birch Creek Pipeline Extension to Pasture 8I."

As part of the alternative development process, most of these projects were proposed under one or more alternatives and all were considered during team meetings. The pasture boundary fence for 5B was dropped from further consideration because it does not meet the purpose and need. The adjustment of the pasture 8B and 10B boundary fence, also proposed by King in Alternative C, was dropped from further consideration because it is unclear what resource conditions this addresses and would not meet purpose and need. Letter "c" is proposed under Alternatives B, C, D, and E and is scheduled for further analysis. The Anthill Pipeline Extension, Rat Spring Pipeline Extension, and Poison Creek Pipeline Extension do not meet the purpose and need and are dropped from further consideration. Horsehead Spring Pipeline, Pasture 11B Spring Development, and Birch Creek Pipeline Extension are proposed under Alternative C.

Two-Pasture Rest Rotation Alternative

Early on in the alternative development process the BLM developed an alternative that kept pasture 8B whole (did not divide the pasture) and alternated use of 8B with 10B to provide rest in each pasture one out of two years. No new fencing was required for this alternative. Use in the other pastures was very similar to Alternative E (3-pasture rest-rotation alternative). The team discarded this alternative from additional analysis due to the substantial reduction in AUMs that was a necessary result of resting an entire pasture (8B or 10B) each year.

Three- Pasture Rest Rotation, April 1 Turnout, and “break” in between 11B and the summer pastures

This alternative split 8B into two pastures and along with pasture 10B incorporated a 3-pasture rest rotation. Use in pasture 11B would be prescribed for 14 days and use in pasture 12 would be for 10 days, both with reduced numbers of livestock (400 pairs in each pasture). There was a “break” in between use in pastures 11B and 12 and summer pastures where livestock use would occur on private property, State lands, or FFR pastures. Summer pasture use was reduced by two weeks at the end of the grazing season (mid August). Because data showed that we were within utilization limits on 8B we used the stocking levels from the settlement as a starting point for livestock numbers. This alternative was not carried because it was very similar to the Alternative E.

Allotment Division Alternative

During the fall of 2007, the BLM and permittees discussed splitting the allotment into two separate allotments; one for Mr. Anchustegui and one for Mr. King. Essentially, pasture 8B would be divided based on the proportion of the AUMs each permittee currently has in the pasture, and it would be fenced accordingly. On November 5, 2007, the BLM met with both permittees, and the following was the outcome of the discussion:

- Pasture 8B would be split between Mr. Anchustegui and Mr. King along the Mud Flat Road, with the State section on Poison Creek being fenced down the middle to provide water to each permittee.
- The west fence of Pasture 8BIII would be realigned along the road, with the portion west of the road to go to Mr. King. Mr. Anchustegui would get most of Pasture 8BIII. The permittees agreed that we could decide this line.
- Mr. King would get Pastures 8BI, 10B, and 11B in their entirety.
- Pasture 12 remained a focus of disagreement- Mr. Anchustegui wanted the pasture in its entirety, while Mr. King wanted the use of the upper half.

The disagreement remained over pasture 12 and how to best allocate the late spring pastures. Both permittees questioned the use of the 1980 inventory figures to determine the pasture divisions. Because an alternative could not be agreed upon by the parties, it was not carried forward as it was discussed in November. However, Alternative B, does propose a split of the allotment.

2.3 Description of Alternatives

2.3.1 Summary of the Alternatives

The following two tables summarize the difference in Animal Unit Months (AUMs), season of use and projects by alternative.

Table 1. Alternative Summary

Alternative		A	B			C		D	E
Pasture			Anchustegui	King	Total	'09-11	'12-19		

5B	Cows	1177 max		1177		1143	1143???	1177	1177
	Dates	11/1 -1/31		11/1- 1/31		10/25- 1/31	10/25- 1/31	11/1 - 1/31	11/1 -1/31
	AUMs	2732		2732	2732	2777	3240	2732	2732
8B, 8III, 8I	Cows	1818	418	1009		1459	1576	1482	760
	Dates	4/1- 4/30	4/1-5/31 Rotate 8B, 8BIII	4/1- 4/30 or 5/1- 5/31		4/1- 4/30 or 5/1- 5/30	4/1- 4/30 or 5/1- 5/30	4/1- 4/30 or 5/1- 5/30	4/15- 5/15or 5/16- 6/15or rest
	AUMs	1818	836	1009	1845	1459	1576	1482	1470, 775, 695 avg=980
10	Cows	1818		1009		1459	1576	1482	1486
	Dates	5/1- 5/31		4/1- 4/30 or 5/1- 5/31		4/1- 4/30or 5/1- 5/30	4/1- 4/30or 5/1- 5/30	4/1- 4/30 or 5/1- 5/31	4/15- 5/15or 5/16- 6/15or rest
	AUMs	1818		1009	1009	1459	1576	1482	1515, 0 Avg=1010
11	Cows	909		1009		730	788	741	743
	Dates	6/1- 6/24		6/1- 6/22		6/1- 6/22	6/1- 6/22	6/1- 6/15	6/16-6/22
	AUMs	717		729	1009	528	570	365	171
12	Cows	909	418			730	788	741	743
	Dates	6/1 – 6/24	6/1-6/25			6/1- 6/22	6/1- 6/22	6/1- 6/15	6/16-6/22
	AUMs	717	343		343	528	570	365	171
29A, B, C, D	Cows	280	253,396						
	Dates	7/25- 9/30 6/25- 8/31							
	AUMs	625	624		624	625	625	600	600
28 & 28A	Cows	922		1009		1009	1082	1066	981
	Dates	6/25- 7/28 7/29- 8/31		6/23- 7/23 7/24- 8/23		6/23- 7/23 7/24- 8/23	6/23- 7/23 7/24- 8/23	7/11- 8/6 or 6/16- 7/10	6/23-7/19 or 7/20-8/15
	AUMs	2061		2057	2057	2057	2206	1752 (15%)	1742

Table 2. Projects Proposed by Alternative

Project	Alt B: Anchustegui	Alt C: King	Alt D: BLM Adaptive Man.	Alt E : BLM
Alt B Pasture 8B Division Fence	X ¹			
Mine Adit Trough	X	X	O ²	O
Pasture 28A Pond at Bill De Alder Draw.	X		O	O
Relocation of waterhaul site in 5B		X	X	X
Birch Creek Pipeline Extension into Pasture 8BI		X	O	O
Horsehead Spring Pipeline Extension into 10B and 12		X		
Pasture 11B Spring Development		X		
Summit Springs Trough		X	O	O
Upland grazing exclosures in 11B, 12, 28, 28A		X		
Monitoring Exclosures in 5B, 8B, 10B			X	X
BLM Pasture 8B Division Fence				X
Half Moon Spring Exclosure			X	X
Pasture 11B Spring Exclosure #1			X	X
Pasture 11B Spring Exclosure and Development			X	X
Eagle Spring Exclosure.			X	X
Hanging Meadow Exclosure			O	O
Pasture 12 Spring Exclosure			X	X
Pasture 12 Division			O	O
Magpie Creek Headwaters Exclosure and Trough			X	X
Battle Creek Headwaters Exclosure and Trough			X	X
Pasture 44 Spring Excl. # 1			X	X
Pasture 44 Spring Excl. # 2			X	X
Pasture 28 Spring Exclosure			X	X
Rat Spring Exclosure.			X	X

Section 20 Spring (BLM 28-13-20-20063)			X	X
Rock Spring Exclosure Expansion			X	X
Station Spring Exclosure Expansion			X	X
Pasture 29A Battle Creek Tributary Meadow Exclosure.			X	X
West Fork Shoofly Creek Fence Realignment.			X	X

¹An “X” indicates that the project is proposed under the alternative

²An “O” in Alt. D and Alt. E signifies that it is an optional project, not integral to the design of the Alternative. See Section 2.10.

2.4 Alternative A – No Action/Continue Current Management

For the East Castle Creek Allotment, current management is considered the 1997 Decision (EA # ID-01-97103) as it was implemented in combination with the pre-1997 (1986 through 1997) management for sections of the 1997 Decision that were stayed. Although management during 2005-2008 followed the 2004 Settlement Agreement, the last decisions issued are considered the No Action/Current Management, hence the description here. This alternative retains existing pasture boundaries; except that Pasture 11B had 4,297 acres, of which 71% was federal, prior to 2007. The State section (T07S R01W Section 36) and private lands within 11B were fenced out in that year. The pasture is approximately 3,100 acres now. In addition, portions of the State section (T08S R01E Section 16) in Pasture 12 were fenced separately by Mr. Anchustegui. No figures are currently available for partial removal of State land from Pasture 12. Exact fence locations have yet to be determined. Maps 2 and 3 display Alternative A.

Grazing System

Spring use would not be licensed by pasture, and the pastures would be available any time from April 1 through June 30. Generally, however, pastures 8B, 8BI, and 8BIII would be grazed during the month of April, 10B would be grazed during the month of May, and 11B and 12 would be grazed during the month of June, following past practice. The June 24th off date for the spring pastures was not part of the stay (historically the off date was June 30th), therefore use would end in the spring pastures, typically 11B and 12, on June 24th. The numbers to be placed in each of these pastures, the period of use within the spring season, the time allowed for pasture moves, and the total AUMs harvested from each pasture are not specified by the 1997 permit, but are left to the discretion of the permittees providing that:

- Range readiness standards are met prior to turnout;
- Adjustments would be made when carryover forage is lacking or when distribution is inadequate;
- Utilization of riparian and upland vegetation would not exceed 50% of the current year’s growth;

- The 4 inch end of growing season stubble height requirement would be met on Birch Creek in pastures 10B and 11B.

The deferred-rotation grazing systems in pastures 28, 28A, 29A and 29B and the construction of the two riparian pastures 29C and 29D prescribed by the 1997 Decision were not appealed, and were fully implemented by the 1999 grazing season. The summer turnout date was also changed from July 1 to June 25. Summer use would therefore follow the deferred-rotation grazing system and turnout as described in the table below.

Fall trailing down Birch Creek in pastures 10B and 11B would not be allowed. Use of FFRs would be at the discretion of the permittees as long as MFP objectives are met. No new projects would be built under this alternative.

Table 3. Alternative A: No Action/Continue Current Management

Pasture	# of Livestock	Year 1	Year 2	Year 3	Year 4-10	AUMs
5B	1,177 *	11/1-1/31			Repeat	2,732
8B	1,818	4/1- 4/30			Repeat	5,083
8BI						
8BIII						
10B	1,818	5/1- 5/31			Repeat	
11B	909**	6/1-6/24			Repeat	
12	909**	6/1-6/24			Repeat	
29A, 29B	280	7/25-9/30	6/25-8/31	Repeat	Repeat	625
29C		Rest	6/15-6/30	Repeat	Repeat	
29D		Rest till objectives are met. Then alternate use 6/15 – 6/30 with 29C			Repeat	
28	922	6/25-7/28	7/29-8/31	Repeat	Repeat	2,061
28A		7/29-8/31	6/25-7/28		Repeat	
FFRs (King)	nominal	4/1- 11/30			Repeat	281
FFRs (JA)	nominal				Repeat	88

*maximum numbers, Kings have staggered removal, higher numbers initially. Without flexibility in numbers, would be 911.

**or as divided by permittees providing that 50% utilization and end-of-growing season stubble height requirements met on Birch Creek.

Proposed Projects

No new projects would be constructed.

Terms and Conditions for East Castle Creek Grazing Permits

The Following Terms and Conditions would apply:

1. Grazing use will be in accordance with the January 6, 1993 Livestock Management Agreement for the East Castle Creek permittees and the established pasture boundary/area of use Agreement for the Castle Creek Allotment. Exchange of use may be authorized concurrent with the use of public lands only.

2. A minimum 4 inch stubble height will be left on herbaceous (grass/grass-like plants) vegetation within the riparian vegetation along Birch Creek (Pasture 10B and 11B) of the East Castle Creek Allotment at the end of the growing season.
3. Exchange of use AUMs will be reflected within annual billings.
4. Turnout is subject to Boise District Range Readiness Criteria.
5. Certified actual use report is due 15 days after authorized use.
6. Salt and/or supplement shall not be placed within one quarter (1/4) mile of springs, streams, meadows, aspen stands, playas, or water developments.
7. Changes to the scheduled use require prior approval.
8. Permittees are required to coordinate trailing activities with the BLM prior to initiation. A trailing permit or similar authorization may be required prior to crossing public lands.
9. Livestock exclosures located within your grazing allotment(s) are closed to all domestic grazing use.
10. Permittees are required to maintain rangeland improvements in accordance with the cooperative agreements and range improvement permits in which you are a signator or assignee. All maintenance of rangeland improvements within a Wilderness Study Area requires prior consultation with the authorized officer.
11. All appropriate documentation regarding base property leases, lands offered for exchange-of-use, and livestock control agreements must be approved prior to turn-out. Leases of land and/or livestock must be notarized prior to submission and be in compliance with Boise District Policy.
12. Failure to pay the grazing bill within 15 days of the due date specified shall result in a late fee assessment of \$25.00 or 10 percent of the grazing bill, whichever is greater, not to exceed \$250.00. Payment made later than 15 days after the due date shall include the appropriate late fee assessment. Failure to make payment within 30 days may be a violation of 43 CFR 4140.1(B)(1) and shall result in action by the authorized officer under 43 CFR 4150.1 and 4160.1-2.
13. The Land Use Plan allowable use level for riparian and upland vegetation is 50% of the current year's growth. Livestock should be removed from the use areas, pasture or allotment when this utilization level has been reached.
14. All trailing to and from the East Castle Creek Allotment will be approved by the authorized officer prior to the start of trailing.

2.5 Alternative B – Anchustegui Alternative

John Anchustegui's proposal would split the spring pastures, 8B, 10B, 11B and 12, between the current permittees, Mr. Anchustegui and Mr. King, resulting in two different use areas (maps 4 and 5). Mr. Anchustegui would have 31% of the spring AUMs while Mr. King would have 69%. The proposal would split 8B into two different pastures with approximately 31% of the acreage in a use area for Mr. Anchustegui and approximately 69% in a use area for Mr. King. The proposed division would be:

- Pasture 8B would be split between Mr. Anchustegui and Mr. King along the Mud Flat Road, with the State section on Poison Creek being fenced down the middle to provide water to each permittee (this is contingent upon concurrence from the Idaho State Department of Lands).

- The west fence of pasture 8BIII would be realigned along the road, with the portion west of the road to go to Mr. King. Mr. Anchustegui would get most of pasture 8BIII.
- Mr. King would use pastures 8BI, 10B, and 11B.
- Mr. Anchustegui would use pasture 12.
- The pipeline systems would be split between the two permittees, with the Birch Creek Pipeline in Mr. King's use area of pasture 8B and the Birch Creek Pipeline in Mr. Anchustegui's use area.

For Mr. Anchustegui's proposal the BLM assumed for purposes of comparison that the permitted numbers for Mr. King would be adjusted for the change in season and partitioned among pastures in the same way as in Mr. King's application. Mr. King's application would be applied as written to the portion of the spring pastures that he would receive. Mr. Anchustegui would continue the 25% non-use (as a minimum) for 3 years, with reevaluation based on utilization, stubble height, and trend at 2 to 3 year intervals for the balance of the permit. The non-use would be in the form of an annual application for 395 AUMs of non-use (268 for Anchustegui and 127 for Phillips Brothers). Use in the other parts of the allotment (5B, 8BI, 10B, 11B, 28, 28A and Mr. King's FFRs) would reflect the respective applications (King's).

The term of the new permits would be March 1, 2009 through February 28, 2019. The permits issued under the Appropriation Act of 2008 would be cancelled, modified, and reissued for the balance of the term.

Grazing System

In the first three years, Anchustegui's turnout would occur on April 1, with turnout alternating between pastures 8B and 8BIII. King's first three years would be as described by his application and is included in the table below. Anchustegui would apply for non-use of 395 AUMs, or 25% of spring AUMs, for the first three years. The numbers to be placed in each of these pastures, the period of use within the spring season (April 1 through June 25 or June 22 respectively), and the total AUMs harvested from each pasture are not specified by application or Alternative, but would be left to the discretion of the permittees providing that:

- Pasture move dates are made within 7 days of the scheduled move;
- Utilization of key upland grass species does not exceed 50% by weight as consumed by all classes of animals.
- Utilization of current year's growth of key upland browse species by livestock will not exceed 30% in mule deer winter range.
- Utilization of current year's growth of key upland browse species by all classes of animals combined (livestock & wildlife) will not exceed 50% in mule deer summer range.
- A minimum of 4 inches of stubble height should remain on Poison Creek in pasture 12 at the end of the growing season on the greenline at selected key areas.
- Browsing by livestock of woody species less than 3 feet tall (including young willows) on Poison Creek in pastures 8B and 12 should not exceed 25% of current annual production at key areas.
- Streambank alteration attributable to livestock grazing should be less than 10% on segments of Poison creek.
- Voluntary nonuse of 395 AUMs for 2009, 2010, and 2011.
- Turnout would be subject to Boise District range readiness criteria.

The deferred-rotation grazing systems in pastures 29A and 29B is similar to the No Action, except that livestock leave the pastures at the end of August rather than the end of September. Use in 29C and 29D is later than the No Action and numbers of livestock and AUMs are not specified. The two pastures are rested together every other year. The summer turnout date was also changed from July 1 to June 25.

Mr. Anchustegui would continue the 25% non-use (as a minimum) for 3 years, with reevaluation based on utilization, stubble height, and trend at 2 to 3 year intervals for the balance of the permit. A total of 395 spring AUMs will be temporarily delayed / discontinued to allow for restoration of vigor of plants and to provide for improvement of riparian areas within the East Castle Creek Allotment. At the end of 2011 grazing year, monitoring data collected (see monitoring plan) during 2009, 2010, and 2011 will be evaluated. After evaluation of monitoring data in 2011, if adjustments in the permitted use is determined (either an increase of decrease in AUMS), then permit modifications would be made in accordance to 43 CFR 4130.3-3.

Livestock numbers may vary annually as long as such use remains within the Active Use, Season of Use, and the Management System described below.

Table 4. Alternative B: Anchustegui Alternative

Pasture	# of Livestock	Year 1	Year 2	Year 3	AUMs
King's proposal as applied to his portion of the allotment, Years 1 – 3¹					
5B	1,177*	11/1 - 1/31			2,732
8B 8BI	1,009	4/1 - 4/30	5/1 - 5/31	Repeat	2,755
10B	1,009	5/1 - 5/31	4/1 - 4/30	Repeat	
11B ²	1,009	6/1 - 6/22		Repeat	
28	1,009	6/23 – 7/23	7/24 – 8/23	Repeat	2,057
28A	1,009	7/24 – 8/23	6/23 – 7/23	Repeat	
FFRs (King)	Nominal	4/1- 11/30			281
Anchustegui's proposal as applied to his portion of the allotment, Years 1 – 10					
8B	418	4/1 – 5/10	4/22 – 5/31	Repeat	1,182
8BIII	418	5/11 – 5/31	4/1 – 4/21	Repeat	
12	418	6/1 – 6/25		Repeat	
29A 29B	283, 396	6/26 – 8/31	7/15 – 8/31	Repeat	624
29C		7/6 – 7/15	Rest	Repeat	
29D		6/26 – 7/5	Rest	Repeat	
FFRs (JA)	Nominal	4/1 – 11/30			88

*maximum numbers, Kings have staggered removal, higher numbers initially. Without flexibility in numbers, would be 911.

¹Years 2012 through 2019 would follow King's Proposal as described under Alternative C for King's portion of the allotment.

²King's proposal for 11B and 12 is to place ½ the entire herd (King and Anchustegui livestock combined) into each of these pastures. Because Anchustegui proposes to have separate use areas, King's livestock would use 11B and Anchustegui's would use 12.

Anchustegui's proposal would authorize flexibility, requiring that "livestock use will be subject to approval by the BLM Authorized Officer prior to turnout to ensure the schedule conforms to this Application and any modifications thereof during the term of this permit. Note that numbers may vary considerably; total permitted use (AUMs) by season is fixed; while season can vary slightly subject to the Range Readiness Criteria and authorized flexibility in pasture move dates (7 days maximum).

Annual Indicator Criteria (AIC)

1. Utilization of key upland grass species does not exceed 50% by weight as consumed by all classes of animals.
2. Utilization of current year's growth of key upland browse species by livestock will not exceed 30% in mule deer winter range.
3. Utilization of current year's growth of key upland browse species by all classes of animals combined (livestock & wildlife) of current year's growth of key upland browse species will not exceed 50% in mule deer summer range.
4. A minimum of 4 inches of stubble height should remain on Poison Creek in pasture 12 at the end of the growing season on the greenline at selected key areas.
5. Browsing by livestock of woody species less than 3 feet tall (including young willows) on Poison Creek in pastures 8B and 12 should not exceed 25% of current annual production at key areas.
6. Streambank alteration attributable to livestock grazing should be less than 10% on these segments of Poison creek.

For King's portion of the allotment, the Annual Indicator Criteria under Alternative C apply.

Proposed Projects

1. *Alt B Pasture 8B Division Fence*. Map 4. Pasture 8B would be split between Mr. Anchustegui and Mr. King along the Mud Flat Road, with the State section on Poison Creek being fenced down the middle to provide water to each permittee (this is contingent upon concurrence from the Idaho State Department of Lands). The west fence of pasture 8BIII would be realigned along the road, with the portion west of the road to go to Mr. King. Mr. Anchustegui would get most of pasture 8BIII.
2. *Mine Adit Trough*. Map 5. Develop water at mine site located adjacent to the Mud Flat Road. This was also identified in the 2004 Settlement and is proposed in Alternative C, D and E. The purpose is to provide livestock water.
3. *Pasture 28A Pond at Bill De Alder Draw*. Map 5. The pond would either be reconstructed or excluded with a trough placed outside the enclosure. The pond is currently breached.

Projects Considered But Not Carried Forward

One project proposed by Mr. Anchustegui failed to meet the purpose and need (achieving standards) and was not analyzed in detail in the alternatives. Only those projects that were integral to the alternatives or meeting purpose and need were carried forward for analysis. Projects considered at this time, but not analyzed in detail may be analyzed at some future date if management prescriptions fail to achieve resource objectives. The following project from Alternative B (and Alternative C) was determined not to meet the purpose and need and was dropped from further analysis at this time:

- Poison Creek Pipeline Extension into Pasture 8B. This extension would go into poor condition range supplying additional water. There are no distribution problems in this portion of the pasture and BLM could not determine what, if any, resource benefits this project offers.

Terms and Conditions (Anchustegui's)

1. Turn out is subject to Boise District Range Readiness Criteria
2. Certified actual use report is due 15 days after authorized use.
3. Salt and/or supplement shall not be placed within one quarter (1/4) mile of springs, streams, meadows, aspen stands, playas, or water developments.
4. Livestock exclosures located within the grazing allotment(s) are closed to all domestic grazing use.
5. Grazing use to conform to details described above.
6. A total of 395 spring AUMS will be temporarily delayed / discontinued to allow for restoration of vigor of plants and to provide for improvement of riparian areas within the East Castle Creek Allotment. At the end of 2011 grazing year, monitoring data collected (see monitoring plan) during 2009, 2010, and 2011 will be evaluated. After evaluation of monitoring data in 2011, if adjustments in the permitted use is determined (either an increase of decrease in AUMS), then permit modifications would be made in accordance to 43 CFR 4130.3-3.

Terms and Conditions (King's)

1. Livestock turnout dates are subject to Boise District Range Readiness Criteria. See Management Plan.
2. The permittee will submit an Actual Grazing Use Report to BLM within 15 days from the last day of authorized annual grazing use.
3. Supplemental feeding is limited to salt, mineral, and or energy/protein in block, granular, or liquid form. If used on public lands, these supplements must be placed at least one-quarter (1/4) mile away from any riparian area, spring, stream, meadow, aspen stand, sensitive plant species, playa, or water development located on public lands unless a site-specific exemption is approved by the authorized officer.
4. Livestock use will be annually scheduled to conform to the East Castle Creek Grazing Management Plan, and will be subject to approval by the BLM Authorized Officer prior to turnout to ensure the schedule conforms to the East Castle Creek Grazing Management Plan.

5. The Permit holder will be annually billed for grazing use after-the-fact based upon the “as filed” Actual Grazing Report form. The grazing use described by this grazing permit is the functional equivalent of an Allotment Management Plan.

2.6 Alternative C – King Proposed Action

King submitted his application for grazing in the East Castle Creek on June 20, 2008. His application is for his portion of the allotment. Mr. King does not propose a split of the allotment or any of the pastures as Mr. Anchustegui’s proposal does. Mr. King has an interim period with nonuse of 756 AUMS during which monitoring would occur. At the end of the interim period, if utilization monitoring is favorable, Mr. King would make full use of his 8,220 AUMs. Because he did not propose how Mr. Anchustegui would graze the allotment, the BLM infers here that Mr. Anchustegui would manage livestock the same manner in which Mr. King proposes. For Mr. King’s proposal the BLM assumed for purposes of comparison that the permitted numbers for Mr. Anchustegui would be adjusted for the change in season and partitioned among pastures in the same way as in Mr. King’s application. Mr. Anchustegui would take the same percentage of non-use and follow the same livestock grazing system for the pastures which he grazes in.

The term of the new permits would be March 1, 2009 through February 28, 2019. The permits issued under the Appropriation Act of 2008 would be cancelled, modified, and reissued for the balance of the term.

Grazing System

East Castle Creek Grazing Management Plan

1. King’s Active Use will be 8,220 AUMs. The season of use will be from March 1 through February 28. Livestock number and livestock periods of use within pastures may vary annually as long as such use remains within the Active use, Season of Use and the Management System. Any livestock use in excess of Active Use or Season of Use will be authorized in accordance with 43 CFR 4130.6-2(a).
2. King will take an interim period voluntary non-use of 756 AUMs for (2008), 2009, and 2010, 2011. Thereafter, King will make full use to the extent of 8220 AUMs, unless interim monitoring of utilization indicates a different level of AUMs is warranted. King and BLM will confer on data and information relevant to this provision in the fall/winter of 2011.
3. King’s livestock will typically be turned out on the allotment on April 1, subject to Boise District Range Readiness Criteria. However, turnout can occur earlier, i.e. between March 1 and April 1, when Boise District Range Readiness criteria are met. Livestock will typically be moved to private and/or Fenced Federal Range from about August 24 through October 24, and will typically be turned into the Winter Pasture (5B) from October 25 through January 31, though they can be removed later, i.e. between January 31 and February 28, when Active use is not exceeded and delay in turnout occurred beyond April 1, or when Active Use is not exceeded and management indicators are met within the pasture(s) where the grazing use is scheduled to occur between January 31 and February 28.
4. King’s typical pasture scheduling will be:

Pasture 8B, BI, BIII April 1 – May 30*
Pasture 10B April 1 – May 30*

Pasture 11B June 1 – June 22**
Pasture 12 June 1 – June 22**

Pasture 28 June 23 – August 23***
Pasture 28A June 23 – August 23***

Private and FFR August 24 – October 24
Pasture 5B October 25 – January 31

* These pastures will be deferred-rotated with approximately one month of use in each pasture. This rotation will be flexible, and either pasture group may be selected to have grazing initiated in April in any year; however, no pasture group will be grazed more than two consecutive years in May. For example, if Pasture 10B is grazed two years in a row in May, then Pasture 10B will not be grazed in May the following year.

** Generally, the herd will be divided approximately equally between the two pastures. King will coordinate numbers in each pasture with BLM annually.

*** These pastures will be deferred-rotated, with approximately one-half of the total time period in each pasture. King will coordinate dates with BLM.

5. King's typical numbers and dates of use will be:

a. Full stocking:

1082 cattle	04/01 – 06/22	100% Public Land	2953 AUMs
1082 cattle	06/23 – 08/23	100% Public Land	2206 AUMs
1082 cattle	10/25 – 12/16	100% Public Land	1885 AUMs
1082 cattle	12/17 – 12/17	Exchange of Use	36 AUMs
567 cattle	12/18 – 01/31	100% Public Land	839 AUMs
40 cattle	04/01 – 10/31	Fenced Federal Range (FFR)	281 AUMs ¹

b. Interim:

1009 cattle	04/01 – 06/22	100% Public Land	2753 AUMs
1009 cattle	06/23 – 08/23	100% Public Land	2057 AUMs
1009 cattle	10/25 – 12/16	100% Public Land	1758 AUMs
1009 cattle	12/17 – 12/17	Exchange of Use	36 AUMs
415 cattle	12/18 – 01/31	100% Public Land	614 AUMs
40 cattle	04/01 – 10/31	Fenced Federal Range (FFR)	281 AUMs ¹

¹ Note: Numbers and dates of FFR may vary from that stated, but will not exceed 281 AUMs.

6. No trailing will occur in the fall down Birch Creek in Pastures 10B and 11B.
7. Livestock will be distributed throughout each of the use pastures, via salting, riding, and use of existing and new range improvements, to the extent possible and feasible.
8. For resource management and livestock husbandry purposes, pasture move dates may deviate from the general schedule outlined above by a period of one week either way from the dates stated. King will coordinate actual move dates with BLM.

Table 5. Alternative C: King's Proposal Years 2009-2011

Pasture	# of Livestock	Year 1	Year 2	Year 3	AUMs
5B	1,143 cattle*	10/25-1/31			Total: 2,777 King = 2408 JA = 369
8B	1459 King: 1009 JA: 450	4/1- 4/30	5/1- 5/31	Repeat**	Total 3982 King: 2,753 JA = 1229
8BI		5/1- 5/31	4/1- 4/30	Repeat**	
8BIII					
10B					
11B	730*** King: 505 JA: 225	6/1-6/22			
12	730*** King: 505 JA: 225	6/1-6/22			
29A, 29B	253 cattle in year 1 396 cattle in year 2	6/23-9/5	7/15-8/31	Repeat	625
29C	29	Rest	6/15-6/30	Repeat	
29D	29	6/15 – 6/30	Rest	Repeat	
28	1,009 cattle	6/23-7/23	7/24-8/23	Repeat	2,057
28A		7/24-8/23	6/23-7/23		
FFRs (King)	nominal	4/1- 11/30			281
FFRs (JA)	nominal				88

*maximum numbers, Kings have staggered removal, higher numbers initially.

**May use is not to occur in more than two consecutive years in pasture 8B or 10B.

***approximate division by permittees, providing that utilization, streambank alteration and end-of-growing season stubble height and browse utilization requirements met on Birch and Poison creeks.

Winter AUMs: King has 2370 winter AUMs currently. JA has 369 AUMs (of which 278 are leased by Gil). King proposes just a minor increase in winter AUMs (38 AUMs). For this pasture JA AUMs remain the same as the No Action.

Spring AUMs: King proposes non-use of 22% from 3513 AUMs to 2753. Anchustegui's would have non-use of 22% from 1576 to 1229 AUMs.

Summer AUMs: Summer AUMs remain the same as the No Action from 2009 to 2011.

Table 6. Alternative C: King’s Proposal Years 2012-2019

Pasture	# of Livestock	Year 1	Year 2	Year 3	AUMs
5B	1,143*	10/25-1/31			Total: 3,240 King = 2,760 JA = 480
8B	Total: 1,576 King: 1,082 JA: 485	4/1- 4/30	5/1- 5/31	Repeat**	Total= 4,277 King= 2,953 JA = 1,324
8BI		5/1- 5/31	4/1- 4/30	Repeat**	
8BIII					
10B					
11B	788*** King: 541 JA: 242	6/1-6/22			
12	788*** King: 541 JA: 243	6/1-6/22			
29A, 29B	253, 396 cattle	6/23-9/5	7/15-8/31	Repeat	625
29C	29	Rest	6/15-6/30	Repeat	
29D	29	6/15 – 6/30	Rest	Repeat	
28	1082	6/23-7/23	7/24-8/23	Repeat	2,206
28A		7/24-8/23	6/23-7/23		
FFRs (King)	nominal	4/1- 11/30			281
FFRs (JA)	nominal				88

*maximum numbers, Kings have staggered removal, higher numbers initially.

**May use is not to occur in more than two consecutive years in pasture 8B or 10B.

***approximate division by permittees, providing that utilization, streambank alteration and end-of-growing season stubble height and browse utilization requirements met on Birch and Poison creeks.

Winter AUMs: King proposes a 16% increase from the No Action (2370 AUMs to 2760 AUMs), and a 15% increase from 2011. Similar increase for JA would correlate to 480 AUMs, or an increase from 369 to 429.

Spring AUMs: King proposes a 16% reduction from the No Action spring AUMs, from 3513 AUMs to 2953 AUMs. Similar reduction for JA would correlate to 251 AUMs, or a reduction from 1576 to 1,324.

Summer AUMs: King proposes an increase of 6.8% for the summer pastures of 28 and 28A from 2,061 to 2,206. Unclear- would we then give JA a like increase? This would result in an increase for JA of 43 AUMs, from 625 to 668.

Management Indicators (Annual Indicator Criteria)

1. Upland utilization of key perennial grass species should not exceed moderate utilization (40%-60%), with a desired average utilization of 50% across a pasture or across the key areas in the pasture, at the end of the grazing period or growing period, whichever is later.
2. Browse use of key riparian shrubs, including but not limited to willows, on Birch Creek and Poison Creek should not exceed “moderate” (40-60%) use on young woody plants

less than three (3) feet in height, as measured on the length of the perennial stream channel dominated by such shrubs or across key areas on the stream, within each respective pasture, measured at the end of the grazing period or growing period, whichever is later.

3. Streambank alteration² attributable to livestock grazing (pugging, shearing, trails, trampling) should be less than 10% as measured and verified by statistical reliability testing at key riparian areas in perennial reaches of streams.
4. Stubble height of key riparian species along the greenlines on perennial reaches of Birch Creek and Poison Creek should average 4 inches or more, as measured at riparian key sites at the end of the grazing period or growing period, whichever is later.
5. Utilization of bitterbrush in the summer pastures should not exceed moderate utilization (40%-60%), with a desired average utilization of 50% across the summer pastures, at the end of the grazing period or growing period, whichever is later.
6. These “Management indicators” will be monitored and will be applied according to the “Monitoring Plan” (as yet to be written).

Proposed Projects³ (see maps 6 and 7)

Pending completion of field investigations for all necessary clearances, the following projects are identified for construction or modification:

1. Birch Creek Pipeline Extension into 5B Trough Relocation;
2. Relocation of waterhaul site in 5B, if data indicate need, and provided that another suitable haul site is located.
3. Poison Creek Pipeline Extension into Pasture 8B;
4. Birch Creek Pipeline Extension into Pasture 8BI (Phase I seeding);
5. Horsehead Spring Pipeline Extension into 10B and 12;
6. Pasture 11B Spring Development;
7. Rat Spring Pipeline Extension⁴;
8. Adjustment of the Pasture 8B and 10B boundary fence;

² Trampling impacts must be the obvious result of current season use and are considered streambank alteration when:

- Streambanks are covered with vegetation and have hoof prints that expose at least 12 mm (about ½ inch) of bare soil;
- Streambanks exhibit broken vegetation cover resulting from large herbivores walking along the streambank and have a hoof print at least 12 mm (½ inch) deep, as measured from the top of the displaced soil to the bottom of the hoof impression; and/or
- Streambanks have compacted soil caused by large herbivores repeatedly walking over the same area even though the animal’s hoofs sink into and/or displace the soil less than 12 mm (½ inch).

Large herbivores trampling and trailing on top of terraces, above the active floodplain, is not considered streambank alteration. Hoof marks within the plot with shearing on the streambank and/or terrace wall and/or trampling at the base of the streambank or terrace wall are considered streambank alteration.

³ BLM footnote: Several of these projects were identified in the 2004 Settlement.

⁴ Note that this pipeline extension will dry up the overflow from the trough at Rat Spring, but will likely create one or more new overflow areas at the pipeline extension trough location(s). Anticipated overflow moist/wet area(s) should be fenced (estimated no larger than 3 acres each), and meadow vegetation that develops within the fenced area(s) will be grazed annually to an average height of 4 inches, and then the cattle removed from the fenced area(s).

9. Development of water at a mine site in Pasture 12, placing a trough on the sidehill;
10. Moving the water trough out of the Poison Creek Exclosure (in Pasture 12) into Pasture 12;
11. Headcut stabilization at the following locations⁵:
 - a. Lone Juniper Creek (3) in Pasture 12;
 - b. Sheep Creek (3) in Pasture 33;
 - c. An unnamed seep at 8S2W24SWSW (1) in Pasture 28;
 - d. Birch Creek (1) in Pasture 10B;
 - e. Birch Creek (1) in Pasture 11B.
12. Overflow area/meadow management structures at the following locations⁶:
 - a. Overflow area below the livestock water pond above Juniper Station, leaving the pond available for livestock water.
 - b. Approximate-15-acre fenced area at Little Juniper (note: this is already fenced, but is not grazed to remove/prevent decadent vegetation).
 - c. Other meadows that BLM and the Permittee identify relative to accomplishing or making progress toward MFP objectives WL4.3 and RM 1.4a, RM 1.4 c (and to the extent applicable, WL-2).
13. Upland grazing exclosure(s) (less than 3 acres in size, each) will be constructed in two-to-four representative vegetation types in the late-spring (11B & 12) pastures and in the summer (28, 28A) pastures. NPFTs will be initiated and read concurrently every 3 years with other NPFTs in the respective pastures.

BLM will conduct resource inventories prior to construction of the above-listed, or any other, range improvements, and will be responsible for construction of the proposed improvements. Except for headcut stabilization structures and fences, maintenance will be the responsibility of the Permittee. All projects on public lands will be constructed and maintained to conform to BLM design specifications and Cooperative Agreements. Applicable mitigation measures will be integrated into the construction of the rangeland management projects on public lands.

Projects Considered But Not Carried Forward

As a part of analyzing the alternatives there were a number of projects that failed to meet the purpose and need (achieving standards) and were not analyzed in detail in the alternatives. Only those projects that were integral to the alternatives or meeting purpose and need were carried forward for analysis. Projects considered at this time, but not analyzed in detail may be analyzed at some future date if management prescriptions fail to achieve resource objectives. The following projects from Alternative C were determined not to meet the purpose and need and were dropped from further analysis at this time:

- Birch Creek Pipeline Extension into 5B Trough Relocation. Permittees were asked to clarify the location, but could not. Pasture 5B was meeting the standard and was not

⁵ Stabilization will consist of placement of headcut stabilizing materials and construction of a small temporary livestock exclosure enclosing the headcut area. Upon stabilization of the vegetation and soil, the exclosure fencing will be removed, unless BLM, in consultation with the Permittee and interested publics, determines that the fencing should remain.

⁶ These overflow/meadow areas will be grazed annually to an average height of the meadow vegetation of 4 inches, then livestock will be removed from the fenced areas.

identified for improvement in the purpose of need. Because there is no relation to the purpose and need, this project was dropped from consideration.

- Poison Creek Pipeline Extension into Pasture 8B. This extension would go into poor condition range supplying additional water. There are no distribution problems in this portion of the pasture and BLM could not determine what, if any, resource benefits this project offers.
- Rat Spring Pipeline Extension. There are no distribution problems in this portion of the pasture and there is adequate water already. The BLM could not determine what, if any, resource benefits this project offers.
- Adjustment of the Pasture 8B and 10B boundary fence. It is unclear what this project would accomplish and how it would meet the purpose and need. It is not necessary for implementation of this alternative.

The headcuts identified under #14 will be considered in the future if conditions of stream channel do not improve with the new grazing management prescription.

Terms and Conditions (Anchustegui)

1. Turn out is subject to Boise District Range Readiness Criteria
2. Certified actual use report is due 15 days after authorized use.
3. Salt and/or supplement shall not be placed within one quarter (1/4) mile of springs, streams, meadows, aspen stands, playas, or water developments.
4. Livestock exclosures located within your grazing allotment(s) are closed to all domestic grazing use.

Terms and Conditions (King's)

1. Livestock turnout dates are subject to Boise District Range Readiness Criteria. See Management Plan.
2. The permittee will submit an Actual Grazing Use Report to BLM within 15 days from the last day of authorized annual grazing use.
3. Supplemental feeding is limited to salt, mineral, and or energy/protein in block, granular, or liquid form. If used on public lands, these supplements must be placed at least one-quarter (1/4) mile away from any riparian area, spring, stream, meadow, aspen stand, sensitive plant species, playa, or water development located on public lands unless a site-specific exemption is approved by the authorized officer.
4. Livestock use will be annually scheduled to conform to the East Castle Creek Grazing Management Plan, and will be subject to approval by the BLM Authorized Officer prior to turnout to ensure the schedule conforms to the East Castle Creek Grazing Management Plan.
5. The Permit holder will be annually billed for grazing use after-the-fact based upon the "as filed" Actual Grazing Report form. The grazing use described by this grazing permit is the functional equivalent of an Allotment Management Plan.

2.7 Alternative D

Alternative D (maps 8 and 9) would incorporate the use of annual indicator criteria to adjust livestock management during the current or successive grazing season as needed. Alternative D would retain existing pasture boundaries (note that pasture 11B had 4,297 acres and is now reduced to approximately 3,051 acres). Use would remain the same in the winter pasture as the No Action; turnout would occur in either 10B or 8B (similar use as the 2004 Settlement); use would be limited in pastures 11B and 12 to 15 days with annual indicators applied; 28A and 28 would be limited to 25 days each with annual indicators to adjust livestock management. 29A and B would be used till 8/31 and 29C and D would be used for 2 weeks with limited numbers and rested in alternate years. This alternative differs from others in that as soon as the annual indicator criteria are met in specified pastures (see below) livestock are removed from those pastures. Mid-term and long-term monitoring would be used to evaluate whether resource objectives are being met and whether livestock numbers require adjustment. This alternative proposes a similar reduction of AUMs as the 2004 Settlement.

Grazing System

Grazing use for pasture 5B, season of use and staggered numbers of livestock, remain the same as the No Action. Some annual indicator criteria apply for Mulford’s Milkvetch objectives. Turn out into the spring pastures remains April 1 with April and May use alternating between pastures 8B and 10B, the same as the 2004 Settlement. Pastures 11B and 12 are grazed June 1 through June 15. Turnout into the summer pastures 28 and 28A occurs on June 16th, earlier than any of the other alternatives. Use in these pastures is limited to 25 days each. Livestock use in pastures 29A and 29B occurs from June 16th to August 31 one year and July 15th to August 31 the following year. Pastures 29C and 29D are each rested one year out of two. Scheduled use is from June 16th to June 30th with 23 AUMs total for the pasture that is being used that year. FFR pastures are open for use April 1 through November 30 as long as MFP objectives are being met.

Table 7. Alternative D

Pasture	# of Livestock	Year 1	Year 2	Year 3	AUMs
5B	1,177	11/1-1/31			2,732
8B, 8BI, 8B III	1,482	4/1 - 4/30	5/1 – 5/31	Repeat	2,972
10B	1,482	5/1 – 5/31	4/1 – 4/30	Repeat	
11B	741	6/1 – 6/15			365
12	741	6/1 – 6/15			365
29A, 29B	237 in Year 1 380 in Year 2	6/16 – 8/31	7/15 – 8/31	Repeat	600
29C	49	Rest	6/16-6/30	Repeat	24
29D	49	6/16– 6/30	Rest	Repeat	24
28	1066	7/11 – 8/6	6/16 -7/10	Repeat	876
28A	1066	6/16 – 7/10	7/11 – 8/6	Repeat	876
FFRs (King)	nominal	4/1- 11/30			281
FFRs (JA)	nominal	4/1- 11/30			88

Annual Indicator Criteria (AIC)

Annual Indicator Criteria would be applied in accordance with IM-2005-074 to assist in demonstrating compliance with the applicable portions of the Standards and Guidelines, and the applicable portions of the Bruneau Management Framework Plan. These annual indicator criteria can provide useful information for interpreting the cause of trend in rangeland conditions and for adaptive management adjustments. The annual indicators are used as thresholds to indicate when adjustments are necessary to livestock grazing management. These adjustment may occur during the grazing year, in the short-term (within 3 years) or long-term (greater than 3 years). Adjustments during the grazing year may include redistribution of livestock within a pasture if not all areas exceed the annual indicators or removal of livestock from a pasture. Longer term adjustments are described in the table below.

Annual grazing use indicators, along with other required management practices would result in a reasonable expectation that long term desired conditions will be achieved. These indicators may be modified by the Field Manager based on the recommendations of the IDT of resource specialists and consultation with the livestock grazing permittees. If monitoring indicates that a change is necessary to ensure that the annual indicators are effective in meeting or making significant progress toward meeting the Idaho Standards for Rangeland Health (ISRH) and resource objectives (see page 4 for specific objectives and page 7 for a list of MFP objectives). The following Annual Indicator Criteria will be monitored in accordance with the Monitoring Plan (Monitoring Plan to yet be developed):

1. Utilization on key upland grass species (bottlebrush squirreltail, Sandberg bluegrass, bluebunch wheatgrass, ricegrass, Thurber needlegrass) will not exceed an average of 40% in the spring pastures (8B, 8BI, 8BIII, 10B).
2. Utilization of key upland grass species, winterfat, and Nuttall saltbush will not exceed an average of 50% in pasture 5B.
3. Ground disturbance in and around Mulford's milkvetch populations decreases once water haul site is moved away from population. If soil disturbance is not reduced, identify an alternate trough location that would not impact Mulford's milkvetch.
4. Utilization of key upland grass species (bluebunch wheatgrass, Idaho fescue, Sandberg's bluegrass, Thurber needlegrass, needle-and-thread, ricegrass) does not exceed an average of 50% (pasture 11B, 12, 28, 28A, 29A, 29B).
5. Utilization of current year's growth of key upland browse species by all classes of animals combined (livestock & wildlife) will not exceed 30% in mule deer winter range (pastures 8B and 10B) and 50% in mule deer summer range (pastures 28, 28A, 29ABCD).
6. Browsing by livestock of woody species less than 3 feet tall (including young willows) on Birch, Poison, Lone Juniper, Battle, Rock, Sheep, Fall, and West Fork Shoofly creeks will not exceed an average of 25% of current annual production. Once utilization levels are reached, livestock would be redistributed to lesser used areas if present or removed from the pasture.

7. A minimum of 4 inches of stubble height will remain on the above listed streams on the greenline. Streambank alteration attributable to livestock grazing is less than 10% based on MIM monitoring methods.
8. Bacteria in Battle, Birch and Poison creeks will not exceed the State of Idaho Water Quality Standards (see monitoring plan).

Mid-term and Long-term Monitoring

In addition to the Annual Indicator Criteria listed above, mid-term and long-term monitoring will be used to evaluate the effectiveness of meeting our resource objectives (as stated on pg. 4 and listed in the MFP). As of this date, the monitoring plan is yet to be developed, but will be included as part of the Final Decision.

Mid-term Monitoring for Pastures 5B, 8B, and 10B

Establish reference areas for each pasture. Reference areas should be grazed and considered to be meeting standards. An interdisciplinary team would select the reference areas in consultation with the permittees to ensure that they are similar in soils, aspect, elevation, etc. as the sites that would be monitored for progress. Place monitoring plots in reference areas and throughout pasture in areas not meeting standards. Use data from reference areas to set objectives for plant cover, density, vigor, litter, and bare ground. Set timeline for progress towards objectives for mid and long-term. Use monitoring data in conjunction with other annual indicators to adjust grazing plan.

Long-term

Install grazing exclosures in a variety of locations in Pastures 5B, 8B, and 10B to evaluate the range of potential of these pastures to respond to a release from grazing. Grazing exclosures would represent a variety of site potentials and would be selected by an interdisciplinary team in consultation with the permittee. Place long term monitoring plots inside and out of exclosures. Measure same parameters as the reference area plots. Exclosures would be used to evaluate site potential and would allow managers to assess the relative impacts of weather and current management on vegetation. Exclosures would guide future permit renewals but may not be yield results soon enough to guide short or mid-term grazing modifications.

Adaptive Management Responses

If Annual Indicator Criteria are repeatedly not met and there is no apparent trend toward meeting the Rangeland Health Standards then adjustments to livestock grazing would be made. In the mid-term up to a 10% reduction in AUMs for each pasture would occur. This adjustment could be in numbers of livestock, season of use, or a combination of numbers and season of use. Also, mid and long term monitoring would show the effectiveness of the livestock management in this alternative. In the long term, with monitoring, additional adjustments in numbers of livestock, season of use, or a combination of numbers and season of use may be required to meet resource objectives.

The following two tables show mid-term and long-term annual indicator criteria, monitoring and management response.

Table 8. Annual Indicator Criteria and Management Response

Pasture	Mid-Term (1-3 year intervals)	Long Term (4 + years)
5B Upland Vegetation	>50% utilization in two of the three years results in up to a 10% in numbers or season of use.	Monitoring exclosures, trend and density measurements. Would evaluate at 10 years.
8B & 10 Upland Vegetation	Two out of three years exceedence of annual indicator criteria would result in up to a 10% reduction of numbers or season of use.	Monitoring exclosures, trend and density measurements. Would evaluate at 5 and 10 years. Examples of criteria to indicate success towards meeting resource objectives may include: <ul style="list-style-type: none"> - 2-4 perennial grass plants per meter square - 65% of existing perennial grasses producing seed - Statistically significant increase in % of grasses in interspaces vs shrubs If monitoring shows we are not meeting resource objectives an additional reduction would be necessary.
11B & 12 Riparian	Two out of three years exceedence of annual indicator criteria would result in up to a 10% reduction of numbers or season of use.	Statistically significant improvements in greenline cover, vegetation, bank stability, and upward trend in functioning condition. If long term monitoring (5 years, 10 years) does not illustrate improvements, reductions may be made.
11B & 12 Water quality	20% Exceedence of State of Idaho water quality standards result in up to a 10% reduction in numbers or season of use.	If long term monitoring (5 years, 10 years) does not result in meeting water quality standards, changes in livestock numbers or shortening of season of use may be made.
12 Hanging meadows	Hanging meadows continue to erode or degrade see actions below ¹	If long term monitoring (5 years, 10 years) does not result in improvements in resource conditions changes in livestock numbers or shortening of season of use may be made.
29 A, B, C, D	Repeated exceedence of	If long term monitoring (5

Riparian, Upland Vegetation, Browse	annual indicator criteria would result in up to a 10% reduction of numbers or season of use.	years, 10 years) does not result in maintenance or improvements in resources, changes in livestock numbers or shortening of season of use may be made.
28, 28A Riparian, Upland Vegetation, Browse	Repeated exceedence of annual indicator criteria would result in up to a 10% reduction of numbers or season of use.	If long term monitoring (5 years, 10 years) does not result in improvements riparian and upland resources, particularly the vigor and condition of mountain mahogany and bitterbrush, changes in livestock numbers or shortening of season of use may be made.

Table 9. Pastures 8B and 10B Management Response with Exclosure Monitoring

Inside exclosure	Outside exclosure	Result
Up	Down or static	Reduce utilization annual indicators & reduce numbers or season of use.
No difference	No difference	Maintain 25% reduction
No difference	Up	Allow some use of some of the nonuse.

¹ Hanging meadows in pasture 12 continue to erode, we would either exclude the meadows or split pasture 12 into two halves to better manage livestock.

Proposed Projects

The BLM proposes several projects (exclosures, fences, water developments) designed to meet the purpose and need and which would be implemented under either Alternative D or E. Those projects are listed in Sections 2.9 and 2.10 and shown on Map 9 for Alternative D and Map 11 for Alternative E. In addition to the projects proposed with this alternative there are projects considered optional that may be implemented at a future date. Maps 12 and 13 display those projects.

Terms and Conditions

1. Livestock grazing management in the East Castle Creek Allotment shall be made in accordance with the field manager's final decision.
2. Livestock turnout is subject to the Boise District range readiness criteria.
3. Supplemental feeding is limited to salt, mineral, and/or protein in block, granular, or liquid form. If used, these supplements must be placed at least one-quarter (1/4) mile

away from any riparian area, spring, stream, meadow, aspen stand, sensitive plant populations, playa, or water development located on public land unless a variance is approved by the authorized officer.

4. Livestock exclosures located within the East Castle Creek Allotment are closed to livestock use.
5. Properly complete, sign and date an Actual Grazing Use Report Form (BLM Form 4130-5) for each allotment. The completed form(s) must be submitted to the Bruneau Field Office within 15 days from the last day of authorized annual grazing use.
6. Maintenance activities within all WSAs require prior consultation with the authorized officer. Motorized vehicles are restricted to designated roads in WSAs.

2.8 Alternative E

Alternative E (maps 10 and 11) proposes a three pasture rest rotation grazing system in pasture 8B by splitting the pasture and using the two new pastures with pasture 10B (Map 10). Turnout into 8Bs and 10B would be changed to April 15 to accommodate a shorter season of use in 11B and 12. Pastures 11B and 12 are designated riparian pastures with movement through them limited to 1 week with the whole herd. Season of use in the summer pastures 28 and 28A would be limited to 27 days in each pasture to limit browse of mountain mahogany and bitterbrush. Pastures 29A and B would be used till 8/31 and 29C and D would be used for two weeks with limited numbers and rested in alternate years. This alternative would have a similar reduction of AUMs as the 2004 Settlement.

Grazing System

Grazing use for pasture 5B, season of use and staggered numbers of livestock, would remain the same as the No Action. Some annual indicator criteria would apply for Mulford's Milkvetch objectives. Turn out into the spring pastures is April 15th in either 10B or one of the new 8B pastures. The later turnout date maintains the amount of time these pastures are used from the No Action (one month each) while accommodating the shorter season in 11B and 12. The rotation would allow rest one out of three years in 8B, 10B and the seedings. The seedings would be used in conjunction with the 8B pasture being used. Pastures 11B and 12 would be treated as riparian pastures with use scheduled for one week in each pasture with ½ the herd in each pasture. Trailing in the fall down Birch Creek in pastures 10B and 11B would not be permitted. The deferred-rotation grazing systems in pastures 28, 28A, 29A, and 29B and the implementation of light use in the late spring and rest in the two riparian pastures, 29C and 29D, would continue with slight modifications to the turnout dates. Turnout in the summer pastures is changed to 6/23 from 6/25. Pastures 28 and 28A would receive a reduction by adjusting time (off August 15) to reduce browse use on bitterbrush and mountain mahogany.

A key difference between this alternative and Alternative D is that while Annual Indicator Criteria apply, but they do not force a pasture move and only are used for the mid and long term effectiveness monitoring. In other words, the livestock would not be removed from a pasture once those criteria are met. However, if repeated monitoring shows that annual indicators are exceeded and there is not apparent trend toward meeting the Rangeland Health Standards, then we will adjust numbers (AUMs).

Table 10. Alternative E

Pasture	#of Livestock	Year 1	Year 2	Year 3	AUMs
5B	1,177 cattle*	11/1-1/31			2,732
8BA, 8BI	760	4/15-5/15	Rest	5/16-6/15	1,470, 775, 695
8BB, 8BIII		5/16-6/15	4/15-5/15	Rest	
10B	1,486	Rest	5/16-6/15	4/15-5/15	1,515
11B	743	6/16-6/22			171
12	743	6/16-6/22			171
29A/29B	261 in Year 1 381 in Year 2	6/23-8/31	7/15-8/31	Repeat	600
29C	49	Rest	6/23 – 7/7	Repeat	24
29D	49	6/23 – 7/7	Rest	Repeat	24
28	981	6/23-7/19	7/20-8/15	Repeat	1,742
28A		7/20-8/15	6/23-7/19	Repeat	
FFRs (King)	nominal	4/1- 11/30			281
FFRs (JA)	nominal	4/1- 11/30			88

Annual Indicator Criteria (AIC):

Annual Indicator Criteria would be applied in accordance with IM-2005-074 to assist in demonstrating compliance with the applicable portions of the Standards and Guidelines, and the applicable portions of the Bruneau Management Framework Plan. These annual monitoring indicators can provide useful information for interpreting the cause of trend in rangeland conditions (positive or negative) and for adaptive management adjustments. The annual indicators would be used as thresholds to indicate when adjustments are necessary to livestock grazing management. These adjustments may occur during the grazing year, in the short-term (within 3 years) or long-term (greater than 3 years). Adjustments during the grazing year may include redistribution of livestock within a pasture, but not removal from the pasture as occurs under Alternative D.

Annual grazing use indicators, along with other required management practices would result in a reasonable expectation that long term desired conditions would be achieved. These indicators may be modified at any time by the Field Manager based on recommendation from the interdisciplinary team of resource specialists and consultation with livestock grazing permittees. Modification would be based on if monitoring indicates that a change is necessary to ensure that the annual indicators are being effective in meeting or making significant progress towards meeting Idaho Standards for Rangeland Health (ISRH) and resource objectives. The Annual Indicator Criteria for this alternative are the same as Alternative D, but without the requirement that livestock be removed.

Mid-term and Long-term Monitoring

Mid- and long-term monitoring is the same as described under Alternative D. The monitoring plan will be developed as part of the Final Decision.

Projects Specific to Alternative E

The BLM proposes several projects (exclosures, fences, water developments) designed to meet the purpose and need and which would be implemented under Alternative E. Those projects are listed in Section 2.9 and 2.10 (and shown on Map 11). For Alternative E the division fence in pasture 8B is necessary and integral to this alternative:

1. *Pasture 8B Division Fence*. Map 10. A pasture division fence would be constructed to divide Pasture 8B into two relatively equal portions. The purpose of the project is to allow rest from grazing for perennial vegetation in one out of three years in pastures 8B and 10B

Terms and Conditions

1. Livestock grazing management in the East Castle Creek Allotment shall be made in accordance with the field manager's final decision.
2. Livestock turnout is subject to the Boise District range readiness criteria.
3. Supplemental feeding is limited to salt, mineral, and/or protein in block, granular, or liquid form. If used, these supplements must be placed at least one-quarter (1/4) mile away from any riparian area, spring, stream, meadow, aspen stand, sensitive plant populations, playa, or water development located on public land unless a variance is approved by the authorized officer.
4. Livestock exclosures located within the East Castle Creek Allotment are closed to livestock use.
5. Properly complete, sign and date an Actual Grazing Use Report Form (BLM Form 4130-5) for each allotment. The completed form(s) must be submitted to the Bruneau Field Office within 15 days from the last day of authorized annual grazing use.
6. Maintenance activities within all WSAs require prior consultation with the authorized officer. Motorized vehicles are restricted to designated roads in WSAs.

2.9 Projects Common to Alternatives D and E

The following projects are proposed under alternatives D and E. They are designed to address resource concerns identified in the purpose and need and in the East Castle Creek Evaluation and Determination. At this time, projects have not been fully scoped by resource specialists and engineers. Project locations may be adjusted during scoping based on staff input. Upon scoping, some projects may be dropped from further consideration based on site specific information. Currently, staff is planning on scoping during October 2008 prior to the final decision.

Projects are roughly drawn on Map 9. They are included as part of this document as pdf files which can be enlarged for viewing. The projects are also shown on Map 11 for Alternative E.

1. *Monitoring Exclosures*. These are not mapped yet. Pastures 5B, 8B and 10B the BLM proposes a series of 3-strand barb wire fence exclosures to evaluate the long term effectiveness and vegetative responses to this grazing prescription. In pasture 5B two

enclosures approximately 3 acres in size would be built; in pasture 8B and 10B three enclosures approximately 3 acres in size would be built in each pasture. Locations are yet to be determined. Enclosures will be located in areas representative of varying (poor, mid, good) vegetation conditions and communities. None of the enclosures will be within Wilderness Study Areas. The enclosures are proposed to understand the effectiveness of the management prescription.

2. *Pasture 5B Water Haul Relocation.* This is will be mapped after field scoping. Relocate the water haul site impacting Mulford's Milkvetch. The purpose is to reduce the impacts associated with livestock congregating at the site and to still provide water elsewhere within the vicinity. This project is also proposed under Alternative C (King's).
3. *Half Moon Spring Enclosure.* Maps 9,11. Pasture 10B. There is currently a water development at this spring but the headbox and spring source are not protected. The spring is in functioning at risk condition. The purpose is to comply with standard procedures to fence spring sources at range developments and to protect and improve spring conditions.
4. *Pasture 11B Spring Enclosures (2) and Trough.* Maps 9,11. Pasture 11B. Enclosure fences would be built to protect two springs in the southwest corner of Pasture 11B. At one of the springs, a water trough would be provided for livestock use. The purpose is to improve the conditions of the springs and still provide water for livestock. One of the springs is in non-functioning condition and the other is functioning at risk.
5. *Eagle Spring Enclosure.* Maps 9,11. Pasture 11B. There is currently a water development at this spring but the headbox and spring source are not protected. The spring is in functioning at risk condition. The purpose is to comply with standard procedures to fence spring sources at range developments and to protect and improve spring conditions.
6. *Pasture 12 Spring Enclosure.* Maps 9,11. This spring is located on the boundary between BLM on the East Castle Creek Allotment and private property. An enclosure fence would be constructed and tie into the existing fence to protect the ephemeral channel and wet meadow area. An existing gate would be relocated. The purpose is to improve the riparian area and meadow. There is currently severe pugging and hoof shearing in the spring area.
7. *Magpie Creek Headwaters Enclosure and Trough.* Maps 9,11. Pasture 19. The headwaters of Magpie Creek are currently dug out to form a pond. This project would fence the spring and associated meadows and replace the pond with a trough to allow livestock to water.
8. *Battle Creek Headwaters Enclosure and Trough.* Maps 9,11. Pasture 19. The headwaters of Battle Creek are currently dug out to form a watering pond. Resource damage is occurring to the spring sources, with hoof shearing and trampling. This project

would fence the spring and associated meadows and replace the pond with a trough to allow livestock to water while protecting the resource.

9. *Pasture 44 Spring Exclosure 1.* Maps 9,11. There is currently a water development at this spring but the headbox and spring source are not protected. The purpose is to comply with standard procedures to fence spring sources at range developments and to protect spring conditions.
10. *Pasture 44 Spring Exclosure 2.* Maps 9,11. This is an undeveloped spring that needs protecting. The spring has moderate levels of disturbance and a downward trend.
11. *Pasture 28 Spring Exclosure.* Maps 9,11. There is currently a water development at this spring but the headbox and spring source are not protected. The spring is in non functioning condition with severe downcutting. The purpose is to comply with standard procedures to fence spring sources at range developments and to protect and improve spring conditions.
12. *Rat Spring Exclosure.* Maps 9,11. Pasture 28. There is currently a water development at this spring but the headbox and spring source are not protected. The site is dominated by bare ground and the spring is functioning at risk. The purpose is to comply with standard procedures to fence spring sources at range developments and to protect and improve spring conditions.
13. *Section 20 Spring.* Maps 9,11. Pasture 28. A fence would be constructed to protect the wet meadow area associated with a pond. The purpose is to improve the wet meadow habitat and the sage grouse habitat.
14. *Rock Spring Exclosure Expansion.* Maps 9,11. Pasture 28. Currently there is a large exclosure on State land at Rock Spring. The expansion would capture the BLM portion of the spring area and wet meadow to improve resource conditions and sage grouse habitat.
15. *Station Spring Exclosure Expansion.* Maps 9,11. Pasture 28. This project would expand the exclosure at Station Spring to include more of the wet meadow area that is in poor condition.
16. *Pasture 29A Battle Creek Tributary Meadow Exclosure.* Maps 9,11. The wet meadow area is downcutting. The exclosure would protect and stabilize this tributary to Battle Creek.
17. *West Fork Shoofly Creek Fence Realignment.* Maps 9,11. Pasture 14. This project is within the Little Jack's Creek Wilderness Study Area (WSA). Motorized vehicles would not be used to access, construct, maintain or remove fences or fence materials within the WSA. The purpose is to exclude livestock grazing from 0.4 mile of West Fork Shoofly Creek that is degraded due to historical channel incision. Exclusion of livestock would facilitate restoration of channel and floodplain by eliminating use of new floodplain

surfaces formed when sediment is trapped and retained by small rock weirs and by raising the elevation of the streambed at riffles. The resource objective is to restore the stream floodplain and increase bank storage of water to maintain greater stream flows in the W.F. Shoofly Creek. Fence Proposal:

- i. Remove gap fence in NE ¼ of section 13;
- ii. Also remove multiple pieces of fence on BLM land in SW ¼ section 13 that no longer serve any purpose (livestock have access to both sides of fence because private fences that the fences on BLM tie to are now in disrepair);
- iii. Build new fence on the downstream boundary of the private land in SE ¼ of NW ¼ of section 13. Fence ties to cliff band on the north end and to rocks on the south side;
- iv. Changes to fence length:
 - a. ~ 340 meters of fence on BLM and within WSA would be removed;
 - b. ~ 340 meters of new fence would be built on private/BLM boundary outside of WSA (on WSA boundary);
 - c. ~ 10 meters of fence would be built on BLM land tying the property boundary fence to rock slope in NE ¼ of SW ¼ of section 13;
 - d. Net 330 meters decrease in fence on BLM land and within WSA and net increase of 10 meters of fence (on BLM and private lands combined).

2.10 Projects Considered Optional for Alternatives D and E

The following projects are considered optional for Alternatives D and E. Projects are located on Maps 12 and 13. At this time, projects have not been fully scoped by resource specialists and engineers. Currently, staff are planning on scoping during October 2008 prior to any final decision. Upon scoping, some of these projects may be proposed under Alternatives D and E. The hanging meadows enclosure and the pasture 12 division are two projects that may be considered in the future to meet resource objectives in pasture 12.

1. *Birch Creek Pipeline Extension into Pasture 8BI*. Map 12. Add an additional trough in Pasture 8BI from the existing pipeline. The purpose is to provide additional water for livestock.
2. *Mine Adit Trough*. Map 13. Pasture 12. Develop water at mine site located adjacent to the Mud Flat Road. This was also identified in the 2004 Settlement and was proposed in Alternative C. The purpose is to provide livestock water.
3. *Summit Springs Trough*. Map 13. Pasture 12. Provide water in trough at Summit Springs. Currently, Summit Springs is in an enclosure and livestock water right below the enclosure fence causing resource damage. The enclosure fence would be adjusted to protect the area that is heavily impacted by livestock.

4. *Hanging Meadow Exclosure*. Map 13. Pasture 12. An exclosure fence would be built to protect the wet meadow area in the upper portion of Pasture 12. The project is optional if mid-term monitoring of annual indicator criteria in Pasture 12 warrants excluding the large wet meadows.
5. *Pasture 29A Pond at Bill De Alder Draw*. Map 13. The pond would either be reconstructed or excluded with a trough placed outside the exclosure. The pond is currently breached.
6. *Pasture 12 Division*. Map 13. If hanging meadows and riparian concerns in pasture 12 are not resolved with under the grazing management, this project, which would split pasture 12 into two separate use areas at the state section would be an option for implementation.

3.0 Affected Environment and Environmental Consequences

3.1 Affected Environment – Soils/Watersheds

There are three major landforms in the East Castle Creek Allotment: Lakebeds, which occur at lower elevations in the northern portion of the allotment in pastures 5B, 8B and 8BIII; mountains, or foothills, which occur in the lower to upper elevations in the southern portion of pasture 8B, and in 8BI, 10B, 11B, 12; and plateaus located in the upper summer pastures (28, 28A, 29A, 29B, 29C, and 29D).

Pasture 8B: The lakebeds in this pasture had one location with a ‘moderate’ overall rating for Soil and Site Stability and Hydrologic Function. This assessment site exhibited large, occasionally connected bare areas and moderate soil surface degradation in plant interspaces. Other cover categories such as gravel, biological soil crust, and litter (including cheatgrass) did not compensate for the loss of the original understory components at the time of the assessment. This assessment site showed evidence of currently active changes in soil stability and hydrologic function; particularly, there was evidence of water flow originating offsite on adjacent badland slopes. Any evidence of change to soil stability and hydrologic function at the other 3 locations (also on lakebeds) was primarily historic rather than currently active.

Pasture 8BIII: Seeding has been applied to a portion of these shrub communities within Pasture 8BIII. Crested wheatgrass and fourwing saltbush were successfully established. The seeding had a ‘moderate to extreme’ overall rating for Soil and Site Stability and Hydrologic Function. This assessment site exhibited large, occasionally connected bare areas and severe soil surface degradation in plant interspaces. Many of the soil surface characteristics (crusting, lack of structure, absence of surface gravel) and lack of biological soil crust on the rangeland health assessment site are largely the consequence of plowing in 1992. Cover provided by the seeded and surviving native grasses and cheatgrass did not compensate for loss of the gravel and biological soil crust at the time of the examination.

Pasture 8B: A trend study documents a static trend since 1997 in the foothills portion of the pasture. This study shows substantial basal cover for site protection from perennial grasses, shrubs, and biological soil crust, minimal bare ground, and minimal influence by cheatgrass. Sandberg's bluegrass is the primary perennial grass species at the trend site, reflecting the historic loss of the decreaser component on lower slopes and stream terraces in the foothills. The study also shows less bare ground in 2006-07 than in 1997.

Utilization levels of perennial grasses under the 2004 Settlement were within objectives identified in the Bruneau MFP for watershed protection. Due to the short period since implementation, the effects of grazing practices as implemented under the 2004 Settlement are inconclusive with regard to watershed health.

Pasture 8BI: Seeding has also been applied to a portion of the shrub communities within Pasture 8BI. The seeding had a 'moderate to extreme' overall rating for Soil and Site Stability and Hydrologic Function. This assessment site exhibited large, occasionally connected bare areas, severe soil surface degradation occurring in plant interspaces and other cover categories such as gravel, biological soil crust, and litter (including cheatgrass) did not compensate for the loss of the original understory components at the time of the assessment. Many of the soil surface characteristics (crusting, structure and soil cover) and lack of biological soil crust on the rangeland health assessment site are largely the consequence of plowing in 1988. This assessment site showed evidence of currently active changes in soil stability and hydrologic function; particularly, gullies formed by runoff from adjoining foothill slopes.

Utilization levels of perennial grasses under the 2004 Settlement were within objectives identified in the Bruneau MFP for watershed protection. This pasture was rested or only slightly grazed in 2005 and 2006 to promote recovery of remaining seeded species. Due to the short period since implementation, the effects of grazing practices as implemented under the 2004 Settlement are inconclusive with regard to watershed health.

Pasture 10B: This pasture had one location with a 'moderate' overall rating for Soil and Site Stability and Hydrologic Function. It represents areas where the original understory has long been lost. This assessment site exhibited large, occasionally connected bare areas, some reduction in soil surface stability and some soil loss in plant interspaces. Other cover categories such as gravel, biological soil crust, and litter (including cheatgrass) did not compensate for the loss of the original understory components at the time of the assessment. The other location, at the trend study, had some evidence of change to soil stability and hydrologic function from the reference condition, but it was primarily historic rather than currently active.

Pasture 11B:

The location of the assessment site had some evidence of change to soil stability and hydrologic function from the reference condition, but it was primarily historic rather than currently active. Utilization levels of perennial grasses were within objectives identified in the Bruneau MFP for watershed protection.

Pasture 12:

Any evidence of change to soil stability and hydrologic function at the 3 assessment locations was primarily historic rather than currently active. The installation of fences between Pastures 8B and 12 has promoted improvement in vigor of desirable plants by promoting regrowth and preventing repetitive grazing of the same desirable plants. That fence has also been used to delay turnout in Pasture 12 until June 1 since 1969. Fence installation, a shorter and later season of use and implementation of a grazing system under the 2004 Settlement have all contributed to improved conditions.

Pasture 44: Pasture 44 has FFR status, and is grazed at the discretion of the permittee. The site evaluated in this pasture in 2007 had a slight to moderate departure from expected. Water flow patterns were short, somewhat connected and more frequent than expected. There were few bunchgrasses in the interspaces and they were pedestalled.

Plateau

Pasture 28: This pasture had one location with a ‘moderate to extreme’ overall rating for Soil and Site Stability and Hydrologic Function. This assessment site showed the presence of small bare areas that were rarely connected. Other cover categories such as gravel, biological soil crust, and particularly, litter did not compensate for the loss of the original understory components at the time of the assessment. The other location had some evidence of change to soil stability and hydrologic function from the reference condition, but it was primarily historic rather than currently active.

Cover of non-persistent litter and bare ground were static. Biological soil crust basal cover was static. The shrub canopy, basal cover of perennial plants, and gravel and stones (at 08S02W24) provide adequate protection from raindrop impact and resistance to overland flow of water. Biological soil crusts are less important to soil stabilization at higher elevations such as found on the plateau landform.

The Bruneau MFP states that the primary watershed decision is to “allocate no more than 50 percent of vegetation to consumptive use.” The vegetative cover to be left on site is intended to provide protection from erosion. Utilization levels of perennial grasses were within objectives identified in the Bruneau MFP for watershed protection.

Pasture 28A: This pasture had one location with a ‘moderate’ overall rating for Soil and Site Stability and Hydrologic Function. Bare areas were large and occasionally connected, with greatly reduced amounts of litter. Other cover categories such as gravel, biological soil crust, and litter did not compensate for loss of original understory components at the time of the assessment. The other location had some evidence of change to soil stability and hydrologic function from the reference condition, but it was primarily historic rather than currently active.

Pasture 29A: The single location in this pasture, at the trend study, had a ‘moderate’ overall rating for Soil and Site Stability and Hydrologic Function. This assessment site showed the presence of small bare areas that were rarely connected. Other cover categories such as gravel, biological soil crust, and litter did not compensate for loss of original understory components at the time of the assessment.

Pastures 29B, 29C, and 29D: Upland trend and Rangeland Health data were not collected in these pastures.

Pastures 29B, 29C, and 29D: Upland trend and Rangeland Health data were not collected in these pastures.

Summary

According to the evaluation/determination, Pastures 8BI, 8BIII, and 28 exhibit a “moderate to extreme” departure from expected condition (BLM 2008). The Rangeland Health Assessment (RHA) noted the presence of water flow patterns, bare ground, pedestals and/or terracettes, gullies and the absence or degraded condition of surface cover (biological soil crusts, gravel, and litter) as factors contributing to the degraded condition of portions of these pastures. Other pastures in the allotment exhibit lesser degrees of degradation based on the RHA. However, invasive plants, particularly cheatgrass, are identified as threats to biotic integrity throughout the allotment.

The evaluation/determination identifies current and historic grazing practices as factors contributing to pastures in the allotment not meeting the Watershed Standard for Rangeland Health. Of the pastures not meeting the watershed standard, five (8B, 8BI, 8BIII, 10B, and 5B) show no progress toward the standard while three (28, 28A, and 29A) are making significant progress. Three pastures (11B, 12, and 44) are meeting the watershed standard.

Pastures 8B, 8BI, 8BIII, and 10B were cited as not meeting the watershed standard because of excessive livestock use on seeding areas, below average precipitation, and grazing practices implemented prior to 2005 that allowed for early season use during the critical growing season.

Pasture 5B is identified as a site where historic livestock grazing use and practices was not a significant factor based on the observation of similar Rangeland Health Indicators (i.e., mortality of perennial grasses and shrubs without recovery by the perennial grasses) in the adjacent Poison Creek Exclosure.

In pastures 28, 28A and 29A there is an upward long-term trend for watershed health although juniper encroachment, particularly at 28A, is an ongoing concern. Change to summer use, division of the allotment, and initiation of the current grazing system contribute to the progress toward meeting the watershed standard. In the summer pastures, the upward trend toward meeting the watershed standard can be maintained through management actions that limit the encroachment of western juniper while promoting yearly growth of the perennial grass understory to maintain soil surface integrity.

3.2 Affected Environment – Upland Vegetation

There are three major landforms in the allotment: Lakebeds, which occur at lower elevations in the northern portion of the allotment in pastures 5B and 8B; mountains, or foothills, which occur in the lower to upper elevations in the southern portion of 8B, 10B, 11B, 12 and to some extent in the upper summer pastures; and plateaus located in the upper pastures.

The lakebed areas are characterized by salt desert shrub (shadscale, greasewood, Nuttall saltbush, winterfat, four-wing saltbush) and sagebrush dominated communities with remnant perennial grasses (Indian ricegrass, Sandberg bluegrass, Thurber's needlegrass, and squirreltail) and cheatgrass understories. Populations of perennial grasses are sparse and cheatgrass is common. Shrub overstories are relatively intact and have not had major disturbances such as fire. Foothill and mountain areas are characterized by sagebrush (Wyoming big, mountain big, low) overstories and perennial grass (Sandberg bluegrass, squirreltail, bluebunch wheatgrass, Idaho fescue, Thurber's needlegrass, Indian ricegrass) understories. Cheatgrass is a significant component at lower elevations in areas that receive consistent livestock use. Mature junipers are scattered throughout the mountain areas. In some areas, they are increasing. Mountain areas accessible to livestock are generally in poor or fair (primarily upper elevations) condition. Areas in good condition are limited to relatively inaccessible sites on steep slopes and mountain tops, particularly within pastures grazed during the spring. Populations of cool season deep rooted bunchgrasses increase with elevation.

Plateau areas are characterized by sagebrush (mountain big, low) and mountain shrub (bitterbrush, curleaf mountain mahogany) overstories with perennial grass (Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass, squirreltail, Sandberg bluegrass) understories. Cheatgrass is a minor component, occurring primarily in heavily used and some burned areas. Plateau areas are generally in good condition.

Much of the information presented here in the Affected Environment for Upland Vegetation section is explained in greater detail in the East Castle Creek Rangeland Health Assessment (DOI-BLM 2008) and the East Castle Creek Evaluation and Determination (DOI-BLM 2008).

Pasture 5B: The plant communities have been altered for some decades, and were rated in poor condition in 1966. Past surveys have recognized the existence of pockets of better condition communities with an Indian ricegrass understory. These pockets generally received limited livestock use because of steep slopes, broken topography, or distance from reliable water sources. These areas also had substantial remnant populations of increaser grasses. The 1997 AIE noted a fence-line contrast in places between winter (such as 5B) and spring pastures and stated that in general, perennial grasses and palatable shrubs were more vigorous and abundant in winter pastures than spring pastures.

There are three nested plot frequency transects sites located in this pasture. Since the sites were established (one in 1983 and two in 1988) there has been a decrease in squirreltail. Squirreltail is susceptible to cyclical die-offs caused by drought (Sharp et al. 1990). The allotment has experienced drought conditions several times within the last 25 years including 1999-2004, which could account for the decrease in squirreltail. Ricegrass frequency, present at two of the trend sites, overall is static since 1983. However, it did increase from 5% in 1997 to 11% in 2006 at site 06S02E04. Sandberg's bluegrass has steadily increased at this site. Shadscale frequency has remained static at two sites and increased at the third, site 06S02E04. Budsage has decreased at two sites and is static at the third. Winterfat has increased at the one site where it is present. Overall trend in this pasture is static. One trend site has a slight upward trend (06S02E04) based

on the increases in ricegrass, Sandberg's bluegrass, and winterfat but shadscale and budsage have decreased at this site. The other two trend sites are static.

The native plant community concerns in this pasture are changes in the functional/structural groups and the increase of invasive plants -indicated by the decrease of deep rooted cool season bunchgrasses in the interspaces between shrubs and the increase of cheatgrass. Biological soil crust is an important functional/structural group that is well represented in this pasture. Biological soil crusts help to retain soil moisture, discourage annual weed growth and help to bind the soil particles together, thus protecting soil integrity.

Pasture 8B: The plant communities in most of this pasture have been altered over decades of spring grazing with heavy utilization occurring in several of the years monitored. Shrubs with a cheatgrass understory and remnant perennial bunchgrasses under the shrub canopies are the dominant visual aspect over approximately 50% of the pasture, especially the northern portions. The northern, lakebed, lower elevation areas have a cheatgrass understory which competes with the sparse remnant perennial bunchgrasses for space and energy. Recruitment of bunchgrasses is therefore low. Areas of better condition plant communities exist in the foothills portion of the pasture, above Shoofly Creek and in the more remote areas without reliable water sources. According to the 1997 AIE, the long-term ecological trend for perennial grasses was static to downward and the long-term trend for shrubs was static to upward. Vigor and productivity of perennial grasses, according to the AIE, were generally low. Consistent grazing from initiation of growth through the critical growth stage of forage species and drought conditions resulted in static or declining conditions beginning in 1987.

There are four nested plot frequency transect study sites located in this pasture. One site was established in 1983 and the other three sites were established in 1990. Long term (from either 1983 or 1990, depending on when the site was established to present) trend on squirreltail is downward at three sites and upward at one site. Ricegrass is static at the one trend site where it has been regularly recorded (site 07S02E22) and bluegrass is static overall. Overall trend on grasses is static to downward. For shrubs, long term (from 1983) frequency of shadscale was downward at two sites and upward at one and budsage was static at two sites and upward at one. Long term trend for native perennial grasses is static to downward and trend on shadscale is downward and budsage is static. In the short term, from 1997 to present, trend on perennial grasses is downward and trend on shrubs (including low sage and Wyoming big sage) is downward.

In addition, there is one site in the Poison Creek Exclosure which was established in 1983. Squirreltail has declined from 1983 to 1997, but has increased since 1997. Shadscale frequency was static and budsage has increased since 1983.

The main biotic concerns of the native plant communities in this pasture are changes in functional/structural groups indicated by decreased cool season deep rooted perennial bunchgrasses; decreased annual production of native perennial plants; decreased litter amount; and invasive plants. Cheatgrass makes up a large component of the understory in this pasture, with remnant cool season deep rooted bunchgrasses occurring primarily under the shrub cover,

especially in the lakebeds portions. There are more perennial native grasses in the interspaces between shrubs in the south and southeastern portion of the pasture, away from water.

Pastures 8BI and 8BIII: Pastures 8BI and 8BIII are part of the Castle Creek Plow and Seed Project (Phase I and III) which were plowed and drilled to crested wheatgrass in 1988 and 1992, respectively. Crested wheatgrass, particularly in 8BI, is not the visually dominant plant. It is on a downward trend in 8BIII. For these two pastures, crested wheatgrass is one of the perennial species under the functional/structural group cool season deep rooted bunchgrasses because in hydrologic terms, it functions the same as a native cool season deep rooted bunchgrass.

One trend study site is located in 8BIII. Established in 2000, the site has shown a marked decrease in frequency of seeded wheatgrass. Sandberg's bluegrass, although present in 2000, did not occur in 2006. The apparent trend on seeded wheatgrass, based on 2000 and 2006 data, is downward in 8BIII. There are no long term study sites in 8BI, although based on the Rangeland Health Assessment conducted in the pasture, vigor and productivity were poor on the seeded wheatgrass.

For both seeding pastures, the lack of large cool season deep rooted bunchgrasses (including crested wheatgrass), poor vigor and low amounts of vigor are concerns.

Pasture 10B: The lower portions of the pasture, the alluvial basins and lower slopes, have been rated in poor condition since 1966. They are dominated by annual grasses in the understory with sparse Sandberg's bluegrass. As you move higher in elevation there is a more abundant and diverse understory of perennial bunch grasses. Sandberg's bluegrass increases in the understory and islands of other perennial bunchgrasses persist, particularly on the steeper slopes and mountain tops, but also in the trend plot. The 1997 AIE concluded the historic trend in this pasture was downward in areas with gentle slopes receiving moderate livestock use and static to upward on steep slopes and mountain tops that receive lighter use. Season of use, grazing levels, and drought conditions have limited the recovery of perennial grasses.

There is one trend site in this pasture. Bluegrass is well represented at the site and frequencies have remained high throughout the years. Bluebunch wheatgrass has decreased since 1983 and Thurber needlegrass is static. Frequency of low sage is static from 1983 to 2007. From 1997 to 2007, frequency of bluebunch wheatgrass and Thurber needlegrass increased and low sage decreased.

The pasture exhibits a high amount of bare ground, reduced litter, increased cheatgrass, and few cool season deep rooted and shallow rooted bunchgrasses. The organic matter component of the soil surface is decreased in the lower, more accessible portions of the pasture.

Pasture 11B: There are no long term trend locations in this pasture. The historic condition mapping from 1959 and 1966 rated the lower elevations in fair condition. In 1974 and 1979 lower elevations portions were rated in poor condition. Condition was generally fair or good at higher elevations on steep north-facing slopes and areas less accessible to livestock or some distance from reliable water. The plant communities have a mix of understories, including Sandberg's bluegrass and other perennial native grasses.

The upland vegetation concerns in the pasture include an increase in shrubs compared to the ecological site description and interspatial cool season deep rooted bunchgrasses are sparse and exhibit poor vigor. Bluegrass and cheatgrass are increasing in the interspatial areas. Litter from shrubs was slightly higher than expected and high from cheatgrass.

Pasture 12: Condition of upland vegetation in this pasture is associated with steepness of slope, elevation, proximity to water including Poison Creek, and historic uses. Condition rating ranged from poor along Poison Creek, a historic livestock corridor, to fair in the steeper portions of the pasture away from water sources based on historic condition ratings. Poorer condition areas are dominated by increaser grass understories (Sandberg's bluegrass) with the better areas having a diverse understory dominated by Idaho fescue, bluebunch wheatgrass and other perennial bunchgrasses, depending on ecological sites. The steeper slopes opposite Poison Creek have reference condition low sage communities, with abundant and vigorous Idaho fescue and forbs.

There are two long term trend study sites in pasture 12. Site 08S01E20 is located close to the Mud Flat road just past Summit Spring in the upper portion of pasture 12. It burned in 1992 and was not rested from livestock use or seeded for recovery. Bluegrass has recovered to near the same frequency as prior to the fire and substantially greater, nearly double, the frequency than when the site was established in 1983. Mountain big sagebrush is at the same frequency as 1983. Thurber needlegrass, Idaho fescue and bluebunch wheatgrass have not recovered at the site. Snowberry has recovered, but bitterbrush has not. Frequency at the other trend site, 08S01E02, located just north of the Mud Flat Road in the lower portion of the pasture, is static on perennial bunchgrasses, upward on low sage and downward on mountain big sagebrush. Overall trend in this pasture is static to downward.

Pasture 28: The plant communities in this pasture include low sagebrush communities and mountain big sagebrush communities, with bitterbrush and mountain mahogany scattered throughout. Cool season deep rooted bunchgrasses including bluebunch wheatgrass and Idaho fescue are prevalent in the understory along with Sandberg's bluegrass, which dominates. At the low sagebrush trend site located at 08S01W28, approximately ½ mile from Rat Spring in the eastern portion of the pasture, trend on perennial grasses and low sage is upward. The other trend location (08S02W24) is also a low sagebrush site located just off the Antelope Ridge Road, north of Station Spring approximately ¾ mile. The frequency of low sagebrush has nearly doubled at this site since it was established in 1983. Idaho fescue and squirreltail are increasing. Overall trend on grasses at this location is also upward, except on bluegrass which has decreased. There is some physical crusting and pedastalling of plants in this pasture. Reproductive capability of cool season deep rooted bunch grasses is not as good as expected. Vigor on bitterbrush was poor due to the plants being severely hedged. Invasive plants, cheatgrass and juniper, are increasing, as was rabbitbrush, primarily in disturbed areas.

Pasture 28A: The plant communities in this pasture are similar to the other summer pastures, with low sagebrush and mountain big sagebrush communities, with bitterbrush and mountain mahogany scattered throughout. There are no long term trend data for this pasture. Vegetation mapping based on the ecological site inventory of 1979, as presented in the 1997 AIE, rated this pasture in good condition. The rangeland health assessments noted that cool season deep rooted

bunchgrasses were reduced from the ecological site descriptions and juniper and rabbit brush were increasing on the site.

Pasture 29A: The plant communities in the pasture include low sagebrush communities and mountain big sagebrush communities, with bitterbrush and mountain mahogany scattered throughout. Cool season deep rooted bunchgrasses are prevalent in the understory, along with many forbs. There is one trend site in this pasture, located at 08S01W26. Trend on some perennial bunchgrasses (Junegrass and bluebunch wheatgrass) was upward. Squirreltail had a downward trend and Idaho fescue is static overall. Trend on bitterbrush is upward, while mountain big sagebrush is downward. Apparent trend at this site overall is upward.

Pasture 44: There are no long term trend data for this pasture or for the other FFR pastures in this allotment. Vegetation mapping based on the ecological site inventory of 1979, as presented in the 1997 AIE, showed this pasture as having an increase in the cover of increaser grasses and a subsequent decrease in cover in the decreaser grasses. It was rated in fair condition based on these data. Cheatgrass was noted as dominating the understory during the 2007 Rangeland Health Assessment. Since this pasture is an FFR, period of use is at the digression of the permittee; thus, it has not been included in the analysis of alternatives.

Remaining Pastures:

In general, the remaining pastures (13, 14, 15, 16, 17, 18, 19, 20, 21, 27, 29B, 29C, 29D, 31, 33, and 37) are small and comprised mostly of private lands. No data regarding this resource (rangeland health evaluations, trend monitoring, etc.) have been collected for these pastures; therefore, they will not be addressed in the analysis of grazing alternatives regarding upland vegetation.

Pastures 11B, 29A, 44 are meeting Standard 4 (Native Plant Communities). The remaining pastures (5B, 8B, 8BI, 8BIII, 10B, and 12) are not meeting the standard. Historic grazing was targeted in pasture 5, where current grazing management (prior to 2005) was considered a significant factor in pastures 8B, 8BI, 8BIII, 10B, and 12. The effects of post-Settlement management on upland vegetation are yet to be determined.

Overall, the decline of cool season, deep rooted bunchgrasses combined with cheatgrass encroachment is common to all pastures (except 28 and 28A) not meeting Standard 4. In many cases, grazing repeatedly during the critical growth period for perennial grasses (the reproductive phase when seedheads are developing but have not emerged) (Quinton et al. 1982) has relegated these grasses primarily to protected areas (e.g. under shrubs). Areas where access is more difficult (e.g. broken topography, steep slopes) may also maintain native perennial bunchgrass communities. Pastures 28 and 28A do not meet this standard due to heavy bitterbrush and mountain mahogany utilization by livestock, though areas within these pastures do contain some cheatgrass and, to a lesser degree, western juniper.

3.3 Affected Environment – Streams, Riparian Areas and Wetlands

About twenty miles of stream in five major drainages (Battle, Birch, Poison, Rock, and West Fork Shoofly creeks) are located in the East Castle Creek Allotment. The majority of the

riparian habitat of these streams is in functional at risk condition with an upward trend (7.6 miles), or functional at risk with a static trend (6.8 miles) or non-functioning condition (2.7 miles). About 2.8 miles of stream are in proper functioning condition (PFC; USDI 2007a). Habitat conditions of individual streams are described below.

Battle Creek

Battle Creek flows through a low gradient valley in pastures 29C and 29D in the southern portion of the allotment. Stream flows are intermittent in this portion of Battle Creek. The stream and associated riparian areas (1.6 miles on public land) are in functional at risk condition with an upward trend. Bank-stabilizing riparian vegetation is strongly colonizing streambanks within this reach. Riparian areas are predominantly vegetated with Nebraska sedge and baltic rush community types (*Carex nebrascensis* and *Juncus balticus* C.T.s; Jankovsky-Jones et al. 2001), and willows (primarily *Salix geyeriana*) are being recruited into these communities. These reaches are impacted by historical channel incision (downcut and widened into F-channels; Rosgen 1996). However, the stream is progressing towards an E-channel type appropriate for the land form (Rosgen 1996) with the development of strongly vegetated banks and floodplains. These stream segments were fenced into riparian pastures (29C and 29D) in 1998 and are generally grazed lightly every other year and rested from grazing on alternate years. These segments of Battle Creek were identified for improvement in riparian habitat conditions in the 1983 Land Use Plan (Bruneau MFP, WL-AQ Objective 2.1; USDI 1983), and are making substantial progress towards the Bruneau MFP objective.

Birch Creek

The headwaters of Birch Creek are located on private land adjacent to Clover and Rough mountains in the central portion of the allotment. Birch Creek flows northward from private land through pastures 11B, 10B, and 8B. The upper portion of Birch Creek in pasture 11B (segment 13.0) is predominantly vegetated with Geyer's willow/mesic forb (*S. geyeriana*/mesic forb), *Salix*/mesic grass, and mesic grass C.T.'s. Stream flows are intermittent on part of this reach with the channel often dry by July or August. Streambanks are predominantly composed of easily erodible silt-clay soils. Most of Birch Creek in pasture 11B is historically incised 5 to 10 feet into gullied channels (G-channel type; Rosgen 1996). Trend in condition of riparian areas and stream channels on upper Birch Creek is upward with willow cover increasing at monitoring sites (USDI 2007a). Recruitment of willows and increased cover of late-seral sedges and rushes is apparent elsewhere on segment 13.0. The lower 1.7 miles of Birch Creek in pasture 11B (segments 10.6, 11.7, and 12.2) are functioning at risk with an upward trend since 1999 to 2003 (USDI 2007a). Stream flows are perennial and most riparian areas are vegetated with early-seral plant communities dominated by grasses and forbs. Cover of bank-stabilizing vegetation (willows and rushes) is increasing with less bare soil and eroding streambanks. However, changes in plant cover were slow particularly in deeply incised channel areas (USDI 2007a). About 0.2 mile of Birch Creek in a cobble-alluvial fill reach in the middle portion of pasture 11B is nonfunctional due to loss of stream flows due to historical incision of the stream (USDI 2007b). Most streambanks are vegetated with upland vegetation types. A short rock-armored reach (0.2 mile long) in a steep rocky canyon is in proper functioning condition. Streambanks are stable and well-vegetated with aspen (*Populus tremuloides*) and willows on this canyon reach (USDI 2007a).

Birch Creek in pasture 10B is in functional at risk condition with an upward trend (USDI 2007a). Many stream segments are historically incised 4 to 5 feet into gullied channels (G-channel type; Rosgen 1996), but generally have perennial flows. Riparian areas are predominantly vegetated with willow plant community types (*Salix exigua*/mesic forb; *S. lutea*/mesic grass; *S. lasiandra*/bench; *Betula occidentalis*/*Scirpus microcarpus*). Riparian trend monitoring showed upward trends in plant cover and diversity (USDI 2007a). A short segment of Birch Creek (0.2 mile long) is located in pasture 8B upstream of the private land at the Doyle homestead. This segment is functioning at risk with an upward trend. Shrub cover is increasing on historically deeply-incised streambanks. Median stubble heights of herbaceous riparian vegetation on Birch Creek in pasture 10B have generally exceeded 4 inches since 1997 (USDI 2007a). Residual stubble heights on Birch Creek in pasture 11B have usually exceeded 4 inches since 2002 (USDI 2007a).

About 1.4 miles of Birch Creek in pastures 8B and 10B was identified for improvement in riparian habitat condition in the 1983 Land Use Plan (Bruneau MFP, WL-AQ Objective 2.2; USDI 1983). These stream segments are functioning at risk with upward trends and are making slow progress towards the Bruneau MFP objective. Another 2.9 miles of Birch Creek in pasture 11B was also identified for improvement (WL-AQ Objective 2.2; USDI 1983). About 2.7 miles is functioning at risk with an upward trend and is making progress towards the Bruneau MFP objective, and for 0.2 miles trend in condition is static due to historic dewatering of that segment (USDI 2007b).

Poison Creek and tributaries

Poison Creek flows northward through pastures 12 and 8B in the eastern portion of the allotment. Stream flows are intermittent and the stream headwaters at Summit Springs in the southern end of pasture 12. Most of Poison Creek (4 miles) in pasture 12 is functioning at risk with a static trend (USDI 2007a). Streambanks are inadequately vegetated with bank-stabilizing plants or at risk of erosion because banks are unstable due to historic channel incision (G-channels; Rosgen 1996). About 3.2 miles of stream are predominantly vegetated with early-seral plant communities with scattered willows present, and receive high levels of bank alteration (USDI 2007a) that is negatively impacting riparian plant cover and vigor. Another 0.8 mile is vegetated with willow plant communities (primarily *S. lutea*/bench types), but channels and banks are unstable due to the historic incision of the channel (2 to 5 feet deep; USDI 2007a,b). Stream segments that were rated as functional at risk with a static to downward trends in 2003 have remained at risk of erosion as cover of bank-stabilizing plants has not increased (USDI 2007a). About 0.4 mile of Poison Creek in the central portion of pasture 12 is in proper functioning condition. Streambanks are densely vegetated with late-seral plant communities dominated by old-aged willows (*S. lutea*/*C. sericea*, *S. lasiandra*/bench C.T.s) that armor streambanks and prevent streambank alteration and erosion. Additionally, 0.2 mile of Poison Creek in the Summit Springs and Poison Creek Recreation Site grazing exclosures is in proper functioning condition. Streambanks are stable and strongly-vegetated with plant communities dominated by bank-stabilizing species.

Approximately 3.7 miles of Poison Creek are located on BLM land within pasture 8B. Most of the lower portion of Poison Creek (2.5 miles) is vegetated with a skunkbush sumac (*Rhus trilobata*/bench) plant community. Streambanks are weakly vegetated as the channel is deeply

incised (4 to 8 feet deep) and most of the skunkbush sumac is growing on the upper banks and edge of the stream terrace. These stream segments are nonfunctioning because of impacts to the channel and bank storage capability (loss of water) of the stream resulting from the historic incision of the stream channel (USDI 2007a,b). Another 1.2 miles of Poison Creek in pasture 8B is in functional at risk condition with a static trend (USDI 2007a). These segments are vegetated with plant communities dominated by willows (predominantly sandbar willow [*S. exigua*/mesic grass-forb] and mesic forb types). Most streambanks are inadequately vegetated to protect streambanks and dissipate stream energy during high flows. Vigor and cover of bank-stabilizing herbaceous species (sedges and rushes) is lacking. Some willow stands are composed only of dead or decadent old-aged plants. Channels are incised an average of 5 feet and riparian areas are not widening. Riparian trend monitoring showed a static to downward trend in health of willow-vegetated stream segments in pasture 8B (USDI 2007a). High levels of bank alteration were observed on the upper portions of Poison Creek in pasture 8B in 1999 and 2007 (USDI 2007a). Residual stubble height of herbaceous vegetation on Poison Creek in pasture 12 generally exceeded 4 inches between 1999 and 2006 (USDI 2007a). However, high levels of streambank alteration were measured in 2006 and photographed in 1999, 2001, and 2002 (USDI 2007a).

About 2.8 miles of Poison Creek in pasture 8B was identified for improvement in riparian habitat condition in the 1983 Land Use Plan (Bruneau MFP, WL-AQ Objective 2.2; USDI 1983). These stream segments are in functional at risk or nonfunctioning condition with static trends, and are not meeting or making progress towards the MFP objective, largely due to dewatering of the stream resulting from historical incision of the channel (USDI 2007a,b).

Fall Creek

About 0.7 mile of Fall Creek (a tributary to Poison Creek in pasture 12) supports riparian plant communities dominated by old-aged shrubs. This stream is in PFC, as about 90% of streambanks are stable and densely vegetated with shrub community types, including aspen (*Populus tremuloides*/*Cornus sericea*), and willow (*Salix geyerian*/bench; *S. lutea*/bench) types. However, the ecotone area between the riparian shrub communities and upland plant communities is severely disturbed by trampling and trailing. The ecotone area is largely composed of bare ground or vegetated with disturbance-induced plant communities dominated by burr buttercup, mullen, and Kentucky bluegrass. Approximately 0.4 mile of Fall Creek on BLM was fenced in with Mr. Anchustegui's state section in Pasture 12.

Lone Juniper Creek

Lone Juniper Creek is another tributary to Poison Creek in pasture 12. About 0.5 mile of this stream supports riparian areas, but flows are ephemeral to intermittent, and as a result riparian plants are intermittent in their distribution along the stream. In general, the amount of streambank vegetated with obligate hydric plants increases going up the drainage. Lone Juniper Creek is in functional at risk condition because of the presence of 3 active headcuts (USDI 2007a). Trend in condition appears static; about 15-20% of banks are bare or unstable because of tramping and pugging of streambank soils. This stream is predominantly vegetated with shrub communities including aspen and willow (*S. lutea*/bench and *S. exigua*/bench) types. Areas with less bank storage of water are dominated by Baltic rush (*Juncus balticus*) and Elk sedge (*Carex douglasii*) community types.

Rock Creek

Rock Creek is a perennial stream located on the western boundary of the allotment. About 0.3 mile of Rock Creek located downstream of pasture 33 was fenced into a grazing enclosure in 1997. This segment is functioning at risk with a strong upward trend (USDI 2007a). Riparian areas are vegetated with a Geyer's willow type (*Salix geyeriana/Carex nebrascensis* C.T.). Young willows are abundant and sedge and willow cover is increasing on banks and floodplains. A short segment of Rock Creek (0.2 mile) is located in pasture 33 and is in functioning at risk condition with a slow upward trend. Channels of both segments are historically incised 4 to 6 feet in depth (G-channels, Rosgen 1996). Most streambanks of Rock Creek in pasture 33 are vegetated with bank stabilizing sedges and willows, and sedge and willow cover is slowly increasing under fall grazing (USDI 2007a,b).

Sheep Creek

Sheep Creek is a tributary to Rock Creek and flows northwest through pastures 28A and 33 to Rock Creek. The headwater spring is located at Sheep Creek Pond spring in pasture 28A. The upper BLM segment on Sheep Creek in pasture 28A is 0.3 mile long. This segment has perennial surface flows and is in functional at risk condition with no apparent trend (USDI 2007a). Streambanks are vegetated with facultative grasses, with small areas of sedges present. Streambanks and channels are actively eroding at the downstream end of the segment, with the channel altered to a degraded G channel type (Rosgen 1996). The downstream segment in pasture 28A is 0.5 mile long and is in PFC. Stream channel shape and form is appropriate for the landscape setting (90% B stream type; Rosgen 1996). Streambanks are adequately vegetated with bank-stabilizing species. About 20% of streambanks are unstable due to bank alteration (trailing). Streamflows are intermittent with no surface flows on most of the reach by July. Much of the lower one-quarter of this segment is vegetated with facultative species (Silver sage [*Artemisia cana*], Juniper [*Juniperus occidentalis*], and grasses) due to the limited availability of water. The lower 0.45 mile of Sheep Creek is located in pasture 33. About 0.2 mile of Sheep Creek from the confluence upstream to the road crossing at the BLM/private land boundary is in PFC (USDI 2007a). Stream channel shape and form are appropriate for the landscape setting (predominantly B and E stream types; Rosgen 1996). Streambanks are stable and well vegetated with plant communities dominated by bank-stabilizing species. The predominant plant community is a Geyer's willow type (*S. geyeriana/C. nebrascensis* C.T.). The next BLM segment upstream (0.25 mile long) is also well vegetated with plant communities dominated by bank-stabilizing species. Plant communities are predominantly Geyer's and Booth willow types (*S. geyeriana/C. nebrascensis* and *S. boothii/C. nebrascensis* C.T.s). However, 3 active headcuts are present, and the segment is functioning at risk with a downward trend as channels continue to erode at the headcuts (2007a). Channel instability is due to the erosion of inactive beaver dams (USDI 2007a,b).

West Fork Shoofly Creek

West Fork Shoofly Creek and associated canyons and cliff slopes form much of the eastern boundary of the allotment in pastures 8B and 14. The stream flows northeast from pasture 14 to pasture 8. In pasture 14, upstream of the private land parcel, 0.6 mile of West Fork Shoofly Creek is in PFC (USDI 2007a). Channel shape and form are appropriate for the landscape setting. Streambanks and floodplains are well vegetated with bank stabilizing plant communities dominated by willows (*S. lasiandra*, *S. lutea*, *S. lasiolepis*, and *S. scouleriana*) and quaking

aspen (*P. tremuloides*). Shrubs armor and stabilize 90-95% of streambanks. Floodplains are vegetated with 25-75 m wide areas of woody shrubs. West Fork Shoofly Creek (1.6 miles) in the canyon reach in pasture 8B and the lower end of pasture 14 is in functional at risk condition with an upward trend (USDI 2007a). Streambanks are largely vegetated with bank stabilizing plant communities dominated by willows (*S. lutea*, *S. lasiandra*, *S. lemmonii*), red-twig dogwood (*Cornus sericea*), with some black cottonwood (*Populus trichocarpa*) trees present. About 20% of the reach is vegetated with early seral plant communities, which are being colonized by late-seral rushes (*Scirpus microcarpus*). Recent trailing along the canyon reach in 8B has impacted the floodplain resulting in bare soil areas and trails (nick points) that are susceptible to erosion during high flows (USDI 2007a).

The downstream-most segment in pasture 8B (0.5 mile) is in functional at risk condition with a static trend (USDI 2007a). Streambanks are inadequately vegetated with bank-stabilizing plants on the upper one-third of the segment and plants exhibited low vigor as a result of high use and high levels of bank alteration (USDI 2007a). Shrub recruitment is also lacking. The channel on the lower portion of the segment is incised 2-3 feet, and is weakly vegetated with wild rose and sagebrush due to the loss of bank storage of water resulting from the historic incision of the channel (USDI 2007a,b).

Wetlands

The functioning condition of 41 wetlands at springs on the East Castle Creek Allotment has been assessed. No surface water was found at two additional springs at the time they were inventoried and their condition was not assessed.

Thirteen springs have been developed to provide water for livestock; ten springs had short pipelines from the spring source to a watering trough, and three springs had ponds excavated in the wetland down-slope of the spring (USDI 2007a). All or most of the wetland at five developed springs was fenced to exclude livestock grazing. Nine wetlands at developed springs were functioning at risk or non-functional, and 5 wetlands were in PFC. Impacts observed at developed springs with wetlands in functional at risk or non functioning condition included dewatering of all or a portion of the wetland, compaction or pugging of wetland soils, lack of or absence of wetland vegetation (USDI 2007a).

Of the 28 undeveloped springs, the wetland at Summit Spring was fenced to exclude livestock use, but livestock can access the wetlands at the remainder of the undeveloped springs in the allotment. Six wetlands at undeveloped springs are in PFC, 18 are functional at risk, and four are non functional (USDI 2007a). Additionally, two wetlands located at seeps or spring areas that are not mapped on USGS topographic maps in pasture 11B were assessed. One wetland was functioning at risk and one wetland was in non functioning condition (USDI 2007a). Two wetlands (at mapped springs) in the upper end of Birch Creek in pasture 11B were assessed in 2002 and 2006. Trend in condition was static to downward (2007a). Overall 74% of spring wetlands are non-functioning or in functional at risk condition (USDI 2007b).

3.4 Affected Environment – Water Quality

Six major streams (Battle, Birch, Poison, Rock, Sheep, and West Fork Shoofly creeks) with perennial stream flows are located in the East Castle Creek allotment. Portions of Poison Creek have intermittent flows in years with low snow packs. Beneficial uses designated for all streams

in the allotment include agricultural water supply (waters suitable or intended to be made suitable for the irrigation of crops or as drinking water for livestock) and secondary contact recreation (water that may be used for fishing, boating, wading, and other activities where ingestion of raw water is not probable). The designated beneficial uses for Battle Creek are primary and secondary contact recreation, cold water aquatic life, and salmonid spawning (IDEQ 2003). The beneficial use of cold water aquatic life is given to waters that are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and populations of significant aquatic species that have optimal growing temperatures below 18°C. The use of salmonid spawning is assigned to waters that provide or could provide habitat for active self-propagating populations of salmonid fishes (redband trout). Salmonid spawning and cold water aquatic life are primary beneficial uses for Rock, Sheep, and West Fork Shoofly creeks. Cold water aquatic life is an additional beneficial use for Birch and Poison creeks.

All six streams in the East Castle Creek allotment are 303(d) listed by the State of Idaho as water quality impaired (IDEQ 2003) and the Idaho Department of Environmental Quality (IDEQ) is requiring TMDL (Total Maximum Daily Load) allocations for these streams to improve water quality (Table 11). IDEQ (2004b) found the six streams were not fully supporting the cold water aquatic life beneficial use (Table 12). IDEQ evaluates water quality in an Integrated 303(d)/305(b) Report (IDEQ2004b) using assessment units, which are groups of similar streams within a subbasin that have similar land use practices, ownership, or land management. Several streams in the East Castle Creek allotment were found to not support beneficial uses because they were grouped with other streams in the assessment unit for which IDEQ had data showing non support of beneficial uses (Table 12).

Table 11. Impaired Waters on the East Castle Creek allotment for which IDEQ (2003, 2004a, and 2007) is requiring TMDLs.

Name (Assessment Unit)	Pollutant
Birch Creek – Source to mouth (ID17050103SW021_02)	Sediment
Battle Creek – Source to mouth (ID17050104SW023_02)	Temperature
Poison Creek – Source to mouth (ID17050103SW024_02)	Sediment
Rock Creek – Source to Triangle Reservoir (ID17050108SW013_02)	Temperature
Sheep Creek – as a tributary to Rock Creek (ID17050108SW013_02)	Temperature
West Fork Shoofly Creek – as a tributary to Shoofly Creek (ID17050103SW024_02)	Sediment

Table 12. Beneficial use support status of streams in the East Castle Creek allotment (IDEQ 2004b).

Name (Assessment Unit)	CWAL	PCR	Comments
Birch Creek – Source to mouth (ID17050103SW021_02)	Not Supporting	---	Segment and all attributes carried forward from 1998 list

Battle Creek – Source to mouth (ID17050104SW023_02)	Not Supporting	Fully	Segment and all attributes carried forward from 1998 list. Added to 303(d) list for temperature in SBA.
Poison Creek-Source to mouth (ID17050103SW024_02)	Not Supporting	---	Segment and all attributes carried forward from 1998 list.
Rock Creek – 1 st and 2 nd order segments from Source to Triangle Reservoir (ID17050108SW013_02)	Not Supporting	Fully	Segment and all attributes carried forward from 1998 list.
Sheep Creek – as a tributary to Rock Creek (ID17050108SW013_02)	Not Supporting	---	Segment and all attributes carried forward from 1998 list. This segment was not on the 1998 list and is not assessed
West Fork Shoofly Creek – as a tributary to Shoofly Creek (ID17050103SW024_02)	Not Supporting	---	Segment and all attributes carried forward from 1998 list. This segment was not on the 1998 list and is not assessed

CWAL=Cold Water Aquatic Life; PCR=Primary Contact Recreation; SCR=Secondary Contact Recreation
 --- = Not Assessed

In general, streams on the East Castle Creek allotment did not fully support the cold water beneficial use because of either elevated stream temperatures or sediment (Table 11). BLM temperature data supports DEQ’s findings of non-support of the cold water aquatic life beneficial use for Birch Creek and Poison Creek (USDI 2007a). BLM measurements of stream substrates on Birch Creek, Poison Creek, and Battle Creek also showed elevated levels of fine sediment in those streams (USDI 2007a). BLM bacteria sampling showed Birch Creek generally met criteria for full support of primary and secondary contact recreation beneficial uses, except in the late 1990’s (USBLM 1997; USDI 2007a). Poison Creek consistently had bacteria levels that exceeded criteria for full support of primary and secondary contact recreation beneficial uses during the time pastures 8B and 12 were being grazed (USDI 2007a,b).

Support of the cold water aquatic life beneficial use is largely dependent on maintaining narrow stream channels with stable banks that are well-shaded by streamside vegetation. Water quality is improving in Birch Creek based on trends in streamside vegetation, stream channel shape and form, and reductions in bacteria levels over time (USDI 2007a,b). Water quality of Poison Creek is impaired by both high levels of sediment and bacteria, and trends in streamside vegetation cover and bank stability are static to downward (USDI 2007a,b). Water quality in Battle and Rock creeks, and portions of West Fork Shoofly is improving based on upward trends in streamside vegetation cover and bank stability (USDI 2007a,b). Recent hot season grazing and trailing along portions of West Fork Shoofly Creek in pasture 8B has resulted in bare soil areas in floodplains that are susceptible to erosion and excessive use of riparian vegetation, contributing to static trends in plant cover, bank stability, and hence water quality (USDI 2007a,b).

3.5 Affected Environment – Special Status Plants

Special Status Plants

Sensitive species discussed below are those species listed on the 2005 BLM sensitive species list for the Bruneau Field Office. Only known populations of Special Status Species (SSP) occurring in the East Castle Creek Allotment are discussed below. The East Castle Creek Allotment provides habitat for several sensitive species that are not currently known to occur in this area, however these will not be reported in this document. All observations of population condition or impacts that are reported in this document are on file with BLM.

There are ten BLM SSP known to occur in the East Castle Creek Allotment (Table13). All ten SSP are either Type 2, Type 3, Type 4, or Type 5 BLM Sensitive species (See Table 13 footnotes for definitions of these Types). The single Type 2 plant is the Mulford's milkvetch (*Astragalus mulfordiae*). Type 3 plants include Mud Flat milkvetch (*Astragalus yoder-williamsii*), cowpie buckwheat (*Eriogonum shockleyi*) and spreading gilia (*Ipomopsis polycladon*). Type 4 species are desert pincushion (*Chaenactis stevioides*), white eatonella (*Eatonella nivea*), rigid threadbush (*Nemacladus rigidus*) and white-margined wax plant (*Glyptopleura marginata*). The single Type 5 species is Snake River milkvetch (*Astragalus purshii* var. *ophiogenes*).

Currently, there are no known populations of Proposed, listed Threatened, or listed Endangered plants (Type 1) in this allotment. However, the USFWS considers all of Idaho to be within the potential range of Ute ladies'-tresses (*Spiranthes diluvialis*), a federally threatened orchid species. This plant occurs in spring, seep, and riparian habitats. Due to the difficulty in narrowly defining potential habitat for this species, USFWS has chosen to apply a loose definition and requires Section 7 consultation only in three counties of southeast Idaho or in areas where the plant is actually found (USFWS 2002). Surveys specifically for this plant are recommended prior to authorizing federal actions in southwest Idaho, but not required. This plant will not be discussed further.

Table 13. BLM Special Status Plants known to occur in the East Castle Creek Allotment, 2007.

Species	Habitat	Status in 2008 ¹	Pasture Located	Potential conflicts grazing
Mulford's milkvetch <i>Astragalus mulfordiae</i>	Needle-&-Thread/Indian ricegrass, deep sandy soils	BLM Sensitive, Type 2	5B, 5BEX, 8B	Grazing and trampling
Mud Flat milkvetch <i>Astragalus yoder-williamsii</i>	Mountain big sagebrush, Low sagebrush, cindery, silt loams	BLM Sensitive, Type 3	12, 17, 22, 24, 44, 28, 28A, 29A, 31	Range projects and trampling
Desert pincushion <i>Chaenactis stevioides</i>	Wyoming sagebrush, Wyoming sagebrush-shadscale, Horsebrush, Indian ricegrass	BLM Sensitive, Type 4	5B	Grazing and trampling
White eatonella <i>Eatonella nivea</i>	Wyoming sagebrush-shadscale, sandy or cinder soils in salt desert shrub habitat	BLM Sensitive, Type 4	5B, 8B	Grazing and trampling
Cowpie buckwheat <i>Eriogonum shockleyi</i>	Wyoming sagebrush-shadscale, lakebed sediments and oolitic limestone outcrops of salt desert shrub habitat	BLM Sensitive Type 3	8B	Range projects and trampling

Species	Habitat	Status in 2008 ¹	Pasture Located	Potential conflicts grazing
Spreading gilia <i>Ipomopsis polycladon</i>	Low sagebrush, Wyoming sagebrush-shadscale, horsebrush, soils of lakebed origin in sagebrush or salt desert shrub habitats	BLM Sensitive, Type 3	5B	Range projects and trampling
Rigid threadbush <i>Nemacladus rigidus</i>	Wyoming sagebrush, Wyoming sagebrush-shadscale, sandy, cindery, or ashy outcrops in shadscale-sagebrush habitats	BLM Sensitive, Type 4	8B	Range projects and trampling
White-margined wax plant <i>Glyptopleura marginata</i>	Salt desert shrub, greasewood, sandy soils	BLM Sensitive, Type 4	5B, 8B	Range projects and trampling
Snake River milkvetch <i>Astragalus purshii</i> var. <i>ophiogenes</i>	Needle-&-Thread/Indian ricegrass, sandy bluffs and dunes in salt desert shrub habitat	BLM Watch, Type 5	5B, 5BEX	Range projects and trampling
Simpson's hedgehog cactus <i>Pediocactus simpsonii</i>	Benches and canyon rims in rocky or sandy soil in low sagebrush habitat	BLM Watch	14R	Trampling

Status definitions.

BLM Sensitive: Rare species on the Idaho State Director's list indicating that the plant is of conservation concern.

Type 1: Species listed by the FWS as threatened or endangered, or proposed or candidates for listing under the Endangered Species Act (there are no Type 1 plant species in this assessment area).

Type 2: Species that have a high likelihood of being listed in the foreseeable future due to their global rarity and significant endangerment factors (there are no Type 2 plant species in this assessment area).

Type 3: Species that are globally rare with moderate endangerment factors.

Type 4: Species that are generally rare in Idaho with small populations or localized distribution and may currently have low threat levels.

Type 5: Species that may be added to the BLM Sensitive species list depending on new information.

Mulford's Milkvetch

Six populations of Mulford's milkvetch are found in pasture 5B and in the "Oolite enclosure" and one population in 8B in the East Castle Creek Allotment. (This is the number of "element occurrences" or EOs, the term used for "population" in the Idaho Conservation Data Center (ICDC) database of rare plants. Some EO's are made up of several sub-populations or patches of the plant.) The population found in pasture 5B about 1 mile off Mudflat road (EO 11), was trampled in Dec 2003 due to a water haul site for cattle being located about 75 yards away. On the monitoring transect within a nearby sub-population, numbers of milkvetch plants were 5 in 2004, 5 in 2005, 0 in 2006, and 2 in 2007 (ICDC, 2008). The major damage occurring to the milkvetch habitat by winter grazing probably occurred when livestock trampled the sandy soils before fall moisture arrived (Rosentreter 2003, Idaho State Office Botanist). The vegetation near EO 11 receives heavy use by livestock as a result of the water haul site. The slopes where the species occurs is trampled with deep hoof prints because of the loose sandy soils. An increase in the types of weeds observed at this site has also increased since the site was first monitored in 2004. The trampling of substrate, increase in weed composition and the reduced vigor of

associated species contribute to the reduction of habitat quality for Mulford's milkvetch at this site.

Mulford's milkvetch and its habitat have been monitored in pasture 5B since 2003 and 2004 by the Conservation Data Center of IDFG. Plant counts between two transects inside the Oolite Exclosure declined 59% from 39 to 31 to 16 plants between 2005 and 2007. Combined counts on transects for all populations in pasture 5B ranged from 139 to 89 to 122 plants during the same time period, a 13% decline (ICDC, 2008). A 2002 survey of rare plants and their habitat by the ICDC (2003) found that Mulford's milkvetch populations in 5B typically had low cheatgrass cover, light to moderate grazing impacts, relatively intact desertic shrubland habitat, and high imminent threats from OHV use. The exception to this was EO25 (less than 20 individuals) in the northwest corner of 5A which had relatively high grazing intensity with high levels of soil disturbance from livestock (ICDC, 2003).

Mud Flat Milkvetch

Mud Flat milkvetch is found in the southern portion of the East Castle Creek Allotment in pastures 28, 28A, 29A, and 31. While Mud Flat milkvetch is the most frequently occurring sensitive plant in the allotment, it is a former federal candidate for listing as threatened or endangered and is of particular concern due to its limited distribution. This perennial species is found in mountain big sagebrush and low sagebrush communities, sometimes on the edge of the juniper zone.

Many of the SSP that are known to occur in the Bruneau Field Office are highly specialized and inhabit micro-sites that only represent a small fraction of the total landscape. Species typically associated with Mud Flat milkvetch however include more extensive vegetation types such as mountain big sagebrush, low sagebrush, Idaho fescue, and bitterbrush. Therefore, the health of these communities can be important factors when assessing the potential for impacts to Mud Flat milkvetch populations.

Three populations were visited in 2006 and overall habitat condition was rated good-to-excellent at two sites and fair-to-good at one site. At the fair-to-good site, habitat condition was poor near a water trough, but improved farther away. Trailing and trampling through the population was noted, though plants were still vigorous.

Desert Pincushion

There are two population of desert pincushion located within pasture 5B just west of Twenty Mile Gulch. One of these populations consisted of 158 plants scattered among five small discontinuous patches covering an area of approximately 0.25 acres in 2002 (ICDC, 2003). The population vigor was assessed as good. Cheatgrass cover was high and other weed species such as Russian thistle and halogeton were present. The threat from increased weed invasion was imminent because of the cheatgrass dominated old burn adjacent to the population. Grazing disturbance to the population was moderate to locally heavy. The other population was small with only one reproductive plant. This population was assessed as having poor vigor in 2002.

White Eatonella

There were three occurrences of white eatonella observed within the East Castle Creek Allotment. There were two populations located in pasture 5B and one population located in pasture 8B. Population vigor ranged from fair to excellent. One of the populations within pasture 5B covers an area of approximately one acre. The other population within pasture 5B covers an area of approximately 0.1 acres made up by two subpopulations. The population within pasture 8B consists of three subpopulations totaling 0.5 – 1 acre, with plant density varying from high (150/1 square meter) to low (1/1 square meter). These populations were generally located in intact desertic shrubland adjacent to degraded valleys. They had low to moderate cheatgrass cover, dispersed grazing, and imminent threats from active OHV use (ICDC, 2003).

Cowpie Buckwheat (Packard's Buckwheat)

There is one new population of cowpie buckwheat identified in 2002 within pasture 5B near Vinson Wash. This population covers an area approximately 40,000 to 50,000 square meters and was made up of 50,000 to 60,000 individuals. Two other populations were identified in the 1980's and occur in 5BEX (Oolite Exclosure) and pasture 8B. Habitat for this species is characteristically sparse in vegetation because of the unproductive, clay rich soils. Cheatgrass was identified as the primary threat to cowpie buckwheat because of its moderate cover within the occupied habitat. Little evidence of livestock grazing was observed for this species.

Spreading Gilia

There was one new population of spreading gilia identified in 2002 within pasture 5B of the East Castle Creek allotment. This population contained five individuals and comprised an area of approximately five square meters. The habitat condition for this population is degraded desertic shrub and burn mosaic. There was additional habitat present around the population available for expansion. The habitat for this population receives light livestock use and no other threats are imminent. The vigor of the population was assessed as fair.

Rigid Threadbush

Rigid threadbush occurs in a large area that has been designated as containing multiple populations and suitable habitat. This area covers the southeastern corner of pasture 5B, and 5BEX (Oolite Exclosure) and the north eastern corner of 8B. This species has not been documented as occurring anywhere else within the allotment.

White-Margined Wax Plant

There were four new populations of white-margined wax plant located on the East Castle Creek allotment in 2002. Two populations were identified in pasture 5B and two were identified in pasture 8B. Both of the populations in pasture 5B are small (approximately 16 individuals). The populations in pasture 8B vary in size one containing approximately 20 individuals and the other contains multiple subpopulations that range from 2 to 150 individuals. The larger population in pasture 8B was assessed as having good vigor and 100 percent were reproductive. One other population was identified prior to 1997. One population (EO56) near 20 Mile Gulch and the gravel pit has degraded habitat from localized heavy grazing and OHV use. A second population has moderate grazing impacts and moderate to high cheatgrass and weed cover. The remaining three populations had light to moderate grazing and low cheatgrass cover.

Snake River Milkvetch

A large area has been designated as Snake River milkvetch potential habitat along the southeastern boundary of pasture 5BEX (Oolite Enclosure). There is one population of Snake River milkvetch identified as occurring in pasture 5B in the vicinity of Vinson Wash. The population contains 3 individuals over 0.10 acres. Grazing impacts are described as moderate with low cheatgrass and weed cover (ICDC, 2003). The occupied habitat is intact desertic shrubland adjacent to burnt valley bottoms. This Watch list species is of low conservation risk due to its relative abundance and slightly higher tolerance for disturbance. Snake River milkvetch often occurs on barren sites within habitats containing big sagebrush, Indian ricegrass, needle-and-thread grass and four-wing saltbush.

Simpson's Hedgehog Cactus

A single population of Simpson's hedgehog cactus is located within pasture 14R in the vicinity of West Fork Shoofly Creek. Hedgehog cactus occurs on rocky or sandy benches and canyon rims. The rocky nature of its habitat generally protects this species from disturbance but it is susceptible to trampling by livestock if located in trailing areas or near fences. This plant has no specific phenologically "critical" period since it remains above ground all year. This Watch list species is of low conservation risk due to its relative abundance and slightly higher tolerance for disturbance.

3.6 Affected Environment – Wildlife, Including Special Status Species

There are a wide variety of native wildlife species, including two Candidate species (Columbia spotted frog and greater sage-grouse) and 27 BLM sensitive wildlife species (Appendix x), found or potentially found within the East Castle Creek allotment. Typical sagebrush-associated and upland species include sage-grouse, pygmy rabbit, antelope, mule deer, coyote, white-tailed and black-tailed jackrabbit, mountain cottontail, badger, ground squirrel, sage thrasher, brewer's sparrow, meadowlark, and horned lark. Common riparian species include yellow warbler, dusky flycatcher, Northern oriole, song sparrow, spotted towhee, and lazuli bunting. Common species in juniper and mountain mahogany include American robin, northern flicker, Townsend's solitaire, Cassin's finch, chipping sparrow, and mountain bluebird. Mountain quail occupied the West Fork of Shoofly Creek and possibly Birch Creek into the 1980's. Bighorn sheep use the canyons of Shoofly Creek and its East and West forks.

The higher portions of East Castle Creek allotment contain essentially native sagebrush habitats for wildlife. Special wildlife habitats are depicted on Figure 1. Bitterbrush and mountain mahogany are common in the higher elevations and provide browse for deer. Junipers are expanding in the middle and high elevations, with the potential to replace sagebrush habitats. The lower elevations (Pastures 5B and 8B) still retain native shrubs but are dominated by cheatgrass and lack most of the native grasses and forbs. The shrubs provide winter browse for antelope, but sage-grouse no longer use the lowest elevations.

For the analysis of impacts to most species of wildlife, we use indicator or umbrella species, or general vegetation condition. Sage-grouse are considered an 'umbrella' species for sagebrush species, such as pygmy rabbit, sage thrasher, and brewer's sparrow. Riparian functioning condition is used to evaluate habitat for riparian-dependent species. See Appendix X for habitat affinities of sensitive species. We also discuss those species for which we have specific

knowledge of how grazing affects its habitat. For some sensitive species, either grazing effects are unlikely or we do not have information whether or how grazing affects the species, including the snakes, the toads, the Mojave black-collared lizard, and the bats.

Greater Sage-grouse (BLM Sensitive, Type 2)

The BFO is part of one of the two regions of the west that are still considered sage-grouse strongholds: Wyoming, and the region that includes southwest Idaho, southeast Oregon, and northern Nevada. Within Idaho, the BFO contains the largest unburned, intact sagebrush habitat remaining, comprising over 1,525,000 acres mapped as Key habitat. It also contains the largest area with a high density of leks in Idaho, to the south of East Castle Creek Allotment. The higher-elevation mountain sage habitat in the BFO is mostly in suitable condition for sage-grouse, and has not been lost to wildfires. Much of the lower-elevation Wyoming sage habitat on the Snake River plain lacks adequate grasses and forbs for cover and food, is dominated by cheatgrass in the understory, and/or has been burned by wildfires, thus losing the sagebrush. The current range of the sage-grouse in the BFO is the higher elevations above the Snake River Plain.

Sage-grouse are dependent on sagebrush throughout the year, for both food and cover. In the winter, they need areas where sagebrush is above the snow. In the nesting season, they need sagebrush for cover and food, grasses for nesting cover, and forbs for food and nesting cover. In later summer and fall, as the vegetation dries, they use riparian areas, springs, moist meadows, and higher elevations where they can find green forbs to eat (Connelly et al 2000, Connelly et al 2004).

Sage-grouse and their scat have been observed and grouse have been located through telemetry from the higher portions of pasture 8B up through the higher elevations. About 40,000 acres of East Castle Creek are mapped as 'Key' sage-grouse habitat, and 12,000 acres are mapped as 'Juniper Restoration' on the statewide sage-grouse habitat map (see Figure 1). The Juniper Restoration habitat is in the early stages of juniper expansion, and most still functions as sage-grouse habitat. The lower elevations (pastures 5B and most of 8B) are not sage-grouse habitat. The higher elevations are used for wintering, nesting and summering (Figure 1). For this analysis, pastures 28, 28A, 29 A, B, C, D, and 31 are considered potential nesting habitat – they are the higher-elevation pastures with gentler slopes. Winter range for sage-grouse consists of the middle and higher elevations, from the upper parts of pasture 8B, ridges in the foothills, the top of Rough Mountain, and knobs of sage that are blown clear of snow in the winter.

Important late summer habitat for sage-grouse within the allotment include hanging meadows at the top end of pasture 12, meadows in 29A, B, C, and D, springs and meadows in 28 and 28A, especially around Juniper Station, and springs especially at higher elevations. Pasture 12 contains a series of mesic-to-wet meadows at the upper end. These meadows regrow by the end of the season because they are grazed in June. However, most showed erosion and bare ground in and below the meadows, with 2-4 ft hoofed cuts at the bottom end of the meadows. These cuts lead to drying and risk of headcutting through the meadows. The grazing use level in upland areas at the upper end of pasture 12 was heavy on a landscape scale, which matched the heavy hoof-shearing and cuts found at any wet areas. Another eroded area is the head tributaries of Battle Creek in pasture 29A, with heavy use on wet soils leading to headcuts and drying of the

meadow. All unfenced wet areas in pasture 28 were heavily used with erosion, large bare areas and drying of meadows.

There are three historic lek locations (mating grounds) in the allotment (see Figure 1); none showed activity during surveys in the 1990's. One new lek was found in the mid-1990's in the low elevation flats of pasture 8B; this lek had activity for a few years, with about 12 birds (Tim Carrigan, pers. comm.) That lek and two historic locations in pasture 8B were checked in 2007 and 2008, and no activity was observed. Sage-grouse lek surveys in 2004 were flown by helicopter, covering from the Mudflat Road southward. Thus only the southern edge of the East Castle Creek allotment was surveyed. No active leks were found within the allotment on these helicopter surveys; however, two active leks were found within 5 miles of the allotment. Sage-grouse from these leks and others may use the allotment for nesting, and spend summer, fall and winter in the allotment.

In 2006, 10 sage-grouse nesting habitat and 51 brood-rearing habitat evaluations were completed, using the framework in USDI 2000, with updates of 2001 (for data by pasture, see the Assessment, USDI 2008, pages 86-98). The nesting habitat in Castle Creek allotment occurs in patches of big sage in a mosaic with low sage. Nesting habitat transect locations were selected to represent the largest patches of big sage in a pasture. Most of the brood-rearing areas (74%) were rated as marginal or unsuitable, due to heavy livestock grazing use (Table 14). These were mostly riparian areas at springs, and some meadow habitats. Most of the nesting habitat rated as suitable according to the parameters on the assessment form ($\geq 15\%$ grass cover); however, they had about half of the grass cover that is potential (30% versus 60%), when compared to nearby sites in reference condition (see Standard 8–Wildlife in the Rangeland Health Assessment, USDI 2007). Winter habitat is suitable, because sagebrush is present.

Table 14. Summary of ratings from sage-grouse brood-rearing and nesting habitat assessments in the East Castle Creek Allotment, 2006.

Habitat	Suitable		Marginal		Unsuitable	
	No.	Percent	No.	Percent	No.	Percent
Brood-rearing	15	29%	23	45%	13	25%
Nesting	10	70%	3	30%	1	10%

Mountain Quail (Type 3-state concern)

Shoofly Creek is the last known place where mountain quail persisted in the Bruneau FO, disappearing sometime in the mid-1980's. Birch and Poison Creeks are also potential habitat. Reasons for their disappearance are not known, but there has been a general population decline in Idaho. Mountain quail need fruiting shrubs such as chokecherry and elderberry to provide food in the winter. They use tall thick riparian shrubs for cover in this desert setting. Riparian condition is used as the measure of habitat quality for this species.

Pygmy Rabbit (Type 2 – rangewide concern)

Since 2002, pygmy rabbits have been found to be widespread and common in mountain big sagebrush throughout the BFO. They are especially common in the mahogany savannah along the Mudflat Road, including pastures 31, 29A and D, 28A, 28, and the upper parts of 12 of the

East Castle Creek allotment (see Figure 1). By common, we mean that most suitable-looking habitat contains pygmy rabbit sign. Its habitat extends southeast to the Duck Valley Indian Reservation and the Nevada border. Pygmy rabbits use denser, taller big sage, digging their burrows at the base of sagebrush. They eat sage almost exclusively in the winter. In the summer, they eat about half sage and half grasses and forbs. Burak (2006) studied pygmy rabbits within the East Castle Creek allotment and adjacent areas. He observed them eating grass (40%); forbs (11%), including lupine and eriogonum); and shrubs (38%), mostly sagebrush and a little rabbitbrush.

In 2002, pygmy rabbits were petitioned to be listed as endangered by several environmental groups. However, the U.S. Fish and Wildlife Service did not find it warranted to review the species for listing. In January 2008, a judge reversed that decision and FWS is again reviewing the species for potential listing. Since 2002, substantial populations have been found in Wyoming, Utah, Nevada, California, Oregon and Idaho, in places they were previously unknown or rarely recorded, including the Bruneau Field Office. Over 600 burrow systems rated as current or recent have been mapped in the Bruneau Field Office since 2002; previously there were only 6 records in the Conservation Database of IDFG.

Columbia Spotted Frog (Type 1- federal candidate)

Columbia spotted frogs have been found in parts of Battle, Birch, and Rock Creeks on the East Castle Creek allotment. The areas of habitat in Battle and Birch Creek are small, and the portion of Rock Creek within this allotment is the upstream end of a much larger habitat area that continues downstream, mostly on private land. Most spotted frog habitat in the Owyhees occurs to the west of East Castle Creek allotment.

The riparian condition in the headwaters of Battle Creek, and thus habitat for spotted frogs, is in an upward trend in pastures 29 D and C, after being fenced into riparian pastures after the 1997 decision. Spotted frogs are found in a section of Sheep Creek in pasture 33 in the SW corner of the allotment. This section of creek has good condition riparian vegetation, but is being threatened by three headcuts from inactive beaver dams. One location in Birch Creek in pasture 10B is in functioning at risk condition with a slow upward trend, but the meadow where frogs were seen in 1996 (B. Zoellick, pers. com.) is also being threatened by a headcut.

The key element needed by spotted frogs is pooled water or slow moving water with refuge from predatory fish, if those are present (Munger et al 2003). Riparian areas in good condition provide oxbow pools and refuge in the form of aquatic vegetation. When cattle grazing causes erosion and downcutting of streams, and eliminates aquatic vegetation, it adversely affects frog habitat by reducing pools and refuges. However, levels of grazing that do not increase erosion and eliminate aquatic plant refuges may benefit some aspects of frog habitat, by opening dense stands of vegetation and keeping open water in pools.

California Bighorn Sheep (Type 3 – State concern)

Shoofly and Little Jacks Creeks are home to a herd of about 110 California bighorn sheep, reintroduced there in 1967. These sheep are part of a herd complex with Big Jacks Creek, which has another 125 sheep (2006 counts by IDFG). This herd is one of several large herds in Owyhee County, which is home to about 1/5 of the California bighorns in the US. For unknown

reasons, population numbers dropped significantly since a peak in 1994 of an estimated 375 bighorn sheep in the Little Jacks area. IDFG investigated the possibility of disease causing the population decline, but found no clear evidence supporting this hypothesis. They have been trying to study mountain lion predation as a cause, and finding it very difficult to study in this setting of deep inaccessible canyons. However, counts by IDFG in 2007 in Owyhee County increased and were the second highest on record (Jake Powell, IDFG, pers. comm.)

Bighorns eat a variety of plants, including forbs, grasses, and shrubs. They graze on the flats above the canyons but generally stay close to the security of the rocky cliffs. Telemetry studies of bighorn and cattle interactions conducted by BLM, IDFG, and USGS in Owyhee Co. during the 1980's and 1990's showed that their use areas do not overlap significantly. However, use areas can overlap in certain key areas, such as meadows along creeks (see Figure 1).

American Pronghorn Antelope

Antelope use the low elevation pastures in the winter (see Figure 1) and the higher elevation pastures in the summer. Antelope eat sage and other shrubs such as winterfat and shadscale in the winter, and forbs and grasses in the summer. They use open flats where they can see a long distance. They may compete with cattle for food, particularly winter shrub browse in pastures 5B and 8B.

Mule Deer

Mule deer are present throughout the year on the East Castle Creek allotment. The low pastures (5 B and 8 B) are used year-round. Critical winter range occurs in the mid-elevations (Figure 1), and the higher elevations are summer range. The higher elevations have extensive stands of bitterbrush and mountain mahogany, which are preferred browse species. Shrubs are particularly important in the winter, but are browsed any time of the year. Mahogany groves also provide important hiding cover.

In 2006, 2007, and 2008 browse utilization on bitterbrush and mountain mahogany by cattle varied from heavy (60-80%) to severe (80-100%) in pastures 28 and 28A, except for a corner of each pasture sampled specifically to be as far from water as possible within the pasture, where use levels in 2007 were light (5-12%) (see Table x). Additionally, the shrubs were severely hedged and were small-statured (looked like bonsai plants) compared to less-used pastures (31, 29A, 29D), meaning that the use levels documented in 2006 - 2008 have occurred in many years.

Table 15. Browse utilization and degree of hedging on mountain mahogany and bitterbrush, in East Castle Creek Allotment, 2006 - 2008.

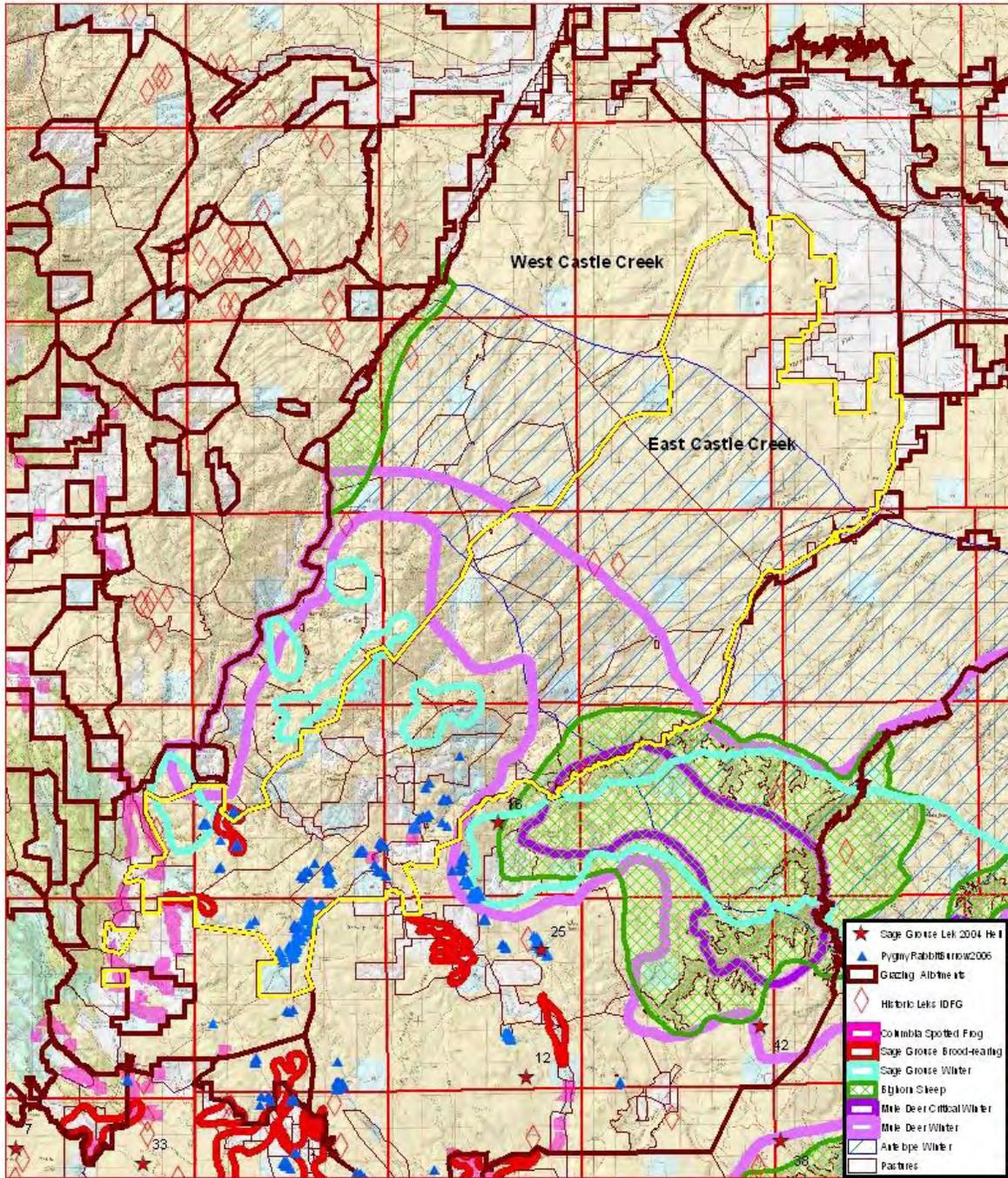
Pasture	Location: Township, Range, Section	Percent utilization			Degree of Hedging (% of plants)			Age Class (% of plants)		
		2006	2007	2008	None	Moderate	Severe	Young	Mature	Decadent
29 D	8S1E29	37			25	61	14		100	
29 A	8S1W25	36		44	18	56	26	3	97	
	8S1W35SW		26	10						
	<i>average</i>			27	22	58	20			
28 A	9S1W4	83		63	0	11	89		100	
	8S1W27		79	57	1	14	85	2	97	1
	9S1W15		14	15	3	33	63		100	
	9S1W5SE		92	61	0	7	93	3	97	
	9S1W5NE		62	29						
	8S1W32NW		62	60	0	5	95		100	
	<i>average</i>	83	62	48	<1	14	85			
28	8S1W28NW	92		73	0	2	98		100	
	8S1W28NE			82						
	8S1W29SW			90	1	5	94		95	5
	8S1W29NE		64							
	8S1W20NE		5	73	13	43	46	5	95	
	<i>average</i>	92		80	5	17	79			

Riparian Birds

Riparian areas are crucial for many species of birds, including migrants such as yellow warblers and lazuli bunting, as well as resident species such as black-capped chickadee and northern flicker. In the desert, riparian shrub communities may support over 50 species of birds, whereas adjacent sagebrush uplands may have less than 10. The density and width of shrubs and the lushness of the undergrowth influence bird numbers; the wider and denser the shrubs the better the cover for nesting birds. Studies in Salmon, Idaho suggested that bird numbers increase dramatically on recovering streams where herbaceous vegetation increased, even before recruited shrubs had reached a stature suitable for nesting (data on file at Salmon BLM office). The hypothesis is that this increase is due to an increase in insects for food associated with more biomass of herbaceous vegetation.

Figure 1. Wildlife Map: East Castle Creek

East Castle Creek Wildlife



Map created by Helen Ulmschneider
 Bruneau F O Wildlife Biologist
 August 30, 2007



1:250,000



No Warranty is made by the Bureau of Land Management.
 The accuracy, reliability, or completeness of these data for
 individual use or aggregate use with other data is not guaranteed.

3.7 Affected Environment - Fish, Including Special Status Species

Redband trout (*Oncorhynchus mykiss gairdneri*) are the most common and widely distributed fish in streams in the East Castle Creek allotment (USDI 1997). Redband trout are considered a sensitive species by both BLM and the Idaho Department of Fish and Game (Schill et al. 2004, Zoellick and Cade 2006). Redband trout are year-long residents of perennial portions of Rock Creek, Sheep Creek (tributary to Rock Creek), and West Fork Shoofly Creek, and seasonally inhabit intermittent segments of these streams. Speckled dace (*Rhinichthys osculus*) and bridgelip suckers (*Catostomas columbianus*) are also found in Rock Creek. Speckled dace seasonally inhabit the headwaters of Battle Creek in the East Castle Creek allotment. No introduced or exotic fish are present in streams in the East Castle Creek Allotment.

Rock Creek

Rock Creek flows through a low gradient valley on the western edge of the allotment. Redband trout abundance in Rock Creek is low; an estimated 0.6 trout/100 m² were present in 2002 (Zoellick et al. 2005). About 0.3 mile of Rock Creek in the East Castle Creek allotment was fenced into a grazing enclosure in 1997. Trend in habitat condition for redband trout is strongly upward with late-seral plant cover increasing on streambanks and floodplains and stabilizing banks and channels (USDI 2007a). Another 0.2 mile of Rock Creek in pasture 33 is slowly improving in habitat condition as cover of willows and sedges is slowly increasing on streambanks and floodplains with fall livestock grazing (USDI 2007b).

Sheep Creek

Sheep Creek is a tributary to Rock Creek and flows northwest through pastures 28A and 33. The lower 0.45 mile of Sheep Creek is located in pasture 33 and most of this segment has perennial stream flows. On the first 0.2 mile upstream of the confluence, streambanks are stable and well vegetated with plant communities dominated by bank-stabilizing species, and are providing adequate habitat for the long term maintenance of redband trout populations (USDI 2007a). The next BLM segment upstream (0.25 mile long) is not providing adequate habitat for the long-term maintenance of redband trout populations. This segment is well vegetated with plant communities dominated by bank-stabilizing species, and stream channels are well shaded. However, 3 active headcuts are present, and the segment is functioning at risk with a downward trend as channels are continuing to erode and widen at the headcuts (USDI 2007a,b).

West Fork Shoofly Creek

West Fork Shoofly Creek is a first order tributary to Shoofly Creek and is located on the eastern edge of the allotment in pastures 14 and 8B. This stream is an important spawning and rearing area for redband trout moving upstream from Shoofly Creek, and also supports resident populations of redband trout. Densities of 17.4 trout/100 m² of stream were estimated in West Fork Shoofly Creek in the late 1990's (BLM, unpubl. data).

Most of West Fork Shoofly Creek in pasture 14 (0.6 mile) provides adequate habitat for the long-term maintenance of redband trout populations. Upstream of the private land (LL Cow Camp) in pasture 14, streambanks are stable and densely vegetated with willow shrub communities so that stream channels are stable and well shaded. About 0.2 mile of West Fork Shoofly downstream

of private land in pasture 14 is historically incised 4 to 5 feet deep into a G-channel (Rosgen 1996). Redband trout habitat quality is impaired in this 0.2 mile reach due to the historical incision of the channel, but is slowly improving as streambank vegetation has an upward trend in cover and density (USDI 2007a,b). Sediment levels are elevated because about 20 to 25% of the steep, incised banks are bare and eroding.

The upper 1.5 miles of West Fork Shoofly Creek in pasture 8B is located in a rocky canyon that is closed to grazing. This segment is providing adequate habitat for the long-term maintenance of redband trout populations (USDI 2007b). Streambanks and floodplains are densely vegetated with riparian shrub and tree communities. Stream channels are stable and well shaded. However, recent livestock trailing (during the hot season) created bare soil areas in the floodplain that are at risk of erosion during high flows (USDI 2007b). The lower 0.5 mile of BLM-managed land on West Fork Shoofly Creek in pasture 8B is intermittent with duration of stream flows dependent on the size of winter snowpacks. This reach is an important migratory corridor for redband trout moving between Shoofly Creek and perennial headwater reaches of West Fork Shoofly Creek. This segment is historically incised 2 to 5 feet deep into a G-channel (Rosgen 1996). Redband trout habitat is impacted by the historical incision, which has reduced bank storage of water needed to maintain stream flows (USDI 2007a,b). Riparian plants needed to stabilize streambanks and channels are also impacted by the loss of water and this segment is in functional at risk condition with a static trend. Redband trout habitat is inadequate on this reach due to unstable banks and channels and loss of stream flows (USDI 2007b).

About 2.8 miles of West Fork Shoofly Creek in pastures 8B and 14 was identified for improvement in habitat condition for redband trout in the 1983 Land Use Plan (Bruneau MFP, WL-AQ Objective 2.1; USDI 1983). Of 2 miles in pasture 8B, 1.5 mile is improving in condition or meeting the MFP objective (USDI 2007a,b). About 0.5 mile is in functional at risk condition with a static trend and not meeting the MFP objective, largely due to historic incision impacts, but also due to recent high levels of livestock use (USDI 2007b). In pasture 14, 0.6 mile of stream is meeting the MFP objective, while another 0.2 mile is historically incised and functioning at risk with a slow upward trend, and thus making slow progress towards the MFP objective (USDI 2007b).

3.8 Affected Environment – Cultural Resources

Cultural resources in the East Castle Creek Allotment are diverse and potentially represent evidence of 10,000 years of human occupation. Known sites are physical manifestations of culture and represent the full range of human activity. Approximately 7 per cent of the public lands within the allotment have been inventoried for cultural resources and a total of 52 sites have been recorded. Site types include lithic scatters, rockshelters, rock art, hunting camps and habitation sites, middens, rock alignments, can scatters, dumps, historic dugouts, mining sites, historic roads and trails.

Information regarding site distribution is incomplete for the East Castle Creek Allotment. However, the existing data provides a reasonable and good faith effort to identify historic properties in areas that have been inventoried. There appears to be a medium to high site density

in the higher elevations of the allotment with greatest occurrence near water sources, riparian areas, and mountain slopes accessible to livestock. This evidence corresponds to the findings in the Boise District Class II Inventory (Young 1984). Site density is low in the steep mountainous areas and lower elevations.

To determine potential effects of grazing management on cultural resources, locations of cultural sites were compared with maps for stream functioning and wetlands.

3.9 Affected Environment – Recreation and Visual Resources

Recreational activities in the allotment are dispersed over a large area. Dominant activities include big and small game hunting, driving for pleasure, OHV use, camping, hiking, fishing, bird watching, photography, and other pursuits. Most of the recreation is private, non-commercial use. Commercial outfitters are authorized by BLM to conduct big game hunts, trophy bighorn sheep hunts, camping, and hiking tours in the area, in coordination with the Idaho Outfitters and Guides Licensing Board. Several motorcycle clubs conduct motorcycle races on roads and trails in the allotment, by BLM authorization (RMIS 2007c). The quality of the recreational experience in many of these activities is partly dependent on good ecological condition (Sanderson, 1988). For example, good condition upland and riparian vegetation mean good forage and cover for wildlife species, thus higher wildlife populations and better hunting, fishing, and wildlife observation opportunities. An abundant healthy mix of native vegetation in riparian areas and uplands enhances scenic quality, resulting in better recreational experiences.

There are three classifications for off-highway vehicle (OHV) use within the allotment. Within the Little Jacks Creek Wilderness Study Area (WSA), motor vehicle use is by policy limited to the roads and ways that were documented in the original wilderness inventory and are still in existence. Approximately 29% (11 miles) of the motorized routes inventoried within the WSA are unauthorized, and have developed subsequent to the wilderness inventory. OHV restrictions apply to permitted operations, such as management of livestock grazing, as well as to general public use. Outside of the WSA, cross-country (off-road) vehicle travel is allowed in most of the allotment. Within the Mud Flat Oolite Exclosure, 1,488 acres are closed to motor vehicle use.

The Owyhee Uplands Back Country Byway (Byway) transects the allotment. The Byway is a 101-mile improved gravel road between Grand View, Idaho and Jordan Valley, Oregon. The road, which is also known as the Mud Flat Road, is a popular scenic drive for visitors to public land, and serves as a staging area for trips into more remote scenic and primitive backcountry areas in Owyhee County.

Within the allotment, a portion of West Fork Shoofly Creek has been found eligible for further study as a component of the National Wild and Scenic Rivers System. The outstandingly remarkable values identified for the West Fork Shoofly Creek are wildlife and ecological values.

Currently, recreational users in the East Castle Creek Allotment experience some upland areas in good condition, with outstanding opportunities for recreation. The steeper slopes in higher elevation pastures feature a variety of native bunchgrasses, shrubs, and mountain mahogany. Approximately 2.5 miles of riparian corridors, inaccessible to cattle, feature outstanding scenery

and lush vegetation, including short segments of Fall Creek, Sheep Creek, and West Fork Shoofly Creek. A substantial portion of the riparian corridors are improving in condition, with correspondingly improving opportunities for recreation, including 7.6 miles along Battle Creek, Birch Creek, Rock Creek, and West Fork Shoofly Creek. In some locations, recreationists also encounter unpleasant aesthetic and vegetation conditions related to grazing. Degraded areas where livestock impacts are evident include approximately 9.5 miles along stream corridors that are not in proper functioning condition and are not improving. Degraded areas for recreation are also evident at watering, salting, and loafing spots where livestock congregate, along heavily grazed slopes bordering the Back Country Byway, and in portions of Pastures 5B, 8B, 8BI, 8BIII, 10B, 11B, 12, 28, and 29A. Recreation opportunities are reduced in areas of poor condition vegetation and livestock impacts (Hensiek, 2002).

Public land within the allotment is a mix of Visual Resource Management (VRM) Class I, II, III, and IV lands. The Little Jacks Creek Wilderness Study Area portion of the allotment, which represents about 6.2% of the public land, is VRM Class I, and the WSA has been managed to the Class I standard since the Bruneau MFP was implemented in 1983. The objective in Class I areas is to preserve the existing character of the landscape, and the level of change to the characteristic landscape should be very low and must not attract attention. A corridor on either side of the Byway is VRM Class II, where the objective is also to retain the existing character of the landscape, and the level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. In Class III areas, the objective is to partially retain the existing character of the landscape, and any changes to the characteristic landscape should be moderate. In Class IV landscapes, the level of change can be high, but attempts are made to minimize the impacts of activities. In much of the allotment, VRM objectives are being met. The natural character of localized areas in VRM Class I and more widespread portions of VRM Class II areas have been degraded by heavy livestock grazing. As documented in the East Castle Creek Assessment (USDI 2008a), livestock grazing impacts include bare ground, loss of understory components, stream bank alteration, heavy utilization of bitterbrush and mountain mahogany, and changes in species composition and vigor of plant communities. These impact areas negatively affect the form, line, color, and texture of areas in the foreground of viewers.

3.10 Affected Environment – Wilderness Study Areas

There are 6,072 acres of Wilderness Study Area (WSA) acreage in the East Castle Creek Allotment. All of the acreage lies within the 58,040 acre Little Jacks Creek Wilderness Study Area. WSAs are managed by BLM to protect the values that made them eligible for designation as wilderness by Congress. These values include solitude, naturalness, opportunity for a primitive and unconfined recreation experience, and the presence of special features that enhance wilderness values. In the Little Jacks Creek WSA, those special features include exceptional scenic values of Little Jacks Creek canyon, bighorn sheep, redband trout habitat, valuable archeological sites, and near-pristine sagebrush steppe grasslands.

Some of the upland and riparian corridors within the WSA are in good condition. However, some areas desirable for wilderness users, such as more easily accessible portions of West Fork Shoofly Creek, are the same areas that have been degraded by livestock use. Vegetation in Pastures 8, 12, and 14 has been degraded in areas that are easily accessible to livestock.

Livestock grazing in WSAs is considered a “grandfathered” use; grazing can continue in the same manner and degree in which it was being conducted on October 21, 1976, if it does not cause unnecessary or undue degradation of the lands and their resources. Some of the uplands and the riparian corridor within the WSA portion of the allotment are in good condition, and provide outstanding opportunities for visitors. The assessment also documents impaired stream functionality and altered vegetation due to livestock impacts along 2.1 miles of West Fork Shoofly Creek within the WSA portion of the allotment, and in the upland pastures (USDI 2008a). This has a negative effect on naturalness, scenic quality, and special features, although 1.6 miles of the stream are in an upward trend, indicating that conditions are improving. These livestock-related impacts are likely similar to those that existed at the time the wilderness study area was established, and do not affect the area’s suitability for wilderness designation unless substantive additional degradation occurs.

When the Environmental Impact Statement for the Jacks Creek WSA was completed in 1989, there was 1 ½ miles of livestock fencing, two developed springs, and seven reservoirs documented within the WSA. The analysis of the structures in the WSA notes, “Few of the imprints are locate within the major corridors of travel. . . a primitive recreationist’s visual encounter with imprints would be infrequent and brief” (USDI 1989). There are currently approximately 2 miles of permanent fencing in the WSA, in addition to the developed springs and reservoirs.

The Sierra Club conducted an extensive field inventory of the Bruneau Field Office, and provided a wilderness inventory and wilderness proposal to the Bruneau Field Office in 2003, as provided for by Dept. of the Interior regulations. Their recommendation for wilderness includes 28,871 acres within the East Castle Creek Allotment, in addition to the existing wilderness study area. The analysis provided by the Sierra Club describes the characteristics of these areas as remote and scenic, with no constructed roads, and with healthy vegetation due to none to minimal livestock watering facilities.

The Sierra Club wilderness proposal in the East Castle Creek Allotment is located within four polygons that were inventoried for their wilderness characteristics by BLM in the late 1970’s and early 1980’s, but were not included within the boundaries of any wilderness study areas. The polygons were found unsuitable for wilderness for various reasons, including: isolated parcels less than 5,000 acres; poor land configuration around in-holdings; lacked outstanding opportunities for solitude due to combination of topographic features and minimal vegetative screening; lack of exceptional or unusual natural features and recreation attractions; adjustments in livestock use should protect wildlife habitat; frequent visual contact with boundary roads; and the confining effects of gap fences.

In 2004, a BLM review determined that much of the area within the Sierra Club wilderness proposal is predominantly roadless. Because designation of lands for wilderness study and consideration by Congress is a land use and allocation issue, it is largely outside the scope of this analysis. Analysis of the Sierra Club proposal will be done when the Bruneau Resource Management Plan is completed.

3.11 Affected Environment - Economics

The BLM does not have specific social and economic information on permittees; therefore, information and analyses are based on county data from the period 1970 through 2005. The following data were derived from the Economic Profile System (EPS) developed by the Sonoran Institute. The EPS uses data from the Economic Analysis, Labor Statistics, and Census bureaus. Ranch related data is contained in the farm/agricultural datasets and is not presented separately. Data, in part, are presented for farm proprietors. "Proprietors" refers to employment and income from sole proprietorships, partnerships, and tax-except cooperatives and probably most closely describes permittees. Many permittee households may have income from wages and salaries, a separate category in the EPS which is not reported here except where proprietors are reported as a percent of the total.

Owyhee County has an agricultural sector that generates approximately 25 percent of the personal income within the county. In Owyhee County livestock production plays a major role in generating agricultural income. Dairies, other livestock production and farming are included in the 25percent personal income category.

Table 16. Social and Economic Factors in Owyhee County

Social and Economic Factors		Owyhee County
Population (2005)		11,037
Number Employed (2005) (Percent proprietors)		2,664 (37.7%)
Percent unemployed (2006)		2.2%
Median Household Income (2000)		\$28,339
Farm Proprietors	Number in 1995	579
	Number in 2005 (Percent of Total)	610 (14.3%)
	New Employment (1995 to 2005) (Percent of new employment)	31 (5.0%)
Farming and Ranching income and expenses	Gross farming and ranching income 2005	\$180,851,000
	Cash receipts from marketing livestock & products (not crops) change 1995-2005	10%
	Realized net income 2005	\$39,431,000

3.12 Environmental Justice

Executive Order 12898 (February 11, 1994) directed all Federal agencies to evaluate their proposed actions to determine the potential for disproportionate adverse impacts to minority and low-income populations.

In the memorandum to heads of departments and agencies that accompanied Executive Order 12898, the President specifically recognized the importance of procedures under NEPA for

identifying and addressing environmental justice concerns. The memorandum states that “each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA].”

Implementation of either of the alternatives evaluated would not result in adverse impacts to environmental resources and socioeconomic conditions. Therefore, disproportionate direct, indirect or cumulative adverse impacts on low income or minority populations would not occur.

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