

UNITED STATES DEPARTMENT OF THE INTERIOR
BLM, LOWER SNAKE RIVER DISTRICT

EA #ID096-2003-065 Title Page

Applicant (if any): BLM Action	Proposed Action: Grazing Permit Renewals for Castlehead-Lambert and Jordan Valley Allotments			EA No. ID-096-2003-065
State: Idaho	County: Owyhee	District: Lower Snake River	Field Office: Owyhee	Authority: NEPA, FLPMA, & Taylor Grazing Act
Prepared By: OFO ID Team	Title: Various			Report Date: 11/19/03

LANDS INVOLVED

Allotment	Meridian	Township	Range	Sections	Acres
Castlehead-Lambert	Boise	9S –13S	2W- 4W	Various, see maps	45,831
Jordan Valley	Boise	5S	6W	23, 26	248

<u>Consideration of Critical Elements</u>	N/A or Not Present	Applicable or Present, No Impact	Discussed in EA
Air Quality	X		
Areas of Critical Environmental Concern			X
Cultural Resources			X
Environmental Justice (E.O. 12898)	X		
Farm Lands (prime or unique)	X		
Floodplains			X
Migratory Birds			X
Native American Religious Concerns	X		
Invasive, Nonnative Species			X
Wastes, Hazardous or Solid	X		
Threatened or Endangered Species			X
Social and Economic			X
Water Quality (Drinking/Ground)			X
Wetlands/Riparian Zones			X
Wild and Scenic Rivers (Eligible)			X
Wilderness Study Areas			X

**Environmental Assessment #ID096-2003-065
Grazing Permit Renewals for the Castlehead-Lambert
And Jordan Valley Allotments**

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Grazing Permit Renewals for the Castlehead-Lambert
And Jordan Valley Allotments

1.0 Introduction

1.1 Grazing Allotment and Permit Background

For this environmental assessment, grazing alternatives for the Castlehead-Lambert (#00634) and Jordan Valley (#00592) allotments are analyzed in one document.

The Castlehead-Lambert Allotment is located in Owyhee County, Idaho, approximately 30 miles southeast of Jordan Valley, Oregon (Map 1). The allotment is bordered by Juniper Mountain on the north, Owyhee River on the south, Red Canyon on the west, and includes Lambert Table. The allotment includes 45,831 acres of public lands in five pastures and is currently permitted for a total of 3,244 active animal unit months (AUMs) (plus 2,080 AUMs of Suspended Use) to 06 Livestock, Rand Collins, and Mike Stanford (USDI 2003a).

The Jordan Valley Allotment is located in Owyhee County, Idaho, approximately 1.5 miles southeast of Jordan Valley. The allotment includes 248 acres of public lands in one pasture and is currently permitted for 30 AUMs to 06 Livestock (USDI 2003a).

1.2 Purpose and Need for Proposed Action

Based on an assessment of the Castlehead-Lambert and Jordan Valley allotments completed in 2003 (USDI 2003a), it was determined that Idaho Standards for Rangeland Health were not being met for watersheds, riparian areas and wetlands, stream channel/floodplain, native plant communities, water quality, and threatened and endangered plants and animals the Castlehead-Lambert Allotment (USDI 2003b) and for watersheds, native plant communities, and threatened and endangered plants and animals in the Jordan Valley Allotment (USDI 2003c). Standards were not being met in the Castlehead-Lambert Allotment because:

- active erosion was evident in limited areas;
- a static to downward trend in upland vegetation in pasture 2;
- the majority of springs and approximately 20.6 miles (86% of total) of streams were in functioning at risk condition; and
- sage grouse breeding habitat and late brood rearing habitat was marginal or unsuitable, respectively, in pasture 2.

Standards were not being met in the Jordan Valley Allotment because:

- Sandberg bluegrass and exotic annual grasses dominated the understory.

Current livestock grazing management practices are a significant factor for not meeting the standards in many areas in the allotments (USDI 2003b, 2003c).

The purpose of the proposed action is to modify current grazing practices by adjusting timing and levels of livestock use so that progress can be made toward meeting the standards.

1.3 Conformance with the Land Use Plan

The Owyhee Resource Management Plan and Environmental Impact Statement (RMP/EIS) was approved on December 30, 1999. The land use plan guides public land management, including the grazing management program, in the area where the subject allotments are located. The proposed action is in conformance with the Owyhee RMP/EIS, as required by 43 CFR 1610.5-3(a). Specifically, the proposed action is designed to achieve Objective LVST 1 (identified on page 23 of the Owyhee RMP/EIS), which is to provide for a sustained level of livestock use compatible with meeting other resource objectives. Also, the proposed action is in conformance with other Owyhee RMP/EIS objectives for soils, water, vegetation, riparian/wetland, fisheries, special status species, recreation, visual resources, cultural resources, and Wilderness Study Areas.

The Standard and Guideline Assessments and Determinations were completed on June 23, 2003. This EA is tiered to the 1999 RMP/EIS. Copies of the RMP/EIS are available at BLM=s Lower Snake River District Office, and the document is also available for viewing and downloading on BLM=s Idaho State Office Internet web site <http://www.id.blm.gov/>. The RMP/EIS broadly analyzes environmental issues relating to public land uses and resource allocations. Consistent with the provisions of 40 CFR 1502.20, the environmental analysis included in the RMP/EIS is incorporated here by reference, and this EA focuses on the environmental issues specific to renewing livestock grazing permits for the Castlehead Lambert and Jordan Valley allotment assessment areas.

1.4 Relationship to Statutes, Regulations, and Other Requirements

1.4.1 Standards and guidelines

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

The BLM completed Standards and Guidelines Assessments and Determinations for the Castlehead-Lambert and Jordan Valley allotments on June 23, 2003 (USDI 2003a, 2003b, 2003c). The BLM=s Authorized Officer determined that in the above allotments, existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards for rangeland health and conform with the guidelines for grazing administration. Current grazing practices do not result in adequate ground cover, provide periodic rest or deferment during the critical growth period, provide sufficient residual riparian vegetation to maintain riparian/wetland functions, or maintain plant vigor.

1.4.2 Federal Order

On March 31, 1999, B. Lynn Winmill, Chief Judge, U.S. District Court, signed a Memorandum Decision and Order (Civil Case No. 97-0519-S-BLW) finding that BLM violated NEPA by renewing 68 grazing permits in 1997. That decision did not impose a remedy to cure the NEPA violation. However, on February 29, 2000, B. Lynn Winmill signed a Memorandum Decision and Order (Civil Case No. 97-0519-S-BLW) that directs the BLM to complete the review of 68 grazing permits under the new Owyhee RMP/EIS and the BLM's Standards and Guidelines for the highest priority allotments by the end of 2003, and the remaining allotments by the end of 2006.

2.0 Description of the Alternatives

2.1 Castlehead-Lambert Allotment

2.1.1 Alternative A – No Action

The “no action” equates to “not issuing the grazing permit.” Alternative A would remove all livestock from the 45,831 acres of public lands in the Castlehead-Lambert Allotment. The 3,244 active permitted AUMs in the Castlehead-Lambert allotment would not be activated for livestock grazing use.

2.1.1.1 Grazing Management

If implemented, the no grazing alternative would remove all livestock from public lands on the Castlehead-Lambert Allotment.

2.1.2 Alternative B – Continue the Present Situation

The current grazing permit would be renewed without modification. Current grazing practices and management would continue and no rangeland management projects would be constructed. No livestock use restrictions would be placed on specific pastures other than those implied by the terms and conditions associated with the permit (Section 2.1.2.2).

2.1.2.1 Active Use

Active use would be 3,244 AUMs (Table 2). A total of 2,080 AUMs would remain in suspended use. Livestock use would occur between 4/15 and 9/30 (Table 2).

The Castlehead-Lambert Allotment boundary would be adjusted per the Owyhee RMP/EIS to move portions of the boundary from the Owyhee River to the top of the northern canyon rim (Map 1). These changes in the allotment boundary would result in the exclusion of approximately 1,746 acres.

Table 2. Permitted, season, and type of grazing use for 06 Livestock (Operator #1101456), Rand Collins (Operator #1101488), and Mike Stanford (Operator #1101406) Alternative B, Castlehead-Lambert Allotment, Owyhee County, Idaho.

Permittee	Allotment	Livestock No. & Kind	Start Date	End Date	% Public Land	Suspended AUMs	Active AUMs
06 Livestock ^a	Castlehead	334 Cattle	4/15	9/30	100 %	1,272	1,856
	Lambert	10 Horses	4/8	9/22	100 %		
Rand Collins	Castlehead	193 Cattle	4/15	9/30	100%	634	1,071
	Lambert						
Mike Stanford	Castlehead Lambert	46 Cattle	4/15	9/30	100%	174	258

^a 06 Livestock has a total of 1,915 Active AUMs

2.1.2.2 Grazing Management

Livestock use of the allotment would be determined on a yearly basis, prior to turnout in the spring. To allow for a comparison with other alternatives, pasture use between 1986 and 2001 was summarized based on actual use reports (Table 3). The assessment contains a more detailed description of historic livestock use in the allotment (USDI 2003a).

Table 3. Average periods and levels of use between 1986 and 2001, Castlehead-Lambert Allotment, Owyhee County, Idaho.

Pasture	Use Period		% Rested (1986-2001) ^a	Average AUMs ^b	
	Range of Use (1986-2001)	Average Start/End (1995-2001)		(1986-2001)	(1995-2001)
1	6/8-11/1	8/3 – 10/8	0	981	954
2	4/15 – 8/14	6/10-8/3 (4/15 – 6/5)	25	801	919
3	4/15 – 8/15	6/21 – 8/6 (4/15 – 6/6)	31	816	869
4	4/15 – 7/15	4/15 – 6/14	31	1001	1084
5	4/15 – 10/10	4/20 – 10/10	0	36	57

^a percent of time rested between 1986 and 2001

^b Rest periods were not included in determining average use

2.1.2.2 Terms and Conditions

The following permit terms and conditions would apply to each renewed grazing permit:

- 1) Livestock grazing would be in accordance with your allotment grazing schematic(s). Changes in scheduled pasture use dates would require prior authorization.
- 2) Turnout is subject to Boise District Range Readiness Criteria.

- 3) Your certified actual use report is due within 15 days of completing your authorized annual grazing use.
- 4) Salt and/or supplement shall not be placed within one quarter (1/4) mile of springs, streams, meadows, aspen stands, playas, or water developments.
- 5) Change to the scheduled use requires prior approval.
- 6) Trailing activities must be coordinated with the BLM prior to initiation. A trailing permit or similar authorization may be required prior to crossing public lands.
- 7) Livestock exclosures located within your grazing allotments are closed to all domestic grazing use.
- 8) Range improvements must be maintained in accordance with the cooperative agreements and range improvement permits in which you are a signatory or assignee. All maintenance of range improvements within a wilderness study area requires prior authorization from the authorized officer.
- 9) All appropriate documentation regarding base property leases, lands offered for exchange-of-use, and livestock control agreements must be notarized prior to submission and be in compliance with Boise District Policy.
- 10) 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.
- 11) Livestock grazing would be in accordance with your allotment grazing schematic(s). Changes in scheduled pasture use dates would require prior authorization.
- 12) Utilization may not exceed 50% of the current year=s growth.

As a result of the February 29, 2000, Memorandum Decision and Order by Judge B. Lynn Winmill, the following interim terms and conditions now apply:

- 1) Key herbaceous riparian vegetation, where streambank stability is dependent upon it, would have a minimum stubble height of 4 inches on the streambank, along the greenline after the growing season;
- 2) Key riparian browse vegetation would not be used more than 50% of the current annual twig growth that is within reach of the animals;

- 3) Key herbaceous riparian vegetation on riparian areas, other than the streambanks, would not be grazed more than 50% during the growing season, or 60% during the dormant season; and
- 4) Streambank damage attributable to grazing livestock would be less than 10% on a stream segment.

2.1.2.3 Rangeland Management Projects

No rangeland developments would be constructed under this alternative. Maintenance of existing projects would be accomplished with motor vehicle use limited to established roads.

2.1.3 Alternative C – Proposed Action

Under this alternative, a rest rotation system would be implemented on five pastures. The proposed action would be as follows:

- 1) Issue grazing permits for (Operator Numbers 1101456, 1101488, and 11011406) for a 10-year period from 3/1/2004 to 2/28/2014.
- 2) Specify the kind and number of livestock, periods of use, pastures to be used, and amount of use (Sections 2.1.3.1, 2.1.3.2).
- 3) Specify terms and conditions (Section 2.1.3.4) and management guidelines (Section 2.1.3.5) for livestock use.
- 4) Consistent with the Owyhee RMP, adjust/relocate portions of the Castlehead-Lambert Allotment boundary to move portions of the allotment boundary from the Owyhee River to the top of the northern canyon rim (Map 2). These changes in the allotment boundary would result in the exclusion of approximately 1,746 acres (Section 2.1.3.6).
- 5) Identify rangeland management projects required to implement the decision (Section 2.1.3.7).

2.1.3.1 Active Use

The Castlehead-Lambert Allotment would have 3,244 active AUMs which includes 3,188 AUMs for cattle and 56 AUMs for horse use (Table 4). Depending on the rotation outlined in the Grazing Management Program for that specific year, AUMs activated each year for cattle would vary from 2,675 to 3,102 AUMs (Table 5). Horse AUMs for the 06 livestock permit would be 56 AUMs. Suspended use would remain at 2,080 AUMs.

Table 4. Permitted, season, and type of grazing use for individual permittees in the Castlehead-Lambert Allotment, Owyhee County, Idaho.

Allotment	Livestock No. & Kind	Start Date	End Date	% Public Land	Suspended AUMs	Active AUMs
06 Livestock	323 Cattle	4/15	9/30	100 %	1,272	1,859
	10 Horses	4/15	9/30	100 %		56
Rand Collins	187 Cattle	4/15	9/30	100 %	634	1,071
Mike Stanford	45 Cattle	4/15	9/30	100 %	174	258
Active AUMs						3,244
Suspended AUMs					2,080	

2.1.3.2 Grazing Management Program

Livestock grazing would be in accordance with the grazing schematic outlined in Table 5. Livestock use would follow a five-year rotation. AUMs associated with horse use (56 AUMs) would occur when livestock are worked through the grazing season and during livestock moves between pastures in accordance with the rotation schedule. Stocking densities by pasture would range between 13 and 14 acres/AUM (Appendix A).

Table 5. Permitted, season, and type of grazing use for Castlehead-Lambert Permittees, Alternative C, Castlehead-Lambert Allotment, Owyhee County, Idaho.

Pasture Name (Number)	Livestock Kind & Number	Authorized Use Period					
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Castlehead (1A)	555 Cattle	6/23-7/12	6/4 – 6/23	6/4-6/23	6/23-7/12	REST	Repeat cycle
		365 AUMs	365AUMs	365 AUMs	365 AUMs		
Mountain (1B)	555 Cattle	5/24-6/22	REST	6/24 – 7/23	5/24 – 6/22	6/2-7/1	
		547 AUMs		547 AUMs	547 AUMs	547 AUMs	
Carter (2)	555 Cattle	4/15-5/23	6/24-8/2	REST	4/15-5/23	8/20-9/23	
		712 AUMs	730 AUMs		712 AUMs	639 AUMs	
Red Basin (3) ^a	405-555 ^b Cattle	7/13-9/18	8/3-9/20	7/24-9/10	7/13-9/18	7/2-8/19	
		905 AUMs	894 AUMs	894 AUMs	905 AUMs	894 AUMs	
Lambert Table (4)	555 Cattle	REST	4/15-6/3	4/15-6/3	REST	4/15-6/1	
			912 AUMs	912 AUMs		876 AUMs	
Horse Pasture (5) ^{c, d}	29 Cattle	5/1-9/30	5/1-9/30	5/1-9/30	5/1-9/30	5/1-9/30	
		146 AUMs	146 AUMs	146 AUMs	146 AUMs	146 AUMs	
Total AUMs/Year		2675 AUMs	3047 AUMs	2864 AUMs	2675 AUMs	3102 AUMs	

^a In pasture 3, salting is prohibited in The Badlands ACEC, in accordance with the Owyhee RMP.

^b In years 1 and 4, livestock numbers for the Red Basin pasture would be a total of 405 cattle. For years 2, 3, and 5, livestock numbers for the Red Basin pasture would be a total of 555 cattle.

^c Season of use, kind of livestock, and livestock numbers are not restricted in the Horse pasture (pasture 5) as long as resource degradation does not occur. Utilization would not exceed 50% of current year's growth.

^d Season of use, class of livestock, and livestock numbers are not restricted in the Horse Pasture (pasture #5) with the following exceptions:

1⁾ Utilization would not exceed 50% of current year's growth and no resource degradation would occur on the public land.

2⁾ Use of pasture 5 during the critical growth period of perennial grasses (May – June) would not occur in back to back years. Variation in AUMS would not exceed a total of 146 AUMS for all three operators except within the allowable extent in which they are consistent with move dates between the pastures. Operator #1101488's percentage of the 146 AUMS authorized for pasture 5 calculates out to 50 AUMS. Any changes to the outlined grazing rotation schedules require prior approval.

2.1.3.3 Flexibility in Management

Flexibility in livestock management would be allowed under the following conditions:

1) Permittees are authorized to begin moving livestock from pastures seven days prior to the end date identified in the above rotations. Livestock would be removed from the pasture by the identified end dates and in the next scheduled use pasture in order to meet all riparian and upland objectives.

2) Livestock numbers would be coordinated between BLM and the permittee and may vary in accordance with annual grazing applications as long as the permitted use period and permitted AUMs are not exceeded. Variation in AUMs by pasture would be allowed to the extent in which they are consistent with flexible move dates between the pastures. Any changes to the outlined grazing rotation schedules require prior approval.

2.1.3.4 Terms and Conditions

The following terms and conditions would be included in the grazing permit to assist in achieving management guidelines, provide for proper range management, or assist in the orderly administration of the public rangelands:

1) Grazing within the Castlehead-Lambert Allotment (#00634) would follow the Grazing Management Program and rotation schedules outlined in EA ID-096-2003-065 and Final Grazing decision.

2) You are required to properly complete, sign and date an Actual Grazing Use Report Form (4130-5) for each allotment. The completed form(s) must be submitted to this office within 15 days from the last day of your authorized annual grazing use.

- 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, playa, special status plant population, or water development. Special supplements intended to achieve livestock distribution would require prior approval.
- 4) Pursuant to 43 CFR 10.4(b), you must notify the BLM Field Manager, by telephone with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR 10.2) on federal lands. Pursuant to 43 CFR 10.4(c), you must immediately stop any ongoing activities connected with such discovery and make a reasonable effort to protect the discovered remains or objects.
- 5) Livestock grazing is not authorized in exclosures within the Castlehead-Lambert Allotment (#00634).
- 6) Livestock turnout dates are subject to Lower Snake River District (LSRD) range readiness criteria.
- 7) Within wilderness study areas, maintenance of range projects requiring the use of heavy equipment (such as bulldozers, road graders, front-end loaders) requires prior notification of the BLM.

2.1.3.5 Management Guidelines

Listed below are grazing management guidelines. Adherence to these guidelines and the prescribed grazing management program would assist in making significant progress toward meeting Standards for Rangeland Health and meeting land use plan objectives. Periodic collection, evaluation, and interpretation of monitoring data would provide an indication of the potential success of the grazing management program.

- 1) Key areas would be established with the operators and the interested publics for monitoring of utilization levels. Utilization of bluebunch wheatgrass, needlegrass, bottlebrush squirreltail, or Idaho fescue should not exceed 50 percent utilization of the current year's growth as determined by the Landscape Appearance Method (Utilization Studies and Residual Measurements, Interagency Technical Reference 1996). Spring pastures that are grazed during the critical growth stage every year or nearly every year should not exceed 40 percent utilization of current year's growth on Idaho fescue, Thurber's needlegrass, or bluebunch wheatgrass as determined by the Landscape Appearance Method (Utilization Studies and Residual Measurements, Interagency Technical Reference 1996).
- 2) Within deer winter range in pastures 3, 4, and 5, utilization of bitterbrush or other key browse species should not exceed 30 % of annual leaders browsed as determined by the Cole Browse Utilization Method. In all other deer habitat, utilization should not exceed 50 % of annual leaders browsed. Key areas may be established where needed with permittees and other interested publics.

- 3) A minimum of 4 inches of median stubble height should remain on key hydric herbaceous species, such as sedges, at the end of the growing season in pastures 1A, 1B, and 2. When monitored, measurements would be taken on the greenline at key areas on Beaver, Castle, Little Smith, East Fork Red Canyon, and West Fork Red Canyon creeks.
- 4) In any particular year, in the riparian areas along those streams listed above, browsing on woody species, including but not limited to willow, should be limited to an incidence of use not to exceed 25 percent on young woody plants less than 3 feet in height as measured at key areas.
- 5) Streambank alteration attributable to livestock grazing (pugging, shearing, trails, trampling) should be less than 10 percent as measured at the key areas. Key areas would be established in cooperation with permittees and interested public.
- 6) Within potentially suitable sites in pastures 2, 3, and 4, grazing management would promote suitable sage grouse nesting and early brood-rearing habitat through the maintenance or achievement of adequate perennial grass and forb cover, height, and diversity. Monitoring sites would be selected and monitored in cooperation with the permittees and other interested publics near the end of the nesting season in late May or early June. This guideline may eventually be applied to other pastures if and when habitat is restored within western juniper encroachment areas.

2.1.3.6 Allotment Boundary Adjustment

Consistent with the Owyhee RMP, adjust/relocate portions of the Castlehead-Lambert Allotment boundary to move the allotment boundary from the Owyhee River to the top of the northern canyon rim (Map 2). These changes in the allotment boundary would result in the exclusion of approximately 1,746 acres. In addition, a portion of the West Fork of Red Canyon Creek boundary would be adjusted (Section 2.1.3.7) and this portion of Red Canyon Creek would be fenced out of the allotment. The proposed fence would become the new allotment boundary.

2.1.3.7 Rangeland Management Projects

Field investigations would be conducted to determine site suitability and feasibility of proposed rangeland management projects. Where necessary, changes would be made to plans for proposed projects to minimize impacts to sensitive plant and animal populations and cultural resources. Water rights will be acquired in accordance with 43 C.F.R. 4120.3-9. Upon completion of all necessary clearances, the following projects would be completed to implement the grazing decision (Map 2):

- approximately 3.8 miles of new fence would be constructed;
- approximately 0.91 miles of existing fence would be removed;
- one enclosure, including approximately 5 acres, would be constructed;

- one holding pasture 40 acres in size (0.75 miles of fence) would be constructed to facilitate livestock pasture moves and provide an over-night holding area for livestock between pastures moves
- one spring would be developed; and
- two reservoirs would be constructed and one reservoir would be reconstructed.

Motorized travel for survey, design, construction, and maintenance of fences and exclosures would be limited to existing, authorized roads. Any off-road travel for survey, design, construction, or maintenance would require prior consultation with and approval by the authorized officer. It is anticipated that the existing road and trail system would provide sufficient access for construction and maintenance, except for construction of the two reservoirs and one spring development where heavy equipment access to un-roded areas would be necessary. All projects on public lands would be constructed and maintained to conform to BLM design and maintenance specifications. Applicable mitigation measures listed in Section 3.1.15 would be incorporated into the construction of the rangeland management projects. Pending survey, design, and layout of proposed fences, cattle guards may be installed where they cross roads on public lands if this is determined to be feasible. Wildlife escape ramps would be placed in all livestock troughs on public land in the allotments.

Fence Construction & Removal

- 1) Mountain Pasture Division Fence (pasture 1) – Construct approximately 2.3 miles of fence between existing fences at 11S04W32 SENE and 12S04W10 NWNE to create two riparian pastures. Permittees would provide materials and maintenance and the BLM would construct the fence in accordance to Bureau specifications. A holding pasture between pastures 1A and 1B would be built (approximately 0.75 miles of fence) in conjunction with the construction of the Mountain Pasture Division Fence.
- 2) Remove approximately 0.91 miles of fence in the West Fork Red Canyon Creek and construct approximately 0.72 miles along a ridge to the east of the canyon in pasture 1B. Fence removal and construction would be accomplished on foot and horseback. The authorized officer would be notified in advance of fence removal and construction dates so that the project can be monitored. The old fence would be removed before the new fence is constructed, so that there would be no temporary increase in the amount of fencing within the WSA.

Exclosures

Exclosure design and size would be determined during the field layout of proposed exclosures in cooperation with the permittees and interested publics. Exclosures would be constructed by the BLM and maintained by the permittees.

- 1) Un-named Spring Exclosure (pasture 5) – Construct an exclosure (size to be determined on the ground in cooperation with the permittee and the interested publics) around a spring located at 12S04W21 NENE. The exclosure would protect an undeveloped spring and associated wetland in a summer use area to improve functioning condition of the spring.

Spring Development

The BLM would develop the spring and permittees would provide normal maintenance.

- 1) Wonder Spring (pasture 1A, 12S04W04 NENE) – Develop/reconstruct spring, pipe water to adjacent holding pasture, and fence associated wetland area. The trough would have a float valve and runoff would be returned to the spring wetland.

Reservoir Construction

BLM would construct the reservoirs and permittees would provide normal maintenance.

- 1) Red Basin Reservoir #1 (pasture 3, 12S04W34 NWSW) – Construct a new reservoir near the terminus of the drainages draining the northern and eastern portions of Red Basin.
- 2) Red Basin Reservoir #2 (pasture 3, 13S04W04 SENW) – construct a new reservoir on Red Basin Creek.
- 3) Reconstruct/repair Red Arrow Reservoir (pasture 3, 13S04W02 NESE). Repair dam and deepen reservoir to provide a more reliable water source.

2.1.3.8 Interim Management

Priority pasture fencing and water developments necessary for the implementing the proposed grazing system would be implemented in years 2004 and 2005. Projects would be prioritized as outlined below.

Pasture 1

Fence construction in pasture 1, including the 40-acre holding facility should be completed as early as possible to implement the rotation schedule outlined for the allotment. Until fence construction is completed, use in pasture 1 would not occur during the “hot season” (July 1 – September 30) or active herding would be implemented.

Pasture 2

No interim management would be necessary for pasture 2.

Pasture 3

Reservoir construction in pasture 3 should be completed as early as possible to implement the rotation schedule outlined for pasture 3 and provide for a reliable water source in this pasture.

Pasture 4

No interim management would be necessary for pasture 4.

Pasture 5

Avoid hot season grazing on springs and riparian areas through active herding until the spring enclosure is completed.

2.1.4 Alternative D – No Rest

Under this alternative, livestock would graze pastures for short periods of time through the grazing season with no rest prescribed over the grazing year. A deferred rotation grazing management program would be implemented. As in alternative C, 10-year permits would be issued for the same three operators, livestock numbers and seasons of use would be specified by pasture (Sections 2.1.4.1 and 2.1.4.2), terms and conditions and management guidelines would be specified (Sections 2.1.4.4 and 2.1.4.5), the allotment boundary would be adjusted away from the Owyhee River and Red Canyon Creek, and rangeland improvement projects would be constructed as described in alternative C (Section 2.1.3.6) with the excepting of the holding pasture that would be necessary for Alternative C.

2.1.4.1 Permitted/Active Use

The allotment would have 3,244 permitted AUMs (Table 6). There would be approximately 3,113 scheduled AUMs each year for cattle in pastures 1A (Castlehead 1A), 1B (Castlehead 1B), 2 (Carter Springs), 3 (Red Basin), and 4 (Lambert Table). Pasture 5 (Horse Pasture) would be used at the permittees discretion to accommodate implementation of the five pasture rotational grazing plan. The season of use for pasture 5 would be from 4/15 to 9/30 for cattle or horses, and would not exceed 132 AUMs. Suspended use would remain at 2,080 AUMs.

Table 6. Permitted, season, and type of grazing use for individual permittees in the Castlehead-Lambert Allotment, Owyhee County, Idaho Alternative D.

Allotment	Livestock No. & Kind	Start Date	End Date	% Public Land	Suspended AUMs	AUMs Activated
06 Livestock	319 Cattle	4/7	9/30	100 %	1,272	1,859
	10 Horses	4/7	9/30	100 %		56
Rand Collins	184 Cattle	4/7	9/30	100 %	634	1,071
Mike Stanford	44 Cattle	4/7	9/30	100 %	174	258
Active AUMs						3,244
Suspended AUMs					2,080	

2.1.4.2 Grazing Management

Livestock grazing would be in accordance with the grazing schematic outlined in Table 7. Livestock use would follow a six-year rotation. Livestock numbers would be somewhat similar to those in alternative 3; however, livestock would remain in pastures for shorter periods of time. More movement of livestock between pastures would be required in this alternative than in alternatives B and C. Stocking densities would vary from a low of 41 acres/AUM to a high of 13 acres/AUM (Appendix A). The start date would be April 7 and no pastures would receive rest during the six-

year cycle. A deferred grazing rotation program would be implemented in alternative D instead of the rest-rotation system proposed in alternative C.

Table 7. Permitted, season, and type of grazing use for Castlehead-Lambert Permittees, Alternative D, Castlehead-Lambert Allotment, Owyhee County, Idaho.

Pasture Name (Number)	Livestock Class/No.	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Castlehead (1A)	560 Cattle	6/27-7/13	6/27 – 7/13	9/9 – 9/22	Repeat Year 1	Repeat Year 2	9/9 – 9/22	Repeat Cycle
		313 AUMs	313 AUMs	258 AUMs			258 AUMs	
Castlehead (1B)	560 Cattle	5/25 – 6/26	5/25 – 6/26	8/14 – 9/8			8/14 – 9/8	
		608 AUMs	608 AUMs	479 AUMs			479 AUMs	
Carter (2)	560 Cattle	5/10 – 5/24	7/14 – 8/20	7/7 – 8/13			5/20 – 6/26	
		276 AUMs	700 AUMs	700 AUMs			700 AUMs	
Red Basin (3) ^a	560 Cattle	7/14-8/29	5/10– 5/24	5/20 – 7/6			6/27 – 8/13	
		865 AUMs	276 AUMs	884 AUMs			884 AUMs	
Lambert Table (4)	560 Cattle	4/7 – 5/9	4/7 – 5/9	4/7 – 5/19			4/7 – 5/19	
		608 AUMs	608 AUMs	792 AUMs			792 AUMs	
Carter (2)	560 Cattle	8/30– 9/22						
		442 AUMs						
Red Basin (3) ^a	560 Cattle		8/21 – 9/22					
			608 AUMs					
Total AUMs/yr.		3,112 AUMs	3,113 AUMs	3,113 AUMs			3,113 AUMs	

^a In pasture 3, salting is prohibited in The Badlands ACEC, in accordance with the Owyhee RMP.

2.1.4.3 Flexibility in Management

Flexibility in livestock management would be as described in alternative C (Section 2.1.3.3).

2.1.4.4 Terms and Conditions

The terms and conditions would be as described in alternative C (Section 2.1.3.4).

2.1.4.5 Management Guidelines

The management guidelines would be as described in alternative C (Section 2.1.3.5).

2.1.4.6 Rangeland Management Projects

Rangeland management projects would be the same as those described in alternative C (Section 2.1.3.7); however, the holding pasture between pastures 1A and 1B would not be required.

2.1.4.7 Interim Management (Alternative D)

Interim management would be as described in alternative C (Section 2.1.3.8).

2.1.5 Alternative E - Light Use

A proposal was suggested to consider an alternative that would allow livestock grazing to occur on the allotment with a single grazing system based on upland and riparian utilization standards.

The Castlehead-Lambert Allotment boundary would be adjusted as described in Section 2.1.3.6.

2.1.5.1 Permitted Use

No livestock numbers or seasons of use were presented with this alternative. There would be no accurate method to determine AUMs available under this alternative; however, it is expected that AUMs would generally be less than alternatives B, C, and D.

2.1.5.2 Grazing Management

Livestock would be herded throughout the allotment. Livestock moves would be based on the terms and conditions (Section 2.1.5.3). Once the utilization levels identified in the terms and conditions were reached, livestock would be moved to different ungrazed areas of the allotment.

2.1.5.3 Terms and Conditions

- 1) Riparian areas within the allotment would maintain 6-inch stubble height and streambank damage attributable to grazing livestock would be less than 10% on a stream segment.
- 2) Utilization of upland vegetation (bluebunch wheatgrass, needlegrass, bottlebrush squirreltail, or Idaho fescue) should not exceed 30 percent of the current year's growth.

2.1.5.4 Rangeland Management Projects

No rangeland improvement projects would be proposed under this alternative. Maintenance of existing projects would be accomplished with motor vehicle use limited to established roads.

2.1.5.5 Interim Management

No interim management would be necessary for Alternative E. All livestock would be herded and moves would be based on the 30 percent utilization term and condition and riparian (six inch stubble height) term and condition.

2.2 Jordan Valley Allotment

2.2.1 Alternative A – No Action

The “no action” equates to “not issuing the grazing permit.” Alternative A would remove all livestock from the 248 acres of public lands in the Jordan Valley Allotment. The 30 active permitted AUMs in the allotment would not be activated for livestock grazing use.

2.2.1.1 Grazing Management

If implemented, the no grazing alternative would remove all livestock from public lands on the Jordan Valley Allotment.

2.2.2 Alternative B – Continue the Present Situation

The current grazing permit would be renewed without modification. Current grazing practices and management would continue and no rangeland management projects would be constructed. No livestock use restrictions would be placed on specific pastures other than those implied by the terms and conditions associated with the permit (Section 2.2.2.3).

2.2.2.1 Permitted Use

Permitted use would be for 30 AUMs (Table 8). Livestock use would occur between 4/15 and 8/15 annually.

Table 8. Permitted, season, and type of grazing use for 06 Livestock (Operator #1101456), Alternative B, Jordan Valley Allotment, Owyhee County, Idaho.

Allotment	Livestock No. & Kind	Start Date	End Date	% Public Land	Suspended AUMs	Permitted AUMs
06 Livestock	2 Horses	5/15	8/15	100 %	0	6
	8 Cattle	5/15	8/15	100 %	0	24

2.2.2.2 Grazing Management

Livestock use of the allotment would be determined on a yearly basis, prior to turnout in the spring.

2.2.2.3 Terms and Conditions

The following permit terms and conditions would apply to each renewed grazing permit:

- 1) Livestock grazing would be in accordance with your allotment grazing schematic(s). Changes in scheduled pasture use dates would require prior authorization.
- 2) Turnout is subject to Boise District Range Readiness Criteria.

- 3) Your certified actual use report is due within 15 days of completing your authorized annual grazing use.
- 4) Salt and/or supplement shall not be placed within one quarter (1/4) mile of springs, streams, meadows, aspen stands, playas, or water developments.
- 5) Change to the scheduled use requires prior approval.
- 6) Trailing activities must be coordinated with the BLM prior to initiation. A trailing permit or similar authorization may be required prior to crossing public lands.
- 7) Livestock exclosures located within your grazing allotment are closed to all domestic grazing use.
- 8) Range improvements must be maintained in accordance with the cooperative agreements and range improvement permits in which you are a signatory or assignee. All maintenance of range improvements within a wilderness study area requires prior authorization from the authorized officer.
- 9) All appropriate documentation regarding base property leases, lands offered for exchange-of-use, and livestock control agreements must be notarized prior to submission and be in compliance with Boise District Policy.
- 10) 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.
- 11) Livestock grazing would be in accordance with your allotment grazing schematic(s). Changes in scheduled pasture use dates would require prior authorization.
- 12) Utilization may not exceed 50% of the current year=s growth.

2.2.2.4 Rangeland Management Projects

No rangeland developments would be constructed under this alternative. Maintenance of existing projects would be accomplished with motor vehicle use limited to established roads.

2.2.3 Alternative C – Proposed Action

Under this alternative, the proposed action would be as follows:

- 1) Issue a grazing permit (Operator Number 1101456) for a 10-year period from 3/1/2004 to 2/28/2014.
- 2) Specify the kind and number of livestock, periods of use, allotments and pastures to be used, and amount of use (Sections 2.2.3.1, 2.2.3.2).
- 3) Specify terms and conditions (Section 2.3.3.4) and management guidelines (Section 2.3.3.5) for livestock use.
- 4) Identify rangeland management projects required to implement the decision (Section 2.3.3.6).

2.2.3.1 Active Use

The Jordan Valley Allotment would have 30 AUMs of active use (Table 9).

Table 9. Permitted, season, and type of grazing use for 06 Livestock (Operator #1101456), Alternative C, Jordan Valley Allotment, Owyhee County, Idaho.

Allotment	Livestock No. & Kind	Start Date	End Date	% Public Land	Suspended AUMs	Permitted AUMs
Jordan Valley	15 Horses	4/15	10/30	100 %	0	30
Total AUMs/Year					0	30

2.2.3.2 Grazing Management

Livestock use would follow a two-year rotation to provide for growing season rest in alternate years (Table 10).

Table 10. Permitted, season, and type of grazing use for 06 Livestock, Alternative C, Jordan Valley Allotment, Owyhee County, Idaho.

Allotment	Livestock No. & Kind	Start Date	End Date	% Public Land	Suspended AUMs	Permitted AUMs
Jordan Valley Year 1	7 Horses	4/15	8/21	100	0	30
Jordan Valley Year 2	15 Horses	9/1	10/30	100	0	30
Total AUMs/Year					0	30

2.2.3.3 Flexibility in Management

Flexibility in livestock management would be allowed under the following conditions:

- 1) Livestock numbers would be coordinated between BLM and the permittee and may vary within the permitted use period as long as permitted AUMs are not exceeded. Any changes to the outlined grazing rotation would require prior approval.

2.2.3.4 Terms and Conditions

The following terms and conditions would be included in the grazing permit to assist in achieving management guidelines, provide for proper range management, or assist in the orderly administration of the Public Rangelands:

- 1) Grazing within the Jordan Valley Allotment would follow the grazing management and rotation schedules outlined in EA ID-096-2003-065 and Final Grazing decision.
- 2) You are required to properly complete, sign and date an Actual Grazing Use Report Form (4130-5) for the allotment. The completed form(s) must be submitted to this office within 15 days from the last day of your authorized annual grazing use.
- 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, playa, special status plant population, or water development.
- 4) Pursuant to 43 CFR 10.4(b), you must notify the BLM Field Manager, by telephone with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR 10.2) on federal lands. Pursuant to 43 CFR 10.4(c), you must immediately stop any ongoing activities connected with such discovery and make a reasonable effort to protect the discovered remains or objects.
- 5) Livestock turnout dates are subject to Lower Snake River District (LSRD) range readiness criteria.

2.2.3.5 Management Guidelines

Listed below are grazing management guidelines. Adherence to these guidelines and the prescribed grazing management program would assist in making significant progress toward meeting Standards for Rangeland Health and meeting land use plan objectives. Periodic collection, evaluation, and interpretation of monitoring data would provide an indication of the potential success of the grazing management program. Key areas would be established with the permittee and the interested publics for monitoring of utilization levels.

- 1) Key areas would be established with the operators and the interested publics for monitoring of utilization levels. Utilization of bluebunch wheatgrass, needlegrass, bottlebrush squirreltail, or Idaho fescue should not exceed 50 percent utilization of the current year's growth as determined by the Landscape Appearance Method (Utilization Studies and Residual Measurements, Interagency Technical Reference 1996). Spring pastures that are

grazed during the critical growth stage every year or nearly every year should not exceed 40 percent utilization of current year's growth on Idaho fescue, Thurber's needlegrass, or bluebunch wheatgrass as determined by the Landscape Appearance Method (Utilization Studies and Residual Measurements, Interagency Technical Reference 1996.

- 2) Utilization of bitterbrush should not exceed 30% of annual leader growth as determined by the Cole Browse Utilization Method.

2.2.3.6 Rangeland Management Projects

No rangeland improvement projects would be constructed under this alternative.

2.2.4 Alternative D - Light Use

An upland utilization limit of 30% would determine when livestock were removed from the allotment.

2.2.4.1 Permitted Use

Livestock numbers or seasons of use would not be enumerated in this alternative. There would be no accurate method to determine AUMs available under this alternative; however, it is expected that AUMs would generally be less than alternatives B, C, or D.

2.2.4.2 Grazing Management

Livestock would be herded throughout the allotment. Livestock moves would be based on the terms and conditions (Section 2.2.4.3). Once the utilization levels identified in the terms and conditions were reached, livestock would be moved to different ungrazed areas of the allotment.

2.2.4.3 Terms and Conditions

- 1) Utilization of upland vegetation (bluebunch wheatgrass, needlegrass, bottlebrush squirreltail, or Idaho fescue) should not exceed 30 percent of the current year's growth.

2.2.4.4 Rangeland Management Projects

No rangeland improvement projects would be proposed under this alternative. Maintenance of existing projects would be accomplished with motor vehicle use limited to established roads.

2.2.4.5 Interim Management

No interim management would be necessary for Alternative E. All livestock would be herded and moves would be based on the 30 percent utilization term and condition term and condition.

2.3 Other Alternatives Considered

There was a broad array of alternatives that could be analyzed in comparison with the proposed action. Many would not be feasible, would not meet the purpose and need, or would be sufficiently similar to the proposed action as to not require a separate analysis. The inclusion of juniper treatment in the EA was also discussed, however all parties involved agreed that this issue should be evaluated in a separate EA.

3.0 Affected Environment and Environmental Consequences

3.1 Castlehead-Lambert Allotment

3.1.1 Upland Vegetation

Affected Environment

Elevations in pasture 1 range from 4,600 feet to almost 6,500 feet. Big and low sagebrush, mountain mahogany, and western juniper (*Juniperus occidentalis*) are the dominant plant communities. The Rangeland Health Standard for native vegetation is not being met (USDI 2003b). The trend in ecological condition is static; however, the overall occurrence of decreaser grasses is less than expected (USDI 2003a). Western juniper is common to dominant throughout much of the pasture and is a contributing factor in not meeting the standard. A static condition is acceptable; however, juniper is increasing at the site. There have been numerous small (< 5 acres) fires throughout the pasture and their condition is generally similar to unburned areas. Livestock use generally occurs after the critical growth period for perennial grasses (approximately June 12 – July 6 for decreaser grasses, May 25 – June 27 for increaser grasses); however, moderate to heavy livestock use in some areas is a concern. The pasture received no rest from livestock use between 1986 and 2001.

Elevations in pasture 2 range from 4,900 feet to 6,200 feet. Low and big sagebrush communities dominate the pasture and juniper is common in the northwest portion of the pasture and scattered throughout the remainder. Approximately 1,450 acres of wildfires and 250 acres of prescribed burns occurred between 1984 and 2000. The standard for native vegetation is not being met in some areas (USDI 2003b). The trend in ecological condition is static to downward in a prescribed burn treatment of a big sagebrush community (USDI 2003a). Increaser grasses dominate low sagebrush and unburned big sagebrush communities. Cheatgrass dominates some unburned big sagebrush communities. Western juniper occurs in portions of the pasture. Livestock use coincided with the critical growth period (approximately May 25 – June 18 for decreaser grasses, May 3 – June 10 for increaser grasses) 32% of the time for decreaser grasses and 20% of the time for increaser grasses between 1997 and 2001. The pasture was rested every third or fourth year between 1986 and 2001.

Elevations in pasture 3 range from 4,700 feet to 5,500 feet. Low and big sagebrush communities dominate the pasture. Juniper is common in The Badlands ACEC and widely scattered in the northwest portion of the pasture. Approximately 1,300 acres of wildfires occurred in the northwest portion of the pasture between 1984 and 1990. The standard for native vegetation is not being met in low sagebrush and burned big sagebrush areas where occurrence of

bunchgrasses is less than expected (USDI 2003b). The trend in ecological condition is static in a burned low sagebrush community where bluebunch wheatgrass increased, but low sagebrush did not recover (USDI 2003a). Cheatgrass is common in some of the burned areas. Livestock use coincided with the critical growth period (approximately May 25 – June 18 for decreaser grasses, May 3 – June 10 for increaser grasses) 30% of the time for decreaser grasses and 23% of the time for increaser grasses between 1997 and 2001. The pasture was rested every second to fourth year between 1986 and 2001.

Elevations in pasture 4 range from 5,200 feet to 5,600 feet. Low and big sagebrush communities dominate the pasture. Juniper is rare in the pasture. Approximately 70 acres of wildfire occurred in the northeast portion of the pasture in 1986. The standard for native vegetation is being met (USDI 2003b). The trend in ecological condition is static to upward in an acceptable condition in low sagebrush communities (USDI 2003a). Occurrence of increaser grasses is greater than expected in big sagebrush communities. Cheatgrass is present in some disturbed areas. Livestock use coincided with the critical growth period (approximately May 25 – June 18 for decreaser grasses, May 3 – June 10 for increaser grasses) 47% of the time for decreaser grasses and 59% of the time for increaser grasses between 1997 and 2001. The pasture was rested every third or fourth year between 1986 and 2001. Livestock use was generally light; however, consistent heavy use occurred during 2003.

Elevations in pasture 5 range from 5,000 feet to 5,800 feet. Low and big sagebrush communities dominate the pasture. Juniper is common on the western and southern portions of the pasture. Approximately 380 acres of wildfires occurred in the southern and eastern portions of the pasture in 1984 and 1990. The standard for native vegetation is being met in low sagebrush communities (USDI 2003b). Cheatgrass is common in burned areas where livestock use is concentrated. Livestock use generally occurs during the critical growth period of perennial grasses (approximately May 25 – June 18 for decreaser grasses, May 3 – June 10 for increaser grasses).

Environmental Consequences

Alternative A (No Grazing) – Under this alternative, the phenological needs of the key plant species in all pastures would be better met. By excluding grazing on perennial grass species, there would be improvement in plant vigor and production along with subsequent reproduction and establishment.

Short to mid term impacts to the upland native plant communities would be positive and ensure proper functioning of the ecological processes and continued productivity and diversity of native plant species. This would allow for moving toward progress in meeting the Rangeland Health Standard for native plant communities in the allotment; however, short term increases in juniper could offset that progress in pastures 1, 2, and 5.

In the long term, increased buildup of fine fuels could result in a return to natural fire regimes. In Wyoming big sagebrush communities, burned areas could be susceptible to cheatgrass invasion. In mountain big sagebrush communities, juniper would be reduced in burned areas and mountain big sagebrush communities would be maintained.

Alternative B (No Change) – The occurrence, vigor, and production of desirable herbaceous vegetation, especially grasses, would continue to be reduced, especially pastures that are typically grazed during the active growing season with limited rest (pastures 2, 3, 4, and 5). A downward trend in ecological condition would continue in pasture 2. Moderate use (40-60%) during the critical growth period in pastures 2, 3, 4, and 5 would result in negative impacts to perennial grasses. Periodic rest in pastures 2, 3, and 4 would help mitigate negative impacts. In the long term, juniper would remain common in pastures where it currently occurs because reduced grass cover would provide less fine fuels for natural or prescribed fires that could reduce juniper cover. Under present management, no formal grazing plans exist. With no formal grazing plan in place, utilization levels would not be balanced between pastures in the allotment resulting in >50% utilization in some pastures. There are no proposed rangeland improvement projects proposed for alternative B. Maintenance of existing projects would likely continue at current levels.

Alternative C (Proposed Action) – This alternative relies on deferment, lighter stocking levels, and rest to mitigate livestock impacts to uplands. Overall upland conditions would improve over the present situation in pastures 2, 3, and 4 and would remain static or slightly decrease somewhat in pastures 1A and 1B.

There would be negative direct and indirect impacts in pastures 1A and 1B over the mid to long term. During the five-year rotation, use during portions of the critical growth period would increase to 35% (decreaser grasses) and 26% (increaser grasses) of the time in pasture 1A and to 32% (decreaser grasses) and 49% (increaser grasses) of the time in pasture 1B from past historical use. Lower stocking rates (Appendix A), similar or lower use, and one year of rest would help offset the increase of use during portions of the critical growth period to some extent. Assuming equal livestock distribution in pasture 1 under alternative B, use would increase minimally (2%) in pasture 1A and would decrease 14% in pasture 1B during periods of use under this alternative when compared to the 16-year averages. If the management objective of 40% use during spring livestock use is consistently met, then impacts to perennial grasses would be further mitigated. Juniper expansion would continue in sagebrush communities. Potential impacts to perennial grasses and increases in juniper may result in a static or slightly downward trend in ecological condition over the long term.

There would be positive direct and indirect impacts in pasture 2 over the mid to long term. During the five-year rotation, use during the critical growth period would not occur for decreaser grasses and would remain similar to alternative B for increaser grasses. The benefit of reduced critical growth use would be enhanced by a 13% reduction in AUMs from the 16-year average use and providing rest one in five years. Juniper expansion would continue in the northwestern portion of the pasture. A static or slightly upward trend in ecological condition of sagebrush communities would be expected over the long term in areas where juniper is not increasing.

In pasture 3, no livestock use during the critical growth period would result in greater improvement than in alternative B. However, there would be a 10% increase in AUMs over the 16-year average and rest would not occur. A static or upward trend in ecological condition would be expected over the long term.

There would be positive direct and indirect impacts in pasture 4 over the mid to long term. During the five-year rotation, use during the critical growth period would decrease to 22% for decreaser grasses and 49% for increaser grasses. The benefit of reduced critical growth use would be enhanced by a providing rest two in five years and a 17% reduction in AUMs from the 16-year average use and would result in greater improvement than in alternative B. A static or upward (where livestock use is limited) trend in ecological condition would be expected over the long term.

In pasture 5, the impacts would be similar to those in alternative B. The potential increase in AUMs would be partially offset by no livestock use during the critical growth period in alternate years. A static trend would be expected over the long term.

Proposed Fences

Direct impacts would include site disturbance related to project construction and livestock trailing and concentrations associated with fences. Restricting vehicle travel to existing ways would minimize site disturbance related to project construction. Concentrated livestock use can lead to trampling of soil and vegetation and removal of vegetation over time. These areas can, and often do, foster the colonization of invasive species. These areas generally make up a small percentage of the allotment and the rangeland management actions which improve the distribution and management of livestock would have an overall positive effect on the watershed.

Implementation of proposed fences would allow for improvement in grazing distribution of livestock and key forage species would better meet their phenological needs in pastures which would allow increased plant vigor, seed production, and reestablishment resulting in positive short and long term indirect impacts. More ground cover in terms of plant canopy and litter would also result.

Water Development Proposals: Spring and Reservoirs

There would be short term, direct impacts to soil and vegetation resources during the construction phase of the proposed new projects. Upon implementation of these project proposals, livestock use in the uplands surrounding new water sources would increase; however, the additional watering sites created would aid in the distribution of livestock within specific pastures. Over the mid to long term, trampling impacts and removal of vegetation immediately adjacent to new water sources would occur. These areas can, and often do, foster the colonization of invasive species. These areas generally make up a small percentage of the allotment and the rangeland management actions which improve the distribution and management of livestock would have an overall positive effect on the watershed.

Other Project Proposals

The 40-acre holding pasture would incur some short term, direct impacts for a 1-2 day period during years 1 and 4 when it would be used. Livestock would be moved from pasture 1A to pasture 4 as outlined in the rotation schedule during these two years. Due to the distance of this

move (over 11 + miles) the move would take at a minimum two days. This would necessitate the need for the holding pasture. Concentrated levels of livestock would occur for 1-2 nights in this holding pasture during years 1 and 4. Impacts expected to occur would include trampling impacts and vegetation removal. It is anticipated that these short term impacts would fully recover during the rest years (years 2, 3, and 5).

Maintenance of existing projects

Impacts on existing projects from current and historic livestock grazing currently exist at certain levels. It would be expected that short term impacts to soils and vegetation would occur during the maintenance of existing projects. Long term impacts would be at current levels or reduced levels depending on the grazing rotations and shorter periods of use in certain pastures. No new roads or routes are authorized under this alternative in providing maintenance on existing projects.

Alternative D (No Rest) – This alternative relies on deferment and lighter stocking levels to mitigate livestock impacts to uplands. Overall upland conditions would improve over the present situation in pastures 2 and 3 and would decrease somewhat in pastures 1A, 1B, and 4.

In pastures 1A and 1B, impacts would be similar to those described in alternative C. Impacts to perennial grasses would be less than alternative C in pasture 1A (where critical growth season use would increase to 27% and 2% of the time respectively for decreaser and increaser grasses during the six-year rotation) and greater than alternative C in pasture 1B (where critical growth season use would increase to 40% and 65% of the time respectively for decreaser and increaser grasses during the six-year rotation). These impacts would be offset to some degree by a 13% reduction in AUMs and deferment would occur every third year in both pastures. If the management objective of 40% use during spring livestock use is consistently met, then impacts to perennial grasses would be further mitigated. Juniper expansion would continue in sagebrush communities. A static or slightly downward trend in ecological condition would be expected over the long term.

In pasture 2, impacts would be similar to those in alternative C; however, slightly more use would occur during the critical growth period of decreaser grasses than in alternative C. These impacts would be mitigated by a 12% reduction in AUMs from the 16-year average use and providing deferment three in five years. Juniper expansion would continue in the northwestern portions of the pasture. A static to slightly upward trend in ecological condition would be expected over the long term.

In pasture 3, livestock use of decreaser grasses during the critical growth period (17% for decreaser grasses and 22% for increaser grasses) would be less than in alternative B, but greater than in alternative C. Use of increaser grasses during the critical growth period would be similar to alternative B. There would be an 8% increase in AUMs and no rest would occur. A static trend in ecological condition would be expected over the long term.

In pasture 4, livestock use during the critical growth period of grasses (none for decreaser grasses and 26% for increaser grasses) would be less than in alternatives B and C. There would be a

33% decrease in AUMs. These benefits would be offset to some extent by a lack of rest and increased livestock use when soils are saturated and plants are susceptible to mechanical damage. A static or slightly upward trend in ecological condition would be expected over the long term.

In pasture 5, the impacts would probably be similar to those in described in alternative B.

Impacts related to rangeland management projects would be similar to those described in Alternative C.

Alternative E (Light Use) – Ecological conditions would improve at a faster rate than under alternatives B, C, and D. Light use ($\leq 30\%$) of perennial grasses would result in improved plant vigor and seed production over alternative C; however, there could be negative impacts to some grass species if they receive consistent use during the critical growth period with no rest. Decreaser grass cover would increase in areas where seed sources are available especially in shrub interspaces. Adherence to the utilization management guidelines is critical to any progress actually being made under this alternative.

In both the short and long term, improved grass cover would provide for more fine fuels for natural or prescribed fires that could reduce juniper cover. There would be no proposed rangeland improvement projects planned with alternative E.

3.1.2 Special Status Plants

Affected Environment

Federally listed plant species are not known to occur in these allotments, although the U.S. Fish and Wildlife Service (USFWS) considers all of Idaho to be within the potential range of Ute ladies'-tresses (*Spiranthes diluvialis*), a federally "threatened" orchid. This species occurs in spring, seep, and stream habitats, which are generally disproportionately impacted by livestock grazing, primarily through trampling and herbivory. Ute ladies'-tresses probably does not occur in this allotment because much of the riparian habitat that occurs here meets the definition of "disqualified habitat" as defined in USFWS (1998) due to past disturbance, improper hydrologic regime, and/or improper associated species. Also, riparian inventories in this allotment and in southwest Idaho have yielded no Ute ladies'-tresses observations. This species will not be discussed further.

Inventory for special status plants has not been conducted in the allotment. The Conservation Data Center database (CDC 2003) and the LSRD special status plant maps were queried for special status plant occurrence data. The surrounding area, particularly the Owyhee River corridor, has a few incidental observations, but only three populations of Simpson's hedgehog cactus (*Pediocactus simpsonii* var. *robustior*) are known. It is highly probable that other BLM special status species occur in this allotment; Appendix B lists several species that are suspected. The list is based on the known range of these species and the known and expected habitats that are found here. This list is not inclusive and other habitats that support other species may be present. Many of these habitats were observed during tours of the allotment. The wetland or mesic species most likely to occur here are least phacelia, plantain goldenweed, and Nevada

angelica. Upland species most likely to occur here are Mud Flat milkvetch, inch-high lupine, and short-lobe penstemon.

Simpson's hedgehog cactus occurs in pasture 3 at three locations. The Badlands ACEC was designated, in part, because a large, undisturbed population of hedgehog cactus occurs there. This plant is no longer BLM Sensitive, but it is on the BLM Watch List (Type 5), indicating that it may be of conservation concern if populations decline or new threats emerge in portions of its range. Hedgehog cactus occurs on rocky or sandy benches and canyon rims. This plant has no specific phenologically "critical" period since it remains above ground all year and is subject to herbivory or mechanical disturbance at any time. This plant is resilient to livestock grazing pressure, typically due to its rocky habitat and its protective spines, which prevent trampling and herbivory. There is a high probability that more populations of this plant occur in the allotment.

Environmental Consequences

Alternative A (No Grazing) – The hedgehog cactus populations in pasture 3 were reported to be healthy and vigorous, so removal of livestock would have little or no impact on the plants at these sites. This alternative would benefit other special status plants that may occur in this allotment. The risk of adverse impacts from livestock grazing would be eliminated. Wetland habitats in all the pastures would receive the greatest benefit.

Alternative B (No Change) – *Upland habitats* - Impacts to the hedgehog cactus populations in pasture 3 would be the same as under alternative A. Any good condition sagebrush, bluebunch wheatgrass, or special-soil habitats described in Appendix B would probably continue to sustain any populations of special status plants that may occur there. However, the status of those plants, if they do occur, and any other upland special status plants, cannot be evaluated with the information that is available. The impacts from continuing the current management cannot be determined.

Wetland and mesic habitats - The suitability of wetland and mesic special status plant habitats is largely unknown due to the limited information that is available. Overall, the impacts from continuation of current management on these communities cannot be determined.

Alternative C (Proposed Action) – Impacts to special status plants from new fencing, water developments including reservoir construction, and maintenance of the existing water developments would be eliminated or mitigated to an acceptable level. Potential impacts from salt or supplement sites and the resulting concentration of livestock would be eliminated or minimized through a term and condition of the permit.

Upland habitats - Impacts to the hedgehog cactus populations in pasture 3 would be the same as under alternatives A and B (no effect). The stocking rate and AUMs will increase slightly in this pasture, but it is not expected that this increase will adversely impact upland habitats because the season of use will be July-September every year. Most special status plants would be able to complete their life cycle most years. The indirect impacts to special status plants in pasture 3 cannot be analyzed with the limited data that is available. Habitats in pastures 1A and 1B may decline in quality somewhat, as the season of use would be earlier in most years than under

current management. However, this change is not expected to be significant. The direct impacts are dependent on site-specific analyses, which are difficult to assess without site-specific information. The year of rest added to the rotation would be beneficial.

Wetland and mesic habitats – True riparian communities and springs that have surface moisture late in the season would be adversely affected by this alternative in pasture 3. The abundance of reservoirs (seven including those that are proposed), may ameliorate those impacts. It is expected that ephemeral wetland or mesic areas and intermittent streambank plant communities would improve under this alternative. While riparian habitats in all other pastures are expected to improve under this alternative and there are special status plants that may occur here, it is not possible to evaluate the direct or indirect impacts of this proposed alternative.

Alternative D (No Rest) – Impacts to special status plants from the proposed projects and salt or supplement use would be same as under Alternative C.

Upland habitats – Impacts to the hedgehog cactus populations in pasture 3 would be the same as under alternatives A, B, and C (no effect). Upland habitats in pastures 3 and 4 would be expected to remain static; however, direct impacts such as trampling to special status plants in these pastures (primarily pasture 4) would be greater than under alternative C because of the frequency of use when soils are wet. Impacts to upland habitats in the other pastures (1A, 1B, 2, and 5) cannot be evaluated with the limited data that is available.

Wetland and mesic habitats – Ephemeral wetland and mesic habitats in pasture 3 would be expected to decline under this alternative because use would occur when soils are saturated four out of six years. While the condition of riparian habitats are expected to remain static (pasture 1A), improve slowly (pasture 1B), or degrade (pasture 2) over the long term, it is not possible to evaluate the direct or indirect impacts of this proposed alternative on any special status plants that may occur there.

Alternative E (Light Use) - Overall, this alternative has the potential for a greater adverse impact on special status plants than alternative C, depending on the use pattern and rotation in each pasture. Upland habitats grazed every year at the same time (early spring, spring, or summer) may be adversely affected without rest, rotation, or deferment, which would allow plants to complete their life cycles periodically. Riparian and wetland habitats may or may not improve depending, again, on the season of use. Similar to Alternative D, this system has no rest, which could be adverse.

3.1.3 Areas of Critical Environmental Concern (ACEC)

Affected Environment

Areas of Critical Environmental Concern (ACECs) are defined in FLPMA as areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish, and wildlife resources or other natural systems or processes, or to protect human life and safety from natural hazards. Special management objectives for The Badlands and the Owyhee River Bighorn Sheep (ORBS) ACECs were defined in the Owyhee RMP (Appendix C).

The Badlands ACEC was designated for high scenic values, diverse botanical features, and special status animals. Wildlife values include sage grouse, several species of bats and neotropical migratory birds, and a variety of raptors and other non-game birds, mammals, reptiles, and amphibian species. The botanical features include western juniper-low sagebrush-Idaho fescue communities, Idaho fescue-California oatgrass (*Danthonia californica*) communities, and large populations of Simpson's hedgehog cactus. The oatgrass community is found as "stringers" along shallow ephemeral drainages, and in vernal moist swales and areas of poor drainage (Jankovsky-Jones 2001). In this ACEC, Moseley (1987) described this community occurring in depositional areas, dry washes, small upland pockets of deeper soil, and vernal moist areas. These areas may not meet the jurisdictional definition of "wetlands" and will be referred to as "mesic" communities. Rockiness of these sites and the season of use determine the extent or degree of livestock use. California oatgrass is highly palatable to livestock and sets seed in late spring (USDA 2002). Monitoring in 1998 (Murphy 1998, Palaia 1998) indicated that the uplands were in excellent condition with very light to no grazing occurring. Limited monitoring by BLM in 2003 on the western-most portion of the ACEC concurred with the monitoring in 1998 although pugging was observed along the intermittent drainages and ephemeral moist areas. There are 1,526 acres in pasture 3 that are designated as part of this ACEC (Map 1). The portion of the ACEC in this allotment is about 80% of the total ACEC area with the eastern side being in the Nickel Creek Allotment. Permittees noted that cattle have access to Kettle Spring (Nickel Creek Allotment) from the Castlehead-Lambert side of the ACEC, indicating that the rimrock barrier between the allotments is incomplete.

The Owyhee River Bighorn Sheep ACEC was designated to protect and enhance habitat for bighorn sheep, to maintain or improve the habitat to at least a good range condition class, and to protect and maintain the scenic and natural values present in the area. Of the 141,796 acre ACEC, approximately 7,913 acres occur in pastures 3 and 4 (Map 1). There is a static trend in ecological condition in pasture 3 and a static to upward trend in pasture 4 (USDI 2003a). Bighorn sheep were reintroduced into the Owyhee River Canyon and what is now the ACEC in the early 1960s and steadily expanded their range and increased in numbers through the mid-1990s. Population numbers have declined somewhat in recent years for reasons that have not been fully determined but may include extended drought, seasonal displacement and/or localized overgrazing by livestock, increasing mountain lion populations, disease, or a combination of these and/or other factors.

Environmental Consequences

Alternative A (No Grazing) – *The Badlands ACEC*: The mesic vegetation in this ACEC (pasture 3) would benefit from the removal of livestock. These mesic areas, particularly ephemeral drainages, along the western and southern edges would benefit through the complete elimination of livestock trampling, pugging, and herbivory. Currently, livestock use in the upland areas here is very light to none at all, so these areas would be unaffected.

Owyhee River Bighorn Sheep ACEC: An upward trend in ecological condition, increased forage availability, and lack of livestock grazing that has been shown to result in temporary displacement of ewes and lambs would benefit this ACEC and the species for which it was established (Taylor 2001).

Alternative B (No Change) – *The Badlands ACEC*: The upland communities in this ACEC would remain unaffected by the current level and season of permitted use in pasture 3. Impacts from pugging and trampling in mesic areas and ephemeral drainages would continue; however, it is unclear if current management is having a significant adverse effect.

Owyhee River Bighorn Sheep ACEC: Continued static and upward trends in ecological condition would be expected to be maintained in this ACEC and keep it in good condition. However, some temporary displacement of bighorn sheep lambs and ewes would continue to occur during spring use periods and occasional excessive overuse of forage by livestock would limit forage availability for bighorn sheep as well as forage and cover availability for other wildlife.

Alternative C (Proposed Action) – *The Badlands ACEC*: Cattle currently do not regularly access the upland portions of this ACEC and it is not expected that livestock use of these areas would increase under this alternative. The summer-fall season of use would not encourage livestock to utilize the upland areas in the ACEC. The slight increase in AUMs above average actual use is not expected to impact these communities. In areas where livestock currently have access, the mesic plant communities in the ephemeral drainages and “stringers” would improve under this alternative. In most years, this mesic vegetation would be dormant prior to turnout in the pasture and soils would be dry. California oatgrass would not be grazed during its critical growth period for the life of the permit. Eliminating rest in this pasture is not ideal, but the deferred use would occur after July 1 or later every year, somewhat compensating for the lack of rest.

Owyhee River Bighorn Sheep ACEC: A substantial reduction in critical growing period use in pasture 3 and increase in the frequency of rest in pasture 4 would result in a long term improvement in ecological conditions in the ACEC. The increase in frequency of rest would also result in reduced displacement of bighorn ewes and lambs that may be occurring during the critical spring lambing season. Adherence to the ≤ 40 percent utilization guideline in pasture 4 would also help recovery in the ACEC and reduce forage competition with bighorn sheep.

Alternative D (No Rest) - *The Badlands ACEC*: This alternative would have adverse impacts to the mesic plant community values for which this ACEC was designated. Livestock would be present in pasture 3 during the critical growing season for California oatgrass three years out of six. The California oatgrass-Idaho fescue community and other Idaho fescue communities will receive greater use than under current management. In years two and five of the proposed rotation, livestock would use the pasture in May and again in August through September, and in the following year in May through early July. Use would be deferred in the remaining two years. Rest would not occur under this alternative. It is expected that the critical growing season use of the California oatgrass-Idaho fescue communities scheduled under this alternative would cause a decline in the health and vigor of those communities.

The direct impacts to these communities are herbivory of Idaho fescue and California oatgrass, trampling of plants, pugging of wet soils, particularly in early May, and dislodgement of bunchgrasses on finer-texture soils. Pugging and trampling of the ephemeral drainages would increase from the current levels. In most years when livestock are in the pasture beginning in

May, it is expected that soils would still be moist in the ephemeral drainages and other areas that support the California oatgrass-Idaho fescue community. Indirect impacts to the ACEC values include replacement of the graminoid components in these communities by bulbous bluegrass (*Poa bulbosa*) and annual brome grasses (*Bromus* spp.), other weed invasion, soil compaction of the clay soils, and alteration of the hydrologic properties of the ephemerally wet areas. The extent of these effects in the ACEC will be determined by the rockiness of these habitats and their accessibility by cattle. It is also expected that the spring season of use would encourage dispersal of cattle to previously unused areas. Reservoir construction and re-construction would do little to offset the spring use in the ACEC.

Owyhee River Bighorn Sheep ACEC: In pasture 3, the frequency of spring grazing would be reduced and stocking rates and duration of grazing treatments would be reduced in some years. In pasture 4, the average duration of spring grazing treatments would also be reduced. These changes would reduce the period of disturbance and/or displacement of bighorn ewes and lambs during the critical post-lambing period and would result in increased forage and cover availability for bighorn sheep and other wildlife. However, these benefits will be offset to a large degree by the elimination of periodic rest treatments in both pastures during which disturbance and displacement of bighorn would be completely avoided and forage and cover would be fully available for bighorn sheep, nesting sage grouse, and other wildlife.

Alternative E (Light Use) – *The Badlands ACEC*: It is difficult to evaluate the effects of this alternative because it is unknown when pasture 3 would be used. Annual spring or early spring use would be adverse, even with the more restrictive terms and conditions specified (6” stubble height, 30% upland utilization, <10% streambank damage). Pugging and trampling would be greater than under Alternatives B, C, or D. If the season of use would be mostly deferred, then this alternative would have fewer adverse impacts than Alternatives B, C, or D.

Owyhee River Bighorn Sheep ACEC: Livestock use could occur every year in this ACEC which could have a greater negative impact on bighorn sheep; however, lighter utilization levels would mitigate that impact to some extent by making more forage and cover available to bighorn sheep and other wildlife. It would also likely reduce the length of grazing periods which would reduce the period of any bighorn ewe and lamb displacement

3.1.4 Invasive, Nonnative Species

Affected Environment

A 0.1 acre population of Canada thistle (*Cirsium arvense*) was reported in pasture 2 prior to 1996; however, the current status of the population is unknown (USDI 2003a). No other noxious weeds are known to occur in the allotment.

Cheatgrass (*Bromus tectorum*) is present in all pastures; however, in most areas it occurs in fairly low levels (USDI 2003a). It is generally associated with disturbed areas (roadways, areas of concentrated livestock use, burns). It is common to dominant in unburned big sagebrush communities in pasture 2 and in burned areas in pastures 2 and 5. Bulbous bluegrass is present in scattered, disturbed areas in pasture 1.

Environmental Consequences

Alternative A (No Grazing) – Over the mid to long term, healthy plant communities would be most resistant to the establishment of most noxious and invasive weeds compared to the other alternatives. Disturbed areas related to livestock use would recover and livestock feed sources would not be present to introduce noxious weeds. However, untreated noxious weed populations could expand and other seed sources of noxious weeds (recreationists and their vehicles) would continue to be a problem. Cheatgrass populations could diminish over the long term as desirable native grasses increase; however, periodic wildfires in lower elevation areas (pastures 2, 3, and 5) could allow cheatgrass to persist or increase.

Alternative B (No Change) – Areas with static trends in ecological condition, healthy plant communities, and appropriate livestock use levels would remain resistant to noxious weed invasions. Areas that have downward trends in ecological condition, reduced perennial grass cover, or receive heavy livestock use would be susceptible to increases in noxious and invasive weeds over the short and long term. Livestock would continue to be a potential vector for noxious weed introductions. Cheatgrass populations could increase in pastures 2, 3, and 5 where burned areas could attract livestock use.

Alternative C (Proposed Action) – Long term improvements in ecological condition would result in greater portions of the allotment being resistant to increases in noxious and invasive weeds than would occur in alternative B. Areas of concentrated livestock use would continue to provide opportunities for noxious weed invasion. Livestock would continue to be a potential vector for noxious weed introductions. Cheatgrass populations could diminish over the long term as desirable native grasses increase; however, periodic wildfires in lower elevation areas (pastures 2, 3, and 5) could allow cheatgrass to persist or increase, especially if livestock use increases in the burned areas.

Alternative D (No Rest)- Impacts would be similar to those described for alternative C; however, areas that would have a static trend in condition that are not currently meeting standards would be more susceptible to noxious and invasive plants than alternative C where upward trends are expected.

Alternative E (Light Use) – Mid to long term improvements in ecological condition would result in greater portions of the allotments being resistant to increases in noxious and invasive weeds than would occur in alternatives B, C or D. Areas of concentrated livestock use would continue to provide areas for noxious weed invasion; however, they would probably be smaller than in alternatives C and D. Livestock would continue to be a potential vector for noxious weed introductions. Cheatgrass populations could diminish over the long term as desirable native grasses increase. Periodic wildfires in lower elevation areas (pastures 2, 3, and 5) could allow cheatgrass to persist or increase; however, light livestock use would be more favorable to the recovery of perennial grasses in these areas than would occur in alternatives B, C, or D.

3.1.5 Soils

Affected Environment

The soils in these pastures are diverse mainly due to position on the landscape, climate, and source of parent materials. The majority of the allotment is characterized by foothills, structural benches, and tablelands. The main body of soils formed in mixed alluvium and residuum from welded rhyolitic tuffs and breccia. These soils are shallow to moderately deep (with deeper inclusions) and well drained. The upper elevation areas have a frigid soil temperature regime while the lower elevation sites are mesic bordering on frigid. Soil moisture regimes are mostly xeric. The Squawcreek, Wickahoney, Zecanyon, Mulshoe, and Saturday soil series are representative of soils in these pastures. These soils are typically loamy to clayey with high amounts of coarse fragments on the surface and in the profile. These soils are associated with the Shallow-Claypan 12-16", Loamy 12-16", and Loamy 13-16" ecological sites. The Lambert Table area is characterized by soils that formed in alluvium and residuum derived from basalt. These soils are shallow to moderately deep and well drained. Frigid soil temperature regimes and xeric soil moisture regimes are typical here. The Deunah, Yatahoney, and Wickahoney soil series dominate this area. The soils are typically clayey with abrupt textural boundaries in the subsoil and have stony surfaces. These soils are associated with the Clayey 12-15" ecological site.

There is very little sign of active accelerated soil erosion occurring in this allotment. Historic erosional processes are evident by the presence of surface flow patterns and associated pedastalled bunchgrass plants in the interspatial areas. These areas are not very extensive.

The hazard of erosion on these soils from water is rated slight to moderate with the exception of the soils that occur on slopes greater than 30 percent where the hazard of erosion is rated moderate to very high. The amount of surface rock fragments can greatly modify the hazard of erosion due to the cover they provide. The hazard of erosion from wind is generally low.

Where western juniper has expanded on other ecological sites (i.e., Loamy 13-16") there is a negative affect on hydrological cycles and vegetation composition and density. Where invasion is heavy the juniper are highly competitive in terms of available moisture, nutrients, and understory photosynthetic needs. The occurrence of juniper encroachment in combination with resource consumptive uses would have negative impacts to these systems. Currently the northern half of the allotment is most affected.

Environmental Consequences

Alternative A (No Grazing) - Overall impacts to the watershed and soil resource, which is closely tied to the vegetation community and soil surface stability, would be positive and watershed health would be improved. This would allow for progress towards meeting the Rangeland Health Standard for watersheds in this allotment.

Under this alternative the phenological needs of the key plant species in all pastures would be met on a yearly basis. By excluding grazing on the perennial grass species there would be

improvements in plant vigor and production along with subsequent reproduction and establishment. Increases in canopy cover, surface litter, above ground structural material, and fibrous root matter would aid in protecting the soil from the forces of both wind and water erosion. Site productivity would be increased. Mechanical damage to the soil surface from livestock hoof action would cease.

Watershed impairment due to western juniper expansion and shrub density would continue. By building up the amount of fine fuels in the understory, the possibility of natural fire playing more of a role in management of this ecological system would be enhanced (site dependent). By allowing the key plant species to meet their phenological growth needs each year they can better compete with the juniper for moisture and nutrients, thereby offsetting some of the negative impacts associated with juniper expansion. However, the likelihood of arresting juniper and/or shrub invasion in many areas without deliberate control measures is small. Juniper invasion is greatest in the loamy range sites where livestock utilization has been more prevalent and least in the shallow/clayey range sites.

Alternative B (No Change) - Over all impacts to the watershed and soil resource would continue where they are occurring and watershed health would be impaired in these areas. The allotment would not make significant progress towards meeting the Standards for Rangeland Health in pastures 2 and 3 where there currently are problems. Pastures 1 and 4 would continue to meet this standard in most areas.

Mechanical impacts to the soil surface from livestock hoof action would continue where livestock tend to congregate and trail. This is especially true where there is early spring use when soils are frequently saturated and more prone to these types of impacts. Many of the erosional features documented in the allotment have developed over many tens of years and under older grazing management systems. The current systems do not appear to be making progress towards healing these processes and in some pastures (portions of 1 and 4) appear to be curtailing any progress.

Watershed impairing effects due to western juniper invasion combined with the utilization of the key forage species during their critical phenological periods would continue to have long lasting negative impacts on the plant community in general.

Alternative C (Proposed Action) - Overall impacts to the watershed and soil resource would be positive and watershed health would improve, especially with anticipated progress in the health of riparian systems. Where livestock use is limited in this allotment soil related standards are being met and would continue to be met with possibly more improvement than alternative B.

Under the proposed management system pastures 1 and 4 which are currently meeting the standard would continue to meet the standard. Pastures 2 and 3, which currently are not fully meeting the Standards for Rangeland Health, would show progress towards meeting those standards. This system would allow the key forage species to better meet their phenological growth needs thereby improving plant vigor, seed production, and reestablishment. More ground cover, in terms of plant canopy and litter, would also result. Watershed impairing effects of western juniper invasion would continue. When key forage species are allowed to meet their

phenological growth needs, these plants can better compete with juniper for moisture and nutrients thereby offsetting some of the negative impacts associated with juniper invasion. Mechanical impacts to the soil surface from livestock hoof action would continue where livestock tend to congregate and trail, especially with the spring use in pastures 2 and 4 when soils are saturated and vulnerable to this type of impact. Many of the erosional features documented in the allotment such as pedestalling, have developed over decades and under older grazing management systems. This system could help heal some of these features.

Water developments would concentrate use, resulting in trampling (soil compaction and/or physical structural breakdown), vegetation overuse, and create areas that foster invasive species colonization. The impacts would be confined to the immediate area around the development and dissipate radially out from the site. Where these types of developments would improve the distribution of livestock and prevent negative impacts to the riparian corridors by keeping livestock on the upland areas there would be an overall benefit.

Actions associated with fence construction and removal would have minimal impacts on the soil resource. Fences often create localized areas where livestock tend to trail along the fence or congregate near gates. These actions can lead to soil trampling, vegetation overuse, and can foster invasive species colonization. Again, where these range improvement actions aid in the distribution and management of livestock, a positive impact would occur on the watershed as a whole.

Alternative D (No Rest) - Overall impacts to the watershed and soil resource would continue where they are occurring and watershed health would be impaired in these areas. The allotment would not make significant progress towards meeting the Standards for Rangeland Health in pasture 3 where there currently are problems. Pasture 2 would show little change from current conditions. Areas of concentrated livestock use in pasture 4 would have the potential to degrade in condition. Pasture 1 would continue to meet this standard in most areas. Where livestock use is limited in the allotment, soil related standards are being met and would continue to be met with possibly more improvement.

Under this system, higher livestock numbers are prescribed with shorter time frames in each pasture. There is some deferment built into the system to aid in plant phenological needs; however, grasses in pasture 4 would be grazed every year during the early part of their growing season and no pastures would be rested. Mechanical impacts to the soil surface from livestock hoof action would continue where livestock tend to congregate and trail. This is especially true where there is early spring use when soils are frequently saturated and more prone to these types of impacts. Pastures 3 and 4 would be highly at risk from these types of impacts. Many of the erosional features that have been documented in this allotment have developed over many tens of years and under older grazing management systems. This proposed system would not make progress towards healing these processes and in some pastures (pasture 4 in particular) would be curtailing any progress.

Watershed impairing effects due to western juniper invasion combined with the utilization of the key forage species during their critical phenological periods would continue to have long lasting negative impacts on the plant community in general.

Impacts associated with fence and water projects would be the same as described in the Proposed Action.

Alternative E (Light Use) - Overall impacts to the watershed and soil resources would be positive and watershed health would improve, especially with anticipated progress in the health of riparian systems. All pastures, which are currently not fully meeting the Standards for Rangeland Health, would show significant progress towards meeting those standards (by limiting utilization of key grass species to 30%) even though some of these pastures are grazed during the critical growth period for the species. Adhering to the utilization limits is critical to any progress actually being made under this alternative. In portions of the allotment where livestock use is limited these standards are being met and would continue to be met with even more improvement.

Mechanical impacts to the soil surface from livestock hoof action would continue where livestock tend to congregate and trail, especially in spring when vulnerable soils are wet and more prone to this type of impact (pastures 2 and 4 would be most affected). Many of the erosional features that have been documented in this allotment (pedestalling is an example) have developed historically under older grazing management systems. This alternative could facilitate progress towards healing erosion where it is evident.

Watershed impairing effects due to western juniper and shrub encroachment would continue. Where the key forage species are allowed to meet their phenological growth needs and/or utilization is light these plants can better compete with the juniper for moisture and nutrients thereby offsetting some of the negative impacts associated with this encroachment.

3.1.6 Fish and Wildlife/Special Status Animals/Migratory Birds

Affected Environment

Little Smith, Red Canyon, East Fork Red Canyon, and West Fork Red Canyon creeks in the allotment support low to moderate density populations of redband trout (1 to 29 fish/100 m²; Allen et al. 1993, 1998;USDI unpubl. data). Red Canyon Creek (along with its tributaries) supports one of the most ecologically significant meta-populations of redband trout in southwestern Idaho. Trout inhabiting Red Canyon Creek still appear to utilize multiple life histories including migratory fish that spend a part of the year in the Owyhee River and move into Red Canyon Creek and other smaller tributaries to spawn, to resident fish that occupy the length of the West and East Forks of Red Canyon Creek with surface flows, including fish that spawn and rear in the very headwaters of West Fork Red Canyon Creek (Trout Springs) at the top of Juniper Mountain.

The majority of the streams inhabited by redband trout in the allotment (9.1 of 10.5 miles of stream) are not providing suitable habitat for the maintenance of viable trout populations (USDI 2003a). In general, these streams lack late-seral plant species, particularly shrubs such as willows, necessary for providing cover and shade, stabilizing banks and channels, maintaining cool water temperatures, and providing adequate living space for trout. Livestock grazing during the summer months is a significant factor affecting trout habitat (USDI 2003b). Some segments

of Red Canyon Creek are in poor condition due to past grazing impacts and have an upward trend in habitat condition.

The allotment contains habitat for mule deer, elk and pronghorn antelope, mountain lion, bobcat, river otter, badger and a variety of other mammalian predators, sage grouse, chukar, California quail, various raptors, and a large diversity of other migratory and resident nongame birds, small mammals, reptiles, and amphibians. It also contains winter habitat for mule deer and elk. Red Canyon Creek, the Owyhee River and stock reservoirs also provide habitat for migratory waterfowl and shorebirds.

The Owyhee River and lower Red Canyon Creek and adjacent uplands within the Castlehead Lambert Allotment provide habitat for the occasional wintering bald eagle, a federally listed threatened species. Two federal candidate species for possible listing as threatened or endangered, the Columbia spotted frog and the yellow-billed cuckoo, may occur, but have not yet been confirmed. A number of other special status animal species classified as either BLM "Sensitive Species" or State of Idaho "Species of Special Concern", are also known or likely to occur within the allotment. These include the prairie falcon, ferruginous hawk, American white pelican, greater sage grouse, calliope hummingbird, willow flycatcher, loggerhead shrike, sage sparrow, Brewer's sparrow, spotted bat, Townsend's big-eared bat, fringed myotis, pygmy rabbit, California bighorn sheep, western toad, common garter snake, and redband trout. California bighorn sheep habitat is included primarily within the Owyhee Bighorn Sheep Habitat ACEC (Map 1).

Seventy-eight percent (18.7 miles) of the 23.9 miles of stream riparian habitat in the allotment are rated as functioning-at-risk while only 22 percent (5.2 miles) are rated as functioning properly. While there is no direct correlation between functioning condition and special status species habitat, many of the indicators of riparian functionality are also crucial components of habitat for many special-status and other wildlife species including numerous neotropical migratory birds, redband trout and others. The indicators that assess structure, composition, and vigor of hydric vegetation are especially important, since this vegetation provides nesting, foraging, and escape cover. However, even where these indicators are being met, there is often a lack of plant vigor and/or a lack of vegetation composition needed to adequately protect and stabilize streambanks leaving riparian habitats vulnerable to loss or deterioration during high flows. Heavy to severe livestock grazing use and trampling of these habitats has also been verified along many stream reaches resulting in reductions in available forage, insects, and cover; trampling of nests and amphibian egg masses; disruption of breeding and/or brood-rearing activities; and increased predation of eggs and/or young. Livestock grazing and trampling significantly impact approximately 33% (11 of 33) of the known springs in the allotment. These springs provide less-than-satisfactory habitat for wetland dependant special status animal species.

Sage grouse breeding habitat assessments were conducted at four locations within the allotment with three being rated as suitable habitat and one as marginal habitat (USDI 2003a). The one marginal rating occurred in pasture 2 and was generally attributable to marginal sagebrush cover, height, growth form ratings within a pasture that is dominated by low sagebrush and/or western juniper. Sage grouse late brood-rearing assessments were conducted at two locations with one

resulting in a suitable habitat rating and the other an unsuitable habitat rating. The unsuitable rating along Carter Creek in pasture 2 was attributed to its overall degraded condition and lack of available forbs indicators being rated as marginal at one site and three of four being rated as marginal at the other site. Although late brood-rearing habitat assessments were formally conducted at only two locations, the vast majority of stream riparian and one-third of the springs were rated as functioning-at-risk and/or determined to be adversely affected by livestock grazing. Active erosion, unstable banks, pugging, and heavy vegetation utilization were common impacts reported at these springs which would likely cause many of these sites to fall within the marginal habitat or unsuitable habitat categories if rated as late brood-rearing habitat.

Evaluations of general upland plant communities revealed that the occurrence of sagebrush and other shrubs are generally as expected at most sites and providing good woody cover, structure, and forage for a diversity of neotropical migratory birds, pygmy rabbit, sage grouse, and others (USDI 2003a). However, decreaser grasses are less common than expected at many locations and often occur primarily under the protection of shrubs. This is limiting cover and/or food (including insects) for various species including birds and small mammals that are also critical prey for several species of special status raptors. Western juniper is scattered to abundant throughout much of the allotment and is providing important habitat for a diversity of neotropical migratory birds, bats, and other species while, at the same time, resulting in the gradual deterioration and eventual loss of habitat for some sagebrush obligates, especially sage grouse. The encroachment and increased density of seral juniper is at largely attributable to the reduced occurrence and size of fires that historically have kept juniper in check. This is partially attributable to livestock grazing which dramatically reduces the fine fuels needed to carry fires.

Environmental Consequences

Alternative A (No Grazing) – This alternative would have a mostly positive impact on most wildlife and special status animal species. The lack of livestock grazing would result in increased forage and cover and eliminate trampling and other physical disturbances associated with livestock grazing. This would be especially true within and adjacent to riparian areas where livestock use is generally most concentrated. Habitat standards for redband trout would be met over the mid to long-term as riparian plant communities stabilize and shade streambanks and channels. Juniper encroachment into sagebrush steppe and other habitats would continue to negatively affect species that are dependant on these habitats, although the frequency and size of fires would likely increase due to the increased abundance of ungrazed grasses and other fine fuels. This would likely reduce the rate of juniper encroachment while, at the same time, temporarily eliminating desirable shrubs and possibly increasing the occurrence of cheatgrass, rabbitbrush and other less desirable and fire adapted species.

Alternative B (No Change) - Under this alternative, the majority of stream and spring riparian habitats would remain in degraded condition due to the frequency and intensity of hot season grazing. This would continue to result in habitat that is less than adequate in providing for the needs of dependant special status animals and other wildlife including sage grouse, a large diversity of migratory birds, bats, reptiles, and amphibians. About 9 miles of stream in pasture 1 would continue to not provide suitable habitat for redband trout. The occurrence of decreaser grasses would continue to be reduced in pastures 2 & 4 in response to frequent growing season

use and in pasture 1, primarily as a result of continued juniper encroachment. These pastures would continue to provide habitat that is generally lacking in suitable cover and forage for ground nesting and foraging species. In pastures 2, 3 and 4, the current frequency, duration and allowable utilization level of early spring grazing would continue to limit cover, forb availability and structure for nesting sage grouse and other birds and reduce forage availability for bighorn sheep. It would also result in frequent physical disturbance of breeding habitats and populations and possible seasonal displacement of bighorn sheep ewes and lambs.

Alternative C (Proposed Action) - Under this alternative, a reduction in the frequency and/or duration of hot season grazing in pastures 1A, 1B and 2, along with a moderate reduction in the stocking rate in pasture 2, would result in the long term improvement of riparian habitat conditions for a large diversity of riparian dependant wildlife and special status animals including sage grouse, migratory birds, bats, amphibians, and others. All streams providing habitat for redband trout would meet habitat standards for redband trout over the mid to long-term. Recovery of aquatic habitat of Little Smith Creek in pasture 1A would be slow, both as a result of the channel being deeply incised, and because of short duration (12 days) hot season grazing during 2 out of 5 years. However, the heavy emphasis on spring grazing in these pastures would also adversely affect vigor, production, and availability of desirable upland grasses and forbs and result in reduced cover and forage and increased physical disturbance in both riparian and upland habitats during the breeding/nesting season. This would be partially mitigated if the management guideline of ≤ 40 percent utilization of grasses is consistently met in all spring-use pastures. However, it would still result greater disturbance during the breeding season to amphibian egg masses and songbird nests, including more frequent flushing of nesting birds that exposes eggs and young to increased predation, parasitism, and exposure to the elements.

Most special status animals and other wildlife would benefit from the reduced frequency of early spring use in pastures 2 and 4 and the total elimination of early spring use in pasture 3. These benefits would include improved cover, increased availability of forbs, seeds and insects, less physical disturbance of habitats and populations of nesting sage grouse and other ground nesting and foraging birds. Benefits would also include reduced competition for forage with bighorn sheep and possible displacement of bighorn ewes and lambs during the critical lambing period. The reduced stocking rate in pasture 4 and the 10 percent reduction in allowable grass utilization, if adhered to, would also increase cover for nesting birds, forb availability for sage grouse, and forage availability for bighorn sheep in those years when spring grazing is permitted in these pastures.

The construction of approximately 2.3 miles of pasture fence and 0.5 miles of exclosure fence and relocation of 0.91 miles of fence from West Fork of Red Canyon Creek to an adjacent ridge would result in some minor short term disturbance to wildlife habitats and populations during construction and some minor long term wildlife mortality and impediment to wildlife movements. However, the pasture fence should help to improve riparian habitat within pastures 1A and 1B by facilitating implementation of the proposed grazing system and construction of the spring exclosures in pastures 2 and 5 should dramatically improve habitat for a large diversity of species by eliminating all livestock grazing and associated disturbance to habitats and populations. The relocation of the fence in the West Fork of Red Canyon Creek would also be

expected to improve the condition of riparian habitat along this stream reach by excluding cattle from the creek in pasture 1A and reducing the concentration of cattle along the creek when they are in pasture 1B.

The development of the spring in pasture 1A would result in some loss of water from the spring source, some short-term disturbance of habitats and populations during development, and some possible long-term increase in livestock use and disturbance of habitats in the immediate vicinity of the spring. However, these impacts would be largely mitigated by equipping the livestock trough with a float valve to insure that unused water remains at the spring source or by directing overflow from the trough back into the original drainage and by the exclusion of livestock from the spring and associated riparian habitat. It would also help facilitate implementation of the proposed grazing system with its described benefits to wildlife and special status species.

Development and/or reconstruction of the three reservoirs in pasture 3 would result in the permanent loss of a small amount wildlife habitat, the short term disturbance of additional surrounding habitat and populations during construction and long term increases in seasonal livestock use and associated adverse impacts to wildlife habitats and populations within the immediate vicinity of these projects. These impacts should be partially offset by facilitating the implementation of the proposed grazing system with its described benefits to wildlife and special status species and by the additional aquatic habitat and/or drinking water that these reservoirs would provide for a diversity of amphibians, waterfowl, shorebirds, big game, and other wildlife.

Alternative D (No Rest) – This alternative would reduce somewhat the frequency and duration of hot season grazing in pastures 1A and 1B from that of the current situation. However, pasture 1A would still be grazed annually during the hot season and the shortened use periods would be offset to a large degree by the reduced size of the new pasture. The timing of hot season use would preclude any significant vegetation regrowth in many years and riparian and aquatic habitats (including one mile of redband trout habitat) would not improve in condition. Riparian areas and 8 miles of aquatic habitat for redband trout in pasture 1B would likely improve slowly over the long term as hot season grazing would be limited to one in three years and duration of hot season use would average just 9 days per year. The increased emphasis on spring grazing in these pastures would also adversely affect vigor, production, and availability of desirable upland grasses and forbs and result in reduced cover and forage and increased physical disturbance in both riparian and upland habitats during the breeding/nesting season.

The conversion of pasture 2 from a predominantly spring-use pasture to a predominantly summer-use pasture would result in a downward trend in riparian habitat condition while concurrently improving the condition of upland habitats and reducing physical disturbance of both riparian and upland habitat and dependant wildlife populations during the breeding/nesting season. The elimination of periodic rest from this pasture would likely accelerate and exacerbate the decline in riparian habitat condition and slow the rate of improvement in upland habitat condition.

In pasture 3, the frequency of spring grazing would be reduced from approximately four out of six years to three out of six years and stocking rates and duration of grazing treatments would be reduced in some years. This would result in some reduction in the frequency and level of

disturbance of bighorn sheep during the lambing period and of sage grouse and other wildlife during the nesting season and some increase in forage and cover availability. However, these benefits will be largely offset by the lack of periodic rest treatments during which disturbance and displacement of bighorn are completely avoided and forage and cover fully available for bighorn sheep, nesting sage grouse and other wildlife. Deferred grazing treatments would reduce late season cover and forage and residual herbaceous vegetation that contributes cover for sage grouse and other ground nesting and foraging species the following spring.

In pasture 4, the shortened use periods are likely to result in some additional cover and forage availability for nesting sage grouse, additional forage for bighorn sheep and other big game and a shorter period of physical disturbance of nesting birds, bighorn sheep and others. However, as in pasture 3, these benefits will be largely offset by the loss of periodic rest treatments. This system would also entail gathering of cattle during the sage grouse nesting season that would increase the level of nest trampling and flushing of hens off nests.

The impacts of project development would be the same as those discussed under Alternative C

Alternative E (Light Use) – All streams providing habitat for redband trout would meet aquatic habitat standards over the mid to long-term. Rates of recovery and improvement in habitat conditions would be slightly slower than that under the no grazing alternative. Riparian and upland wildlife habitats would also improve under this alternative. Adequate forage, cover, and structure would be present at all times to adequately meet the needs of most, if not all special status animals and other wildlife within the allotment. Physical disturbance of habitats and populations would also be reduced at most locations and there would be no impacts to habitats or populations normally associated with new project developments.

3.1.7 Cultural Resources

Affected Environment

Inventory data is incomplete for the allotment. Surveys in the general vicinity include the Boise District BLM Class II Inventory (Young 1987). Sites recorded in the allotment include three campsites; 16 lithic scatters; one rockshelter; two rock alignments; and one isolate flake as recorded in BLM records. Past human use of the area included camping, food gathering and hunting. The Shoshone, Paiute, and Bannock tribes inhabited this area. Historically the area has been used for grazing livestock and recreational purposes.

Environmental Consequences

Alternative A (No Grazing) - Any direct impacts of grazing on cultural resources by livestock including trampling or breakage of artifacts would be avoided under this alternative. This alternative would also result in improvement in vegetation cover and soil stabilization over time and contribute to preservation of cultural resources.

Alternative B (No Change) - Under the existing management the impacts to the cultural resources would continue and potentially cause adverse effects. The mechanical disturbance to the soils by livestock hoof action would continue to affect the integrity of cultural resources

especially where livestock use is heavy, occurs in riparian areas during the hot season, or occurs during the early season when soils are saturated.

Potential direct impacts of grazing on cultural resources (breakage, movement) would continue. Indirect impacts of grazing on cultural resources would be continued erosion of archaeological sites from grazing and trampling resulting in loss of site context.

Alternative C (Proposed Action) - This alternative has potential to improve overall ecological condition and preserve the integrity of cultural resources. However, it could adversely affect cultural resources in some unfenced riparian zones and springs because cattle tend to concentrate and trample the ground in these areas, resulting in loss of integrity on cultural resource sites.

Additional impacts of the proposed projects would be addressed on a project-by-project basis for compliance with Section 106 of the National Historic Preservation Act. As a result of the Section 106 process adverse effects will be avoided or mitigated to an acceptable level of impact.

Alternative D (No Rest) - Under this alternative, the impacts to the cultural resources would continue and potentially cause adverse effects. The mechanical disturbance to the soils by livestock hoof action would continue to affect the integrity of cultural resources especially where livestock use is heavy, occurs in riparian areas during the hot season, or occurs during the early season when soils are saturated.

The direct impacts of livestock on cultural resources include possible breakage and movement caused by their grazing, trailing, and trampling. Indirect impacts of grazing on cultural resources would be continued erosion of archaeological sites from grazing and trampling resulting in loss of site context.

Alternative E (Light Use) - This alternative has potential to improve overall ecological condition and preserve the integrity of cultural resources. However, the impacts to the cultural resources would continue and potentially cause adverse effects. The mechanical disturbance to the soils by livestock is hoof action, and where use is heavy, would continue to affect the integrity of cultural resources. The direct impacts from hoof action would be ongoing under this alternative.

3.1.8 Wetlands/Riparian Areas/Aquatic Resources/Floodplains

Affected Environment

Seventy-eight percent (18.7 miles) of the 23.9 miles of stream riparian habitat in the allotment are rated as functioning-at-risk while only 22 percent (5.2 miles) are rated as functioning properly (USDI 2003a). Streams and wetlands in pastures 1 and 2 have been grazed primarily in summer and the majority of riparian areas and wetlands in these pastures are functioning at risk (18.7 of 20.9 stream miles) with a static trend in condition (USDI 2003a). Livestock grazing is the primary factor negatively impacting the health of these streams and wetlands (USDI 2003b). Riparian areas along streams in pasture 3 are predominantly properly functioning or functioning at risk with an upward trend in condition (USDI 2003a). Red Canyon Creek is fenced to exclude livestock use from pasture 3 and has an upward trend in condition. Most of Red Basin Creek is

in proper functioning condition, as a result of rock-armoring and livestock use occurring after surface flows subside in this intermittent stream. No riparian areas are present in pasture 4.

Redband trout are a BLM sensitive species and State of Idaho species of special concern. They occupy 10.5 miles of stream in the allotment including all or portions of Little Smith, Red Canyon, West Fork Red Canyon, and East Fork Red Canyon creeks. Aquatic habitat conditions for redband trout and other fishes are discussed under special status species (Section 3.1.3). Other native fish species that inhabit Castle, Little Smith, Beaver, and Carter creeks in the allotment and the adjacent Owyhee River include: bridgelip sucker (*Catostomus columbianus*), largescale sucker (*Catostomus macrocheilus*), speckled dace (*Rhinichthys osculus*), longnose dace (*R. cataractae*), redband shiner (*Richardsonius balteatus*), sculpins (*Cottus* spp.), northern pikeminnow (*Ptychocheilus oregonensis*), and chiselmouth (*Acrocheilus alutaceus*). The non-native smallmouth bass (*Micropterus dolomieu*) is common in the Owyhee River.

Environmental Consequences

Alternative A (No Grazing) – Streams and wetlands would improve in condition most quickly under this alternative. Much of the 5 miles of stream that is currently properly functioning would also improve in condition as a result of increases in cover and vigor of obligate riparian plants such as willows (*Salix* spp.) and sedges (*Carex* spp.). About sixteen miles of stream would improve from functioning at risk condition to properly functioning condition in the short to mid-term. Most spring wetlands that are functioning at risk would improve to functioning condition in the short to mid-term. About 3 miles of stream (portions of Little Smith, Castle, and Red Canyon creeks) that are either deeply incised in fine-grained soils or with very unstable streambanks and channels would improve in condition over the mid to long-term.

Alternative B (No Change) – About 5 miles of stream that are currently properly functioning would continue to meet riparian health standards. About 1 mile of Red Canyon Creek that is currently functioning at risk with an upward trend in condition would improve to properly functioning condition over the long-term. The condition of 18 miles of stream that are currently functioning at risk with a static trend would not improve. Most spring wetlands would remain in functioning at risk condition. An exception would be wetlands in pastures grazed in early spring would remain in proper functioning condition or improve in condition over the long-term.

Alternative C (Proposed Action) – Riparian areas and wetlands would improve in condition under this alternative, but not as quickly or possibly to the extent as that under alternative A. Rate and extent of improvement would be greater than that under alternatives B and D. Five miles of stream would continue to be in proper functioning condition. Nine miles of stream and most wetlands in pastures 1A and 1B would improve from functioning at risk to properly functioning condition over the mid-term. One and a half miles of Little Smith and Castle creeks in pasture 1A with deeply incised stream channels and highly unstable streambanks would improve over the long-term. Twelve days of hot-season grazing in 2 out of 5 years would also likely contribute to slightly slower recovery rates on the most degraded portions of streams in pasture 1A. About one mile of Red Canyon Creek that is excluded from livestock grazing, but flows through a gravel-dominated floodplain with weakly-vegetated streambanks would also improve to proper functioning condition over the long term. Seven miles of stream in pasture 2

would improve to proper functioning condition over the mid to long-term. Rate of improvement would be slower because these streams would be grazed during the hot season in two out of five years. However, most segments of the intermittent streams in pasture 2 would not have surface flows during the year the pasture would be grazed in late August and September, which would contribute to lower livestock use of riparian plants, thereby mitigating much of impact of hot-season grazing during that year. Wet meadows in pasture 3 would improve in condition under this alternative relative to alternatives B and D, as under this alternative the pasture would be grazed in July or later, when meadow soils have dried and most meadow vegetation has cured.

Alternative D (No Rest) – About 5 miles of stream that are currently properly functioning would continue to meet riparian health standards. About 1 mile of Red Canyon Creek that is currently functioning at risk with an upward trend in condition would improve to properly functioning condition over the long-term. Trend in condition of riparian and wetland habitats in pasture 1A would likely be static, as the pasture would be grazed annually during the hot season with duration of use averaging 13.5 days per year. Frequency and duration of hot season use in pasture 1B would be reduced from that of the current situation to that of being grazed during the hot season in one out of three years for an average of about 9 days per year. As a result riparian areas along East and West Forks of Red Canyon Creek in pasture 1B (totaling approximately 9 miles of stream) would improve slowly over the long term. Pasture 2 would be grazed almost annually during the hot season (an average of 27 days a year). Riparian and wetland conditions in pasture 2 (approximately 7 miles of stream) would degrade under this grazing system from that of the current situation. About one-half of the spring wetlands in the allotment would remain in functioning at risk condition. Wet meadows in pasture 3 would likely degrade in condition under this alternative as they would be grazed when soils are saturated in 4 out of 6 years.

Alternative E (Light Use) – Regular compliance with the 6-inch residual stubble height limit would result in all streams and wetlands improving to proper functioning condition. Much of the 5 miles of stream that is currently properly functioning would improve in condition as a result of increases in cover and vigor of obligate riparian plants such as willows (*Salix* spp.) and sedges (*Carex* spp.). Sixteen miles of stream and most wetlands currently in functioning at risk condition would improve to proper functioning condition over the short to mid-term. About 3 miles of stream that are either deeply incised or with very unstable streambanks and channels would improve in condition over the mid to long-term. Rates of recovery and improvement in habitat conditions would be somewhat faster than that under alternative C, and slightly slower than that under alternative A. No new fencing would be required under this alternative to improve wetlands and riparian areas.

3.1.9 Water Quality

Affected Environment

Red Canyon and Castle creeks were listed by the Environmental Protection Agency (EPA) as water quality impaired streams under section 303(d) of the Clean Water Act in 1998. Water quality of East Fork Red Canyon, Little Smith, and Red Canyon creeks does not comply with State of Idaho water temperature criteria for full support of cold water biota and salmonid

spawning beneficial uses (USDI 2003a). Water temperatures in West Fork Red Canyon Creek also likely do not support the cold-water aquatic life beneficial use based on monitoring conducted downstream of the confluence of the West and East Forks. The State of Idaho found in the Sub-basin Assessment for the Upper Owyhee River that Castle and Red Canyon creeks are not fully supporting the cold-water aquatic life beneficial use, and that Castle Creek is impaired by excessive sediment (IDEQ 2003). Current livestock grazing is the primary factor for Castle, Little Smith, East Fork Red Canyon, West Fork Red Canyon, and Red Canyon creeks not meeting the water quality standard (USDI 2003b). Water temperatures are elevated in these streams primarily due to the loss of shade-producing vegetation such as shrubs and herbaceous grass-like species along the stream edge. Additionally, streambank alteration by livestock (trampling, shearing, soil compaction) results in bank and channel erosion that increases stream width and decreases depth, thereby increasing solar radiation levels and stream temperatures. No bacterial sampling was conducted to evaluate compliance with State criteria for support of the primary and secondary contact recreation beneficial uses. The State of Idaho (IDEQ 2003) established total maximum daily loads (TMDL's) for temperature for Red Canyon and Castle Creeks and for sediment for Castle Creek. Stream shading and bank stability must be increased substantially on Red Canyon and Castle creeks to comply with the TMDL's for these streams (IDEQ 2003).

Environmental Consequences

Alternative A (No Grazing) – Water quality of streams would improve in condition most quickly under this alternative. Most streams would meet State water temperature criteria over the long term, as stream shading from riparian vegetation increases and stream channels narrow and deepen where dense, vigorous riparian and wetland plant communities provide increased channel and bank stability. This alternative would comply with TMDL's established by the State of Idaho for Red Canyon and Castle creeks.

Alternative B (No Change) – Most stream segments would continue to not meet State water temperature criteria, particularly in pastures grazed in spring/summer. Grazing use in these stream segments would continue to be too great to allow for improvements in bank and channel stability, and stream shading. About 2 miles of stream that are currently properly functioning with dense willow cover and shading (such as portions of the East and West Forks of Red Canyon creeks) would continue to provide cooler water to downstream segments. This alternative would not comply with the TMDL's established for Red Canyon and Castle creeks because stream shading and sediment levels of these streams would not improve under this alternative.

Alternative C (Proposed Action) – Water quality would improve in condition under this alternative by greatly reducing the frequency and duration of hot season grazing on streams in the allotment. Water quality would not improve as quickly and possibly not to the extent as that under alternative A. Rate and extent of improvement would be greater than that of alternative D. Water quality of most streams would improve over the long-term. Improvement in water quality (particularly sediment levels) would be slowest in streams with highly-erodible streambanks formed of fine-grained soils, and/or streams which are either deeply incised or weakly vegetated with disturbance-induced plant communities, such as Castle, Little Smith, and Red Canyon

creeks. The relocation of the fence in the West Fork of Red Canyon Creek would be expected to improve water quality of this stream reach by excluding cattle from the creek in pasture 1A, provided the current grazing system of the adjacent Bull Basin allotment is retained. This alternative would comply with TMDL's established by the State of Idaho for Castle and Red Canyon creeks.

Alternative D (No Rest) – Under this alternative, water quality of streams in pastures 1A and 2 would not improve, as these streams would receive too frequent hot season use for riparian areas to improve in condition. Consequently, no improvement in bank and channel stability and stream shading would be expected. Water quality of streams in pasture 1B would improve slowly over the long term, contributing to improved water quality in Red Canyon Creek. This alternative would only partially comply with TMDL's established by the State of Idaho (IDEQ 2003) for Red Canyon and Castle creeks. Stream shading would improve on Red Canyon Creek and its major tributaries in pasture 1A (East and West Forks of Red Canyon creeks), however, stream bank stability and stream shading would not improve on Castle Creek in pasture 1A.

Alternative E (Light Use) – Regular compliance with the 6-inch residual stubble height limit would result in improved water quality in all streams in the allotment. Most streams would meet State water temperature criteria over the long-term as shading and bank and channel stability improves with increased riparian plant cover and density resulting from lower levels of livestock use. Rates of recovery and improvement in habitat conditions would be somewhat faster than under alternative C and slightly slower than under alternative A. This alternative would comply with TMDL's established by the State of Idaho for Castle and Red Canyon creeks.

3.1.10 Social and Economic

Affected Environment

The BLM does not have extensive knowledge of the ranching interests or alternative grazing options of the permittee, or access to the financial and business records of the permittee or of local businesses. Therefore, it is not possible to quantify the entire socio-economic impact. The livestock industry is an important component of the local economy, although non-farm sector earnings predominate and contribute 70% of the income within Owyhee County.

Recreation, including both casual use and commercially-guided recreation, is increasing on public lands in the area. It is anticipated that within the regional economy, positive economic impacts (income) would occur over time for local business related to recreation, as recreational use continues to increase. However, because livestock impacts in some areas have created deterioration of natural settings, which detract from recreational experiences of visitors, some recreational use is displaced to ungrazed areas outside of the local economy.

Environmental Consequences

Alternative A (No Grazing) - If no grazing use was permitted in the allotments, there would likely be a negative economic impact to the permittees that previously grazed livestock there, and at least a short term negative impact to the local community. The permittees may find alternative rangelands on which to graze their livestock, feed them on private land, or sell them. The negative impact to the local economy may be offset over the long term as businesses related

to recreation, and other non-farm sector businesses, became more important components of the local economy. BLM would have reduced costs related to livestock permit administration.

Alternative B (No Change) - If livestock management was continued at the existing levels in the allotments, conditions of the uplands and riparian areas currently not meeting Idaho Standards and Guidelines would most likely continue to decline. The economic viability of grazing livestock would be expected to diminish in the long term. Livestock grazing permittees would be directly impacted due to poor livestock production on these lands over time as health of the rangelands would most likely continue to decline. This could lead to increased cost to benefit ratios. Ranching-related income to local communities would decline over time, while recreation-related income, and other non-farm sector businesses, would gradually increase.

Alternative C (Proposed Action) - Under this alternative, the permittee and the BLM would have direct costs for construction and removal of rangeland management projects. The cost figures below are estimates that include approximate materials, equipment, and labor. These estimated costs vary depending on location of the project, topography, and other factors related to the specific project. In developing these estimates, the higher cost estimates were used to determine direct cost. These cost figures do not include project layout and design, contract administration, clearances, and other costs related to the proposed projects. These figures do not include the annual maintenance costs associated with these projects. Permittees would be primarily responsible for maintenance costs.

Total approximate cost to the BLM for implementation of projects associated with Alternative C would be \$55,466. Total approximate cost to the permittees for implementation of Alternative C would be \$7,055. In addition to the permittees cost, permittees would have maintenance of all projects which are not included in the above cost estimates.

There may be some impact to the permittees because livestock would not be permitted to graze in the allotment during certain previously authorized periods and AUM totals by year fluctuate due to incorporation of rest. The permittees may find alternative rangelands on which to graze their livestock, feed them on private land, or sell them.

This alternative would require the permittees to conduct timely pasture rotations and complete livestock removal at the end of the authorized grazing period(s). This would require the permittees to spend more time in gathering and moving cattle than under alternative B, which would result in increased operating costs to the permittees.

Overall, in the short term, this alternative would result in more economic and social impact to the permittees than the alternatives B and D and less than A or E.

Over the mid to long term, livestock grazing permittees could foresee a positive impact in livestock production on these lands due to the improvement in health of the rangelands which would be expected after implementation of the changes in grazing management. This could lead to lower cost to benefit ratios.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-295 to IV-297).

Alternative D (No Rest) – Under this alternative, the permittees and the BLM would have direct costs for construction and removal of rangeland management projects. The projects would be similar to those proposed in Alternative C with the exception of the holding pasture. The cost figures below are estimates that include approximate materials, equipment, and labor. These estimated costs vary depending on location of the project, topography, and other factors related to the specific project. In developing these estimates, the higher cost estimates were used to determine direct cost. These cost figures do not include project layout and design, contract administration, clearances, and other costs related to the proposed projects. These figures do not include the annual maintenance costs associated with these projects. Permittees would be primarily responsible for maintenance costs.

Total approximate cost to the BLM for implementation of projects associated with Alternative C would be \$49,491. Total approximate cost to the permittees for implementation of Alternative C would be \$7,055. In addition to the permittees cost, permittees would have maintenance of all projects which are not included in the above cost estimates.

There may be some impact to the permittees because livestock would not be permitted to graze in the allotment during certain previously authorized periods. The permittees may find alternative rangelands on which to graze their livestock, feed them on private land, or sell them.

This alternative would require the permittees to conduct timely pasture rotations and complete livestock removal at the end of the authorized grazing period(s). This would require the permittees to spend more time than under alternatives B and D in gathering and moving cattle, which would result in increased operating costs to the permittees.

Overall, in the short term to mid term this alternative would result in more economic and social impact to the permittees than the alternatives B and C due to the number of moves livestock would make under the Grazing Management Program. However, this would likely be offset to some degree due to the lack of fluctuations in AUMs per year than what occurs in alternatives B and C.

In the long term, livestock grazing permittees could be directly impacted due to poor livestock production on these lands over time as health of the rangelands would most likely continue to decline, especially in the riparian areas. This could lead to increased cost to benefit ratios.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-295 to IV-297).

Alternative E (Light Use) - Under this alternative, there would be no construction of rangeland management projects, and no construction costs for the permittees or BLM. The permittees would continue to bear some costs related to maintenance of existing projects in the allotment.

There may be negative impacts to the permittees due to lower numbers (AUMs) of livestock that would be authorized to graze in the allotment. The permittees may find alternative rangelands on which to graze their livestock, feed them on private land, or sell them. Ranching-related income to local communities may decline, while recreation-related income, and other non-farm sector businesses, would gradually increase. The permittees would have to spend more time herding, gathering and moving cattle than under alternatives B, C, and D based on utilization levels and stubble height requirements, which would increase operating costs. BLM administration of the permit would require more time, to insure terms and conditions are being met with livestock that are not confined to specific pastures.

Overall, this alternative would result in more economic and social impact to the permittees than alternatives B, C, and D but less impact than alternative A.

3.1.11 Visual Resource Management

Affected Environment

Public land within the allotment is a mix of VRM Class I, II, II-IMP and IV lands, with a majority of the public land classified as VRM Class IV. The objective in Class I areas is to preserve the existing character of the landscape, and construction of new rangeland facilities is not permitted. Within VRM Class II areas, the objective is also to retain the existing character of the landscape, and very limited construction of new rangeland facilities may be permitted outside of wilderness study areas. VRM Class II-IMP lands have the same objective as Class II areas, as long as they remain classified as wilderness study areas. In Class IV landscapes, the level of change can be high. Within the allotment, the natural character of some landscapes in VRM Class I and II areas has been degraded by heavy livestock grazing. Livestock grazing impacts include bare ground, stream bank alteration, and inadequate diversity and structure of plant communities (USDI 2003a).

Environmental Consequences

Alternative A (No Grazing) - No grazing would have a positive impact on visual resources. Improvements in vegetation condition and diversity, improvements in stream bank structure and stability, and the elimination of trampling and other evidence of livestock use would enhance scenic quality. This would result in more primitive and natural landscapes in the short and long term.

Alternative B (No Change) - Renewal of the present grazing system would continue the negative impacts to scenic quality that are currently occurring in areas of heavy livestock utilization. Maintenance of existing range facilities would have some negative visual effects; however, the level of impact is considered acceptable. All livestock management, including fence and enclosure maintenance, would be accomplished with motor vehicle use limited to established roads, which would minimize the disturbance associated with the livestock operation. Although the East Fork Owyhee River would be removed from the allotment, livestock may still have access to the river corridor from pastures 3 and 4. Short and long term improvements in these areas would depend on livestock permittees keeping livestock out of the riparian areas. Areas where livestock congregate would continue to negatively affect visual resources, both during and outside of the grazing season.

Alternative C (Proposed Action) - This alternative would have positive and negative impacts on visual resources over the long term. Anticipated improvements in vegetation cover and diversity, both in the riparian areas and in the uplands, would enhance scenic quality and result in more primitive and natural landscapes. The proposed action would result in modest improvements in diversity of line, form, color, and texture in the area, which would enhance scenic quality and result in more primitive and natural landscapes over the long term. Direct and indirect impacts of adjusting the allotment boundary along the Owyhee River would be similar to those discussed under alternative B.

New range facilities would all be constructed outside of VRM Class I areas.

Construction and maintenance of range facilities would have some negative visual effects; however, the level of impact is considered acceptable in the areas where it would occur. Livestock operations, including fence and enclosure construction and maintenance, would be accomplished with motor vehicle use limited to established roads, which would minimize the disturbance associated with the permit. Visual quality standards would be used to minimize negative visual impacts of new reservoir construction.

Alternative D (No Rest) – This alternative would continue the negative impacts to scenic quality that are currently occurring in areas of heavy livestock utilization. Maintenance of existing range facilities would have some negative visual effects; however, the level of impact is considered acceptable. Areas where livestock congregate would continue to negatively affect visual resources, both during and after the grazing season. Direct and indirect impacts of adjusting the allotment boundary along the Owyhee River would be similar to those discussed under alternative B. Impacts of project development would be similar to those discussed under alternative C.

Alternative E (Light Use) - This alternative would have primarily positive impacts on visual resources over the long term. Anticipated improvements in vegetation cover and diversity, both in the riparian areas and in the uplands, would enhance scenic quality and result in more primitive and natural landscapes. This alternative would result in improvements in diversity of line, form, color, and texture in the area, which would enhance scenic quality and result in more primitive and natural landscapes over the long term. Direct and indirect impacts of adjusting the allotment boundary along the Owyhee River would be similar to those discussed under alternative B.

Maintenance of rangeland improvement projects would be similar to those discussed under alternative B, with no negative impacts associated with construction and maintenance of new projects.

3.1.12 Recreation/Wild and Scenic Rivers

Affected Environment

The southern end of the allotment is located within the Owyhee River Canyon Special Recreation Management Area. The main recreational activities within this special management

area include float boating, backpacking, horseback riding, camping, hunting, fishing, sight-seeing, and nature study. The remaining portions of the allotment is not included within a special recreation management area. Livestock impacts in some riparian and upland areas have caused deteriorated natural settings, which detract from recreational experiences of visitors. Examples of deteriorated settings from livestock include areas along Red Canyon, Castle, Little Smith, and Moonshine Spring creeks and some springs and reservoir sites.

Recreation Opportunity Spectrum classification is used to characterize the type of recreational opportunity settings, activities, and experience opportunities that can be expected in different areas on public land. This area provides a mix of primitive, semi-primitive non-motorized, and semi-primitive motorized settings for recreation.

Along the southern allotment boundary, the Owyhee River was determined to be suitable for inclusion in the Wild and Scenic River System, in the Owyhee Resource Management Plan (1999). The designation is recommended due to the outstandingly remarkable scenic, recreational, geological, and wildlife values present. Downstream from the allotment, all of the main Owyhee River within Oregon (120 miles) was designated by Congress as a component of the Wild and Scenic River System in 1984.

Off-highway vehicle (OHV) designations in the area include areas where vehicles are limited to existing roads and trails, limited to designated roads and trails, and closed to motorized access. Over-snow vehicle (OSV) designations in the area include areas open, limited seasonally, and closed. OHV and OSV regulations apply to permitted uses such as livestock operations, as well as to general public use.

Environmental Consequences

Alternative A (No Grazing) - This alternative would have a positive impact on recreation. Improvements in scenic quality, discussed above, would have a positive effect on recreationists' experiences. Improvements in stream function and water quality would eventually lead to improved opportunities for fishing. Improvements in vegetation and wildlife habitat would lead to increased opportunities for both consumptive and non-consumptive wildlife-related recreation. Reduction or elimination of livestock-related impacts would make previously undesirable areas attractive to recreationists for camping, hiking, riding, and nature study. Improvements in scenic quality, recreational opportunities, and wildlife habitat would also enhance the wild and scenic river values of the suitable wild river segment.

Alternative B (No Change) - Negative impacts to recreation that are currently occurring due to livestock grazing would continue to occur. Recreational use levels would likely continue to incrementally increase, which is the trend throughout the area. Although the Owyhee River would not be in the allotment, livestock would still have access to the river corridor in pastures 3 and 4. Short and long term improvements in these areas would depend on the permittees keeping livestock out of the riparian areas. Areas where livestock congregate would continue to negatively affect recreationists' experiences, both during and after the grazing season.

Alternative C (Proposed Action) - There would be positive and negative impacts to recreation under this alternative. Improvements in scenic quality due to improved vegetation condition and diversity would positively affect recreationists' experiences. This improvement would be somewhat cyclic, as vegetation conditions observable to recreationists would vary dramatically depending on the time of visitation relative to when the area had been grazed. Improved habitat conditions for wildlife would lead to improved opportunities for wildlife viewing, hunting, fishing, and nature study. Improvements in scenic quality, recreational opportunities, riparian conditions, and wildlife habitat along the suitable wild and scenic river corridors would enhance their wild and scenic river values. Improvements would vary by stream and season of use. Short term negative impacts would occur during years when hot season use is allowed; however, the long term improvements in riparian conditions may mitigate these impacts. Direct and indirect impacts of adjusting the allotment boundary along the Owyhee River would be similar to those discussed under alternative B. New fences would be an impediment to cross-country travel for recreationists on foot and horseback. Development of new reservoirs would create new areas of disturbance where livestock congregate that would be undesirable for recreation.

Alternative D (No Rest) – This alternative would have negative impacts to recreation similar to Alternative B. Impacts of new project development would be similar to alternative C.

Alternative E (Light Use) - There would be primarily positive impacts to recreation under this alternative. Improvements in scenic quality due to improved vegetation condition and diversity would positively affect recreationists' experiences. This improvement would be somewhat cyclic, as vegetation conditions observable to recreationists would vary depending on the time of visitation relative to when the area had been grazed. Improved habitat conditions for wildlife would lead to improved opportunities for wildlife viewing, hunting, fishing, and nature study. Short term negative impacts would occur during years when hot season use is allowed; however, the long term improvements in riparian conditions and lighter livestock use may mitigate these impacts. Direct and indirect impacts of adjusting the allotment boundary along the Owyhee River would be similar to those discussed under alternative B.

3.1.13 Wilderness Study Areas

Affected Environment

Portions of the Owyhee River-Deep Creek and West Fork Red Canyon Wilderness Study Areas (WSA) are located within the allotment, while the majority of the public land within the allotment is outside of the WSA boundaries.

WSAs are required to be managed in such a manner as to not impair their suitability for preservation as wilderness. Wilderness values to be protected include solitude, naturalness, opportunities for primitive and unconfined recreation, and the presence of special features that enhance wilderness values. Special features recognized for the Owyhee River-Deep Creek WSA include scenic quality, scientific, wildlife, and cultural values, with specific mention of the outstanding float boating opportunities, spectacular cliffs, bighorn sheep and other wildlife, historic sites, and archeological sites. No special features were identified for the West Fork Red Canyon WSA.

Livestock grazing in WSAs is considered a “grandfathered” use that may 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. There are approximately 6.8 miles of fence located within the wilderness study area portions of the allotment. In the West Fork West Canyon WSA, there is one existing spring development with an enclosure (11S04W32), and no reservoirs. In the Owyhee River-Deep Creek WSA, there are five existing reservoirs (13S04W sections 24, 24, 26, 13S03W sections 29, 30) and no spring developments or enclosures.

The assessment documents heavy livestock grazing, trampled stream banks, impaired stream functionality, and reduced vegetation in some places within the wilderness study area portions of the allotment (USDI 2003a). This has a negative effect on the wilderness values of naturalness and scenic quality, and has a negative effect on recreationists’ experiences of wilderness.

Environmental Consequences

Alternative A (No Grazing) - This alternative would have a positive impact on wilderness. Without livestock grazing, the wilderness study area would return to more primitive and natural conditions. Scenic quality, which is one of the special features of the North Fork Owyhee River and Owyhee River-Deep Creek WSA, would improve as vegetation cover and diversity increases, streambank stability improves, and livestock trampling is eliminated. Habitat conditions for redband trout and bighorn sheep, special features within the Owyhee River-Deep Creek WSA, would improve as livestock-related impacts to streams, riparian habitat, and uplands are reduced. This alternative would be the most beneficial for wilderness values.

Alternative B (No Change) - The wilderness values of naturalness and outstanding scenic quality would continue to be negatively affected in portions of the wilderness study areas that receive heavy livestock utilization. Negative impacts related to existing livestock developments within the WSAs would remain. Motorized vehicles (including all-terrain vehicles) would be limited to designated roads. Although the Owyhee River would no longer be in the allotment, livestock would still have access to the area in pastures 3 and 4. Short and long term improvements in these areas would depend on the permittees keeping livestock out of the riparian areas. Areas where livestock congregate would continue to negatively affect wilderness values, both during and after the grazing season

Alternative C (Proposed Action) - This alternative may have some positive impacts to wilderness values. Adjustments to the scheduled use periods may reduce some livestock-related impacts to naturalness. Scenic quality, which is one of the special features of the Owyhee River-Deep Creek WSA, may improve as vegetation condition improves. Habitat conditions for wildlife within the WSAs, another special feature, may improve as livestock-related impacts to the watersheds are reduced. The wilderness value of naturalness would continue to be negatively affected in portions of the wilderness study area where livestock congregate. Direct and indirect impacts of adjusting the allotment boundary along the Owyhee River drainage would be similar to those discussed under alternative B.

Negative impacts to wilderness related to existing livestock developments within the WSA would remain. Motorized vehicles (including all-terrain vehicles) would be limited to designated roads. Within the West Fork Red Canyon WSA, a fence adjacent to Red Canyon Creek would be moved to a ridgeline further east, also within the WSA. This would create some short term disturbance to vegetation, both where the fence is removed and where the new fence is constructed, but should cause no long term change in WSA values. To mitigate potential negative effects of the fence construction and removal projects, no off-road motorized vehicles would be used for either project.

Alternative D (No Rest) - This alternative would have negative impacts to wilderness values similar to Alternative B. Impacts of existing and new project development would be similar to alternative C. Motorized vehicles (including all-terrain vehicles) would be limited to designated roads.

Alternative E (Light Use) - This alternative would have primarily positive impacts to wilderness values. Reductions in stocking levels would reduce livestock-related impacts to naturalness. Scenic quality, which is one of the special features of the Owyhee River-Deep Creek WSAs, would improve as vegetation condition improves. Habitat conditions for wildlife within the WSAs, another special feature, would gradually improve as livestock-related impacts to the watersheds are reduced. The wilderness value of naturalness would continue to be negatively affected in portions of the wilderness study area where livestock congregate; however, because of lighter livestock use, the negative effects would be less than alternatives B or C. Direct and indirect impacts of adjusting the allotment boundary along the Owyhee River drainage would be similar to those discussed under alternative B.

Negative impacts to wilderness related to existing livestock developments within the WSA would remain. Motorized vehicles (including all-terrain vehicles) would be limited to designated roads.

3.1.14 Cumulative Impacts

Scope of Analysis – The resources for which the proposed action and alternatives have direct or indirect impacts include upland vegetation; ACECs; invasive, nonnative weeds; fish and wildlife; wetland/riparian/aquatic; recreation; and social/economic. Livestock grazing and recreational uses are the primary past, present, and future actions and land uses that could cumulatively impact these resource values in the cumulative analysis area. Adjacent allotments that have recently issued grazing decisions include the Trout Springs, Bull Basin, and Nickel Creek allotments. Adjacent allotments where grazing decisions will be issued within the next few years include the Garat and Swisher Springs allotments. Public land makes up the majority of these allotments; however, they include varying degrees of state and private lands. Livestock grazing and recreation are the primary uses of these lands.

Where livestock grazing practices are a significant factor in allotments that are not meeting Idaho Standards for Rangeland Health, grazing practices are adjusted so that progress will be made towards meeting the standards. As in the proposed action, adjustments are in conformance with the land use plan and could include changes to season, level, and duration of livestock use.

Changes within the immediate watershed would have the greatest affect to improve upland and stream resources. Changes in adjacent watersheds would have the greatest beneficial affect on wildlife and recreation resources. Recreational uses (dispersed camping, hunting, rafting) are expected to increase through time.

Upland Vegetation - Under alternatives A, C, D, and E, some improvements to upland vegetation would be expected. As changes are implemented in other grazing allotments, there would be a cumulative beneficial effect. Under alternative B, the continuation of the existing situation would not result in improvement of upland vegetation and standards and guidelines would not be achieved. Under all alternatives, expansion of juniper into sagebrush communities could result in changes in plant community composition and a downward trend in ecological condition in those areas over the long term; however, under alternatives A, C, and E, increased litter could result in wildfire playing more of a role in reducing juniper expansion and maintaining sagebrush communities.

ACECs – Under alternatives A, B, and C, improvement in the condition or maintenance of the mesic communities in The Badlands ACEC would be expected. Alternative D would have adverse impacts to some of the ACEC values. Alternative E may or may not have adverse impacts, depending upon the season of use.

A portion of The Badlands ACEC in the Nickel Creek allotment may be adversely affected by the proposed action if livestock trail through the ACEC to access Kettle Spring, which is in pasture 27A of the Nickel Creek Allotment. Permittees stated and BLM monitoring suggested that the rock barrier between the two allotments is incomplete. If livestock regularly access pasture 27A in the summer, objectives for that pasture, including those for Kettle Spring and Trap Creek, may not be met. Construction or re-construction of the three proposed reservoirs may draw some livestock away from the ACEC and from pasture 27A.

Invasive, Nonnative Weeds – Under all alternatives, invasive, nonnative weeds would have potential to expand beyond their current distribution, a cumulative negative impact. Establishment of a Cooperative Weed Management Area and subsequent treatment of weeds could reduce noxious weed populations. Continued juniper treatment (on private and state lands), livestock use, and increased recreation use would provide opportunities for introduction and expansion of invasive, nonnative weeds. Improvements in habitat conditions expected under alternatives A, C, D, and E could reduce susceptibility to weed invasion over the long term.

Fish and Wildlife - Under alternatives A, C, D and E, some level improvement to at least some fish and wildlife habitats would be expected. The greatest improvement would occur under alternative A by eliminating all livestock grazing and associated impacts to habitats and populations. The least would be expected to occur under alternative D which would reduce but still continue excessive hot season grazing of riparian habitats in some pastures while increasing hot season use in others and replace existing rest treatments with shorter grazing treatments and/or deferred grazing. Both alternatives C and E would be expected to result in the steady improvement of most upland and riparian habitats. Juniper expansion would continue to adversely affect habitat for sagebrush steppe species under all alternatives, although the frequency and size of fires would be expected to increase under alternative A resulting in a long

term reduction in the rate of habitat loss to juniper encroachment. As changes are implemented in other grazing allotments, there would be a cumulative beneficial effect. Under Alternative B, the continuation of the existing situation would not result in improvement of fish and wildlife habitat and standards and guidelines would not be achieved.

Wetland/Riparian/Aquatic - Under alternatives A, C, E, and to a limited extent under alternative D, improvements to wetland, riparian, and aquatic resources would be expected. Improvements in streambank stability and vegetation cover resulting from improved grazing management would result in streams that are in proper functioning condition and meeting water quality standards. Hot season grazing use of riparian areas in adjacent allotments would also be reduced as part of other grazing decisions that already have been issued or are about to be issued. In particular, revised grazing management to improve riparian habitat conditions on headwater reaches and tributary streams to the East and West Forks of Red Canyon creeks in the Trout Springs, Bull Basin, and Castlehead-Lambert grazing allotments would cumulatively benefit water quantity and quality and riparian and aquatic habitats of Red Canyon Creek and the Owyhee River. Alternative A would have the most rapid improvement in riparian and aquatic habitat conditions. Under alternative B, most streams would remain in functioning at risk condition and standards and guidelines would not be achieved. Similarly, under alternative D, streams in pastures 1A and 2 would remain in functioning at risk condition.

Recreation – Improving habitat conditions under alternative A, and to a lesser degree alternative D, would have a positive cumulative effect on most recreational opportunities. Continued resource degradation in areas not meeting standards would have a cumulative negative effect on recreational opportunities under alternative B. Under alternatives C and D, increases in rangeland management projects would have positive and negative cumulative impacts. Positive impacts would include improvements in habitat conditions related to changes in grazing systems, removal of livestock from the Owyhee River corridor, and protection or improvement of spring and riparian resources. Negative impacts would include the overall increase of projects.

Social/Economic - Alternative A would potentially have the greatest negative cumulative impact to grazing permittees and the local economy. Income from public lands grazing, currently an important component of the local economy, would be eliminated. This could be offset over the long term if recreation became a more important component of the local economy. If permitted use is reduced under alternative E, then there would be some negative cumulative impacts to grazing permittees and the local economy. Local economies would remain relatively unchanged under alternatives B, C, and D.

3.1.15 Mitigation

Special Status Plant Species - Site-specific surveys would be conducted for special status plant species prior to implementation of all projects. In the event of discovery of resource values that might be impacted by a project, the project would be relocated or modified to such an extent that the impacts would be avoided or mitigated to an acceptable level.

Special Status Animal Species - Site-specific surveys would be conducted for rare animal species prior to implementation of all the projects. In the event of discovery of resource values that

might be impacted by the project, the project would be relocated or modified to such an extent that the impacts would be avoided or mitigated to an acceptable level.

All new fences will be designed and constructed to comply with the Lower Snake River District's Fence Policy. All interior pasture fences will conform to the specifications for standard livestock fences in deer/elk/antelope habitat that consists of a two barbed upper strands and a smooth bottom strand. All enclosure fences will conform to specifications for livestock fences in deer/elk/ antelope habitat where extreme restrictions are required that consist of three upper barbed strands and on lower smooth strand.

All livestock troughs will be equipped with an approved wildlife escape ladder at the time of trough installation and it will be the responsibility of the permittee(s) to ensure that these ramps are maintained and/or replaced as necessary to insure the continued safe use of troughs by wildlife. The BLM will provide replacement ramps upon request by the permittee(s).

Cultural Resources - Site specific inventories for cultural resources would be made to each proposed project area prior to construction. If required, project design would be modified so that adverse effects to cultural sites would be mitigated or eliminated in compliance with section 106 of the National Historic Preservation Act, NEPA, and FLPMA.

Wilderness Study Areas - Within the wilderness study areas, motor vehicles would not travel off roads indicated on Map 1. Fence removal and construction would be accomplished on foot and horseback. The old fence would be removed before the new fence is constructed, so that there is no temporary increase in the amount of fencing within the WSA.

3.2 Jordan Valley Allotment

3.2.1 Upland Vegetation

Affected Environment

Elevations range from 4,400 feet to almost 4,700 feet. Wyoming big sagebrush is the dominant plant community. The Rangeland Health Standard for native vegetation is not being met (USDI 2003b). The understory is dominated by Sandberg bluegrass in relatively undisturbed areas and exotic annuals in disturbed areas (USDI 2003a). Juniper is widely scattered in the general area. Livestock use generally occurs during the critical growth period for perennial grasses. The allotment received no rest from livestock use between 1986 and 2001.

Environmental Consequences

Alternative A (No Grazing) – Under this alternative, the phenological needs of the key plant species would be better met. By excluding grazing on the perennial grass species, there would be improvement in plant vigor and production along with subsequent reproduction and establishment.

Short to mid term impacts would be positive and ensure proper functioning of the ecological processes and continued productivity and diversity of native plant species. This would allow for

moving toward progress in meeting the Rangeland Health Standard for native plant communities in the allotments. In the long term, increased buildup of fine fuels could result in a return to natural fire regimes. Burned areas could be susceptible to cheatgrass invasion. Exotic annuals would persist in disturbed areas.

Alternative B (No Change) – Livestock use would continue to occur during the critical growth period of grasses. The occurrence, vigor, and production of desirable herbaceous vegetation, especially grasses, would continue to be reduced. In the long term, increaser grasses would remain dominant or decrease and exotic annuals would increase. Potential for fire and subsequent increase in exotic annuals would be slightly reduced from alternative A.

Alternative C (Proposed Action) – Positive direct and indirect impacts would be to provide deferment of livestock use from the critical growth period of perennial grasses in alternate years. In the long term, a slow improvement in ecological condition would occur as decreaser grass cover increased. However, an increase in horse use over alternative B may have a greater impact on vegetation over the long term in areas of concentrated use. Potential for fire would be similar to alternative B.

Alternative D (Light Use) – Light use ($\leq 30\%$) of perennial grasses would result in improved plant vigor and seed production over alternative C; however, there could be negative impacts to some grass species if they receive consistent use during the critical growth period with no deferment. Ecological condition would show slow improvement in the mid to long term. Potential for fire would be similar to alternative B.

3.2.2 Special Status Plants

Affected Environment

Special status plants are not known to occur in this allotment. There has been no inventory here or in the surrounding area and there are no known occurrences in the vicinity. The potential for special status plants to occur here is unknown.

Environmental Consequences

The impacts of any alternative on any special status plants that may occur in this allotment cannot be determined with the limited information that is available.

3.2.3 Areas of Critical Environmental Concern (ACEC)

Affected Environment

There are no ACECs in this allotment.

Environmental Consequences

There would be no impacts to ACECs under any alternative.

3.2.4 Invasive, Nonnative Species

Affected Environment

Whitetop (*Cardaria draba*) is present in some areas; however, its current status is unknown.

Cheatgrass occurs throughout the area and is co-dominant with medusahead (*Elymus caput-medusae*) in disturbed areas (USDI 2003a).

Environmental Consequences

Alternative A (No Grazing) – Over the mid to long term, healthy plant communities would be most resistant to the establishment of most noxious and invasive weeds compared to the other alternatives. Disturbed areas related to livestock use would recover and livestock feed sources would not be present to introduce noxious weeds. However, untreated noxious weed populations could expand and other seed sources of noxious weeds would continue to be a problem.

Cheatgrass populations could diminish over the long term as desirable native grasses increase; however, periodic wildfires could allow cheatgrass to persist or increase.

Alternative B (No Change) – Areas with reduced perennial grass cover or that receive heavy livestock use would be susceptible to increases in noxious and invasive weeds over the short and long term. Livestock would continue to be a potential vector for noxious weed introductions. Establishment of a Cooperative Weed Management Area would help control noxious weeds.

Alternative C (Proposed Action) – A long term improvement in ecological condition would result in a greater portion of the allotment being resistant to increases in noxious and invasive weeds than would occur in alternative B. Areas of concentrated livestock use would continue to provide areas for noxious weed invasion. Livestock would continue to be a potential vector for noxious weed introductions. Cheatgrass populations could diminish over the long term as desirable native grasses increase; however, periodic wildfires could allow cheatgrass to persist or increase. Establishment of a Cooperative Weed Management Area would help control noxious weeds.

Alternative D (Light Use) – Impacts would be similar to those described for alternative C.

3.2.5 Soils

Affected Environment

Soils in this area occur on nearly level to moderately steep foothills and structural benches. These soils formed in alluvium and residuum derived dominantly from mixed volcanics. They are shallow to deep and well drained. These soils have an aridic bordering xeric or xeric soil moisture regime and a mesic to frigid soil temperature regime. Major soil series in this area are the Salisbury, Gracey, Perla, and Rucklick. Many of these soils are associated with a Loamy 12-16" ecological site. The erosion potential from water is low to high depending on soil surface texture and slope. Soils information for the area was obtained from the National Resource Conservation Service Soil Survey for Owyhee County Area, Idaho (2003).

Environmental Consequences

Alternative A (No Grazing) - Impacts would be the same as described for the Castlehead-Lambert Allotment.

Alternative B (No Change) - Overall impacts to the watershed and soil resource would continue where they are occurring and watershed health would be impaired in these areas. The allotment would not make significant progress towards meeting the Standards for Rangeland Health where there currently are problems. In many areas of this allotment the standards are being better met and this would continue.

Mechanical impacts to the soil surface from livestock hoof action would continue where livestock tend to congregate and trail. This is especially true where there is early spring use when soils are frequently saturated and more prone to these types of impacts. Many of the erosional features that have been documented in this allotment have developed over many tens of years and under older grazing management systems. The current system appears not to be making progress towards healing these processes.

Watershed impairing effects due to western juniper invasion combined with the utilization of the key forage species during their critical phenological periods would continue to have long lasting negative impacts on the plant community in general.

Alternative C (Proposed Action) – Overall impacts to the watershed and soil resource would increase and watershed health would be impaired. The allotment would not make significant progress towards meeting the Standards for Rangeland Health. Where livestock use is limited in this allotment soil related standards are being met and would continue to be met.

Under this system only horses would be grazed in the allotment. This use would be staggered between critical growing season grazing and deferred grazing. Horses generally have more impact on the watershed than cattle. There is a good possibility of increasing the spread of undesirable plants under this use. Horse use in the early spring when soils are wet and vulnerable may also negatively affect the watershed.

Alternative D (Light Use) – Impacts would be the same as described for the Castlehead-Lambert Allotment.

3.2.6 Fish and Wildlife/Special Status Animals/Migratory Birds

Affected Environment

This allotment contains habitat for mule deer, pronghorn antelope, bobcat, badger and a variety of other mammalian predators, sage grouse, chukar, California quail, various raptors, and a diversity of other migratory and resident nongame birds, small mammals, reptiles, and amphibians.

A number of special status animal species classified as either BLM "Sensitive Species" or State of Idaho "Species of Special Concern", are known or likely to occur within the allotment. These include the prairie falcon, ferruginous hawk, sage grouse, calliope hummingbird, loggerhead shrike, sage sparrow, Brewer's sparrow, spotted bat, Townsend's big-eared bat, fringed myotis, pygmy rabbit and western toad.

Shrub and forb components are generally as expected and provide good woody cover, structure, and forage for dependant special status species. However, decreaser bunchgrasses are reduced and have largely been replaced by increaser and invasive grasses that provide inferior cover for sage grouse and other species that nest and/or forage near the ground.

Western juniper is widely scattered in the big sagebrush community where it may be adversely affecting the quality/suitability of habitat for sage grouse and possibly other sagebrush obligates while providing important habitat for others.

Environmental Consequences

Alternative A (No Grazing) – This alternative would have a mostly positive impact on most wildlife and special status animal species. The lack of livestock grazing would result in increased forage and cover and eliminate trampling and other physical disturbances associated with livestock grazing. Juniper encroachment into sagebrush steppe and other habitats would continue to negatively affect species that are dependant on these habitats, although the frequency and size of fires would likely increase due to the increased abundance of ungrazed grasses and other fine fuels. This would likely reduce the rate of juniper encroachment while, at the same time, temporarily eliminating desirable shrubs and possibly increasing the occurrence of cheatgrass, rabbitbrush and other less desirable and fire adapted species.

Alternative B (Existing Management) - Under this alternative, the allotment would continue to be used at the permittees discretion which would be expected to continue to result in a reduced occurrence of decreaser grasses and habitat that is generally lacking in suitable cover and/or forage for sage grouse, sage sparrow, Brewer's sparrow, pygmy rabbit, and a diversity of other species. Annual spring use would result in physical disturbance of nesting/breeding habitats and populations that could reduce the productivity of these populations.

Alternative C (Proposed Action) – Alternate years of spring/deferred use would improve habitat for most wildlife and special status species by limiting active growing season use to every other year. This would improve the vigor and production of vegetation which should result in a concurrent increase cover, forage and prey. It would also limit physical disturbance of habitats and populations during the nesting/breeding season which should increase survival rates and productivity of these populations. However, deferred grazing use would reduce residual nesting cover for sage grouse and other species during the following spring and would limit browse availability for wintering deer.

Alternative D (Light Use) – The vigor, productivity and cover of desirable vegetation would be expected to improve under this alternative. As a result, adequate forage, cover, and structure would be present at all times to adequately meet the needs of most, if not all wildlife and special

status species within the allotment. Physical disturbance of habitats and populations would also be reduced at most locations and there would be no impacts to habitats or populations normally associated with new project developments.

3.2.7 Cultural Resources

Affected Environment

Inventory data is incomplete for the allotment. Surveys in the general vicinity include the Boise District BLM Class II Inventory (Young 1987). There are no previously recorded sites in the allotment. Past human use of the area may have included camping, food gathering and hunting. The Shoshone, Paiute, and Bannock tribes inhabited this area. Historically the area has been used for grazing livestock and for recreational purposes.

Environmental Consequences

Alternative A (No Grazing) - Any direct impacts of grazing on cultural resources by livestock including trampling or breakage of artifacts would be avoided under this alternative. This alternative would also result in improvement in vegetation cover and soil stabilization over time and contribute to preservation of cultural resources.

Alternative B (No Change) - Under the existing management the impacts to the cultural resources would continue and potentially cause adverse effects. The mechanical disturbance to the soils by livestock hoof action would continue to affect the integrity of cultural resources especially where livestock use is heavy or occurs during the early season when soils are saturated.

Potential direct impacts of grazing on cultural resources (breakage, movement) would continue. Indirect impacts of grazing on cultural resources would be continued erosion of archaeological sites from grazing and trampling resulting in loss of site context.

Alternative C (Proposed Action) - This alternative has potential to improve overall ecological condition and preserve the integrity of cultural resources. However, the impacts to the cultural resources would continue and potentially cause adverse effects. The mechanical disturbance to the soils by livestock is hoof action, and where use is heavy, would continue to affect the integrity of cultural resources.

The direct impacts of livestock on cultural resources include possible breakage and movement caused by their grazing, trailing, and trampling. Indirect impacts of grazing on cultural resources would be continued erosion of archaeological sites from grazing and trampling resulting in loss of site context.

Alternative D (Light Use) - The impacts would be similar to alternative C; however, lighter use would help reduce potential impacts.

3.2.8 Wetlands/Riparian Areas/Aquatic Resources/Floodplains/Water Quality

Affected Environment

There are no wetland, riparian, or aquatic resources in the allotment.

Environmental Consequences

There would be no impact to wetland, riparian, aquatic, or water quality resources under any alternative.

3.2.9 Social and Economic

Affected Environment

The BLM does not have extensive knowledge of the ranching interests or alternative grazing options of the permittee, or access to the financial and business records of the permittee or of local businesses. Therefore, it is not possible to quantify the entire socio-economic impact. The livestock industry is an important component of the local economy, although non-farm sector earnings predominate and contribute 70% of the income within Owyhee County. Because the Jordan Valley Allotment is small, with 248 acres of public land and 27 average AUMs, any socio-economic impacts related to grazing are minor.

Environmental Consequences

Alternative A (No Grazing) - If no grazing use was permitted in the allotment, there would likely be a slight negative economic impact to the permittee that previously grazed livestock there. The permittee may find alternative rangelands on which to graze their livestock, feed them on private land, or sell them. BLM would no longer have costs related to permit administration.

Alternative B (No Change) - If livestock management was continued at the existing levels in the allotment, any current socio-economic impacts would be expected to remain the same. The permittee would be primarily responsible for maintenance costs associated with range projects. BLM would continue to have costs related to administration of the grazing permit.

Alternative C (Proposed Action) - This alternative would result in similar impacts to alternative B.

Alternative D (Light Use) - This alternative would result in similar impacts to alternative B.

In general, other social and economic impacts from this alternative would be similar to those described in the July 1999 EIS for the Owyhee RMP (pages IV-295 to IV-297).

3.2.10 Visual Resource Management

Affected Environment

Public land within the allotment is classified in a VRM Class III polygon. The objective in Class III areas is to partially retain the existing character of the landscape, and the level of change to the characteristic landscape should be moderate.

Environmental Consequences

Alternative A (No Grazing) - No grazing would have a positive impact on visual resources. Improvements in vegetation condition and diversity and the elimination of trampling and other evidence of livestock use would enhance scenic quality. This would result in more primitive and natural landscapes in the short and long term.

Alternative B (No Change) - Renewal of the present grazing system would continue the negative impacts to scenic quality that are currently occurring in areas of heavy livestock utilization. Maintenance of existing range facilities would have some negative visual effects, however the level of impact is considered acceptable. All livestock management, including fence maintenance, would be accomplished with motor vehicle use limited to established roads, which would minimize the disturbance associated with the livestock operation.

Alternative C (Proposed Action) - This alternative would have similar impacts on visual resources to alternative B. All livestock management, including fence maintenance, would be accomplished with motor vehicle use limited to established roads, which would minimize the disturbance associated with the livestock operation.

Alternative D (Light Use) - This alternative would have positive impacts on visual resources over the long term. Anticipated improvements in vegetation cover would enhance scenic quality and result in more primitive and natural landscapes. All livestock management, including fence maintenance, would be accomplished with motor vehicle use limited to established roads, which would minimize the disturbance associated with the livestock operation.

3.2.11 Recreation

Affected Environment

The allotment is located outside of any special recreation management area. The main recreational activities within the general area include horseback riding, camping, hunting, sight-seeing, and nature study.

Recreation Opportunity Spectrum classification is used to characterize the type of recreational opportunity settings, activities, and experience opportunities that can be expected in different areas on public land. This area, which is located on the outskirts of the town of Jordan Valley, provides a rural setting for recreation.

The off-highway vehicle (OHV) designation in the area limits vehicles to existing roads and trails. The over-snow vehicle (OSV) designation in the area is open. OHV and OSV regulations apply to permitted uses such as livestock operations, as well as to general public use.

The Owyhee Uplands Back Country Byway traverses the southern boundary of the allotment. The Byway is a 101-mile improved gravel road between Grandview, Idaho and Jordan Valley, Oregon. The 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 of Owyhee County.

Environmental Consequences

Alternative A (No Grazing) - This alternative would have a positive impact on recreation. Improvements in scenic quality, discussed above, would have a positive effect on recreationists' experiences. Improvements in vegetation and wildlife habitat would lead to increased opportunities for both consumptive and non-consumptive wildlife-related recreation. Reduction or elimination of livestock-related impacts would make previously undesirable areas attractive to recreationists for camping, hiking, riding, and nature study.

Alternative B (No Change) - Negative impacts to recreation that are currently occurring due to livestock grazing would continue to occur. Recreational use levels would likely continue to incrementally increase, which is the trend throughout the area. Areas where livestock congregate would continue to negatively affect recreationists' experiences, both during and after the grazing season.

Alternative C (Proposed Action) - This alternative would have similar impacts on recreation to Alternative B.

Alternative D (Light Use) - There would be primarily positive impacts to recreation under this alternative. Improvements in scenic quality due to improved vegetation condition and diversity would positively affect recreationists' experiences. This improvement would be somewhat cyclic, as vegetation conditions observable to recreationists would vary depending on the time of visitation relative to when the area had been grazed. Improved habitat conditions for wildlife would lead to improved opportunities for wildlife viewing, hunting, and nature study.

3.2.12 Wilderness Study Areas (WSA)

Affected Environment

There are no WSAs in the allotment.

Environmental Consequences

There would be no impacts to WSAs under any alternative.

3.2.13 Cumulative Impacts

Scope of Analysis – The resources for which the proposed action and alternatives have direct or indirect impacts include upland vegetation; invasive, nonnative weeds; and wildlife. Livestock

grazing is the primary past, present, and future action and land use that could cumulatively impact these resource values in the cumulative analysis area. Adjacent allotments in Idaho that have recently issued grazing decisions include the Gusman Allotment. Adjacent allotments in Idaho where grazing decisions will be issued within the next few years include the Cow Creek and Collins FFR allotments. Public land makes up the majority of these allotments; however, they include some private land. Livestock grazing is the primary use of these lands. Adjacent lands in Oregon are primarily private and are primarily used for livestock grazing and agriculture.

Where livestock grazing practices are a significant factor in allotments that are not meeting Idaho Standards for Rangeland Health, grazing practices are adjusted so that progress will be made towards meeting the standards. As in the proposed action, adjustments are in conformance with the land use plan and could include changes to season, level, and duration of livestock use. Changes within the immediate watershed would have the greatest affect to improve upland and stream resources. Changes in adjacent watersheds would have the greatest beneficial affect on wildlife and recreation resources.

Upland Vegetation - Under alternatives A, C, and D, some improvements to upland vegetation would be expected. As changes are implemented in other grazing allotments, there would be a cumulative beneficial effect. Under alternative B, the continuation of the existing situation would not have an improvement to upland vegetation and standards and guidelines would not be achieved.

Invasive, Nonnative Weeds – Under all alternatives, invasive, nonnative weeds would have potential to expand beyond their current distribution, a cumulative negative impact. Establishment of a Cooperative Weed Management Area and subsequent treatment of weeds could reduce noxious weed populations. Continued livestock use would provide opportunities for introduction and expansion of invasive, nonnative weeds. Improvements in habitat conditions expected under alternatives A, C, and D could reduce susceptibility to weed invasion over the long term.

Wildlife - Under alternatives A, C, and D, improvements to wildlife habitat would be expected. As changes are implemented in other grazing allotments, there would be a cumulative beneficial effect. Under Alternative B, the continuation of the existing situation would not have an improvement to wildlife habitat and standards and guidelines would not be achieved.

3.2.14 Mitigation

No mitigation would be required to implement the proposed action.

4.0 Consultation and Coordination

4.1 Public Participation

Time Period	Correspondence, Meeting, Activity
Spring 2001	Letter to permittees and interested publics indicating initiation of the Assessment process in the Nickel Creek Core area and inviting public participation and data submission.
Summer 2001	Field visits by Standards and Guidelines Assessment team, Owyhee Field Office staff, and permittees to evaluate the Nickel Creek Core area.
March 2003	Mailing of Draft Assessment and Determinations for Castlehead-Lambert and Jordan Valley allotments to permittees and interested publics. Recipients were given a 30-day period to provide comments and data related to the documents.
March 2003	Presentation of assessment and determination findings at Wings and Roots meeting in Boise.
October 2002/June, August 2003	Field tours of the allotments were conducted for BLM staff, permittees, and interested publics.
April 2003	Received one written comment letter from interested publics related to assessment findings, issues, and development of alternatives.
June 2003	Mailing of Final Assessment and Determinations for Castlehead-Lambert and Jordan Valley allotments to permittees and interested publics.
June 2003 – October 2003	Conducted approximately 7 meetings with BLM staff (3), permittees (3), and interested publics (1) to discuss issues and develop alternatives.

4.2 List of Agencies, Organizations, and Individuals Consulted

BLM Interdisciplinary Contributing Team

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Ron Kay

Steve Leonard

Glen Secrist

Jenna Whitlock

Ranges West

Rangeland Management Specialist

Ranges West

Lower Snake River District Manager

Owyhee Field Office Manager

Permittees/ Consultants

Rand Collins

Dennis Stanford

Mike Stanford

Chad Gibson

Tribes

Shoshone-Paiute

Shoshone-Bannock

Castlehead-Lambert

Environmental Assessment

4.3 List of Preparers

John Biar	Rangeland Management Specialist
Valerie Geertson	Botanist
Mike Mathis	Wildlife Biologist
Matt McCoy	Ecologist
Lois Palmgren	Cultural Resources Specialist
Paul Seronko	Soil, Air, Water Management
Bruce Zoellick	Fisheries Biologist
Judi Zuckert	Outdoor Recreation Planner/Wilderness Coordinator

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6.0 Appendices

Appendix A. Proposed Stocking Densities by Alternative and Pasture, Castlehead-Lambert Allotment, Owyhee County, Idaho.

Pasture Name (Number)	Alternative B - No Change		Alternative C – Proposed Action		Alternative D – No Rest	
	AUMs	Stocking Density (acres/AUM)	AUMs	Stocking Density (acres/AUM)	AUMs	Stocking Density (acres/AUM)
Castlehead (1A)	981 (954) ^a	12.1 (12.4) ^b	365	13.0	258-331	14.3-18.3
Mountain (1B)			547	13.0	405-608	11.7-17.6
Carter (2)	801 (919)	10 (11.5)	639-730	12.6 -14.4	700-718	12.8-13.1
Red Basin (3)	816 (869)	13.9 (13)	894-905	12.5 -12.7	884	12.8
Lambert Table (4)	1001 (1084)	11.5 (10.8)	876-912	12.7-13.2	608-792	14.8-19.3
Horse Pasture (5)	57	32.5	146	12.7	Unknown	
TOTALS	2,181 – 3,162^c (2,939 – 3,162)		2,675 – 3,102^d		3,112 – 3,113	

^a average between 1986 and 2001 and between 1995 and 2001 (in parentheses).

^b for period between 1986 and 2001 and between 1995 and 2001 (in parentheses)

^c Total AUMs from 1986 and 2001 and from 1995-2001 (in parentheses) includes rest in either pasture 2, 3, or 4 in any year.

^d Totals do not include the 56 AUMs identified for Horse Use in the 06 Livestock Permit

Appendix B. Special status plants and habitats that may occur in the Castlehead-Lambert Allotment.

Species	Habitat	Status
Wetland or Mesic Species and Habitats		
<i>Angelica kingii</i> Nevada angelica	streambanks, wet meadows, moist aspen woods, springs	BLM Sensitive; type 3
<i>Damasonium californicum</i> fringed water plantain	vernal pools, mud flats, margins of intermittent streams or lakes	BLM Watch; type 5
<i>Downingia bacigalupii</i> Bacigalupi calico-flower	mud of vernal pools, lake margins, wet meadows, streambanks	BLM Sensitive; type 4
<i>Downingia insignis</i> calico-flower	mud of vernal pools, lake margins, wet meadows, streambanks	BLM Sensitive; type 3
<i>Epipactis gigantea</i> chatterbox orchid	hot or cold springs, typically calcareous	BLM Sensitive; type 3
<i>Haplopappus uniflorus</i> var. <i>howellii</i> plantain goldenweed	wet or dry meadows, often alkaline meadows	BLM Sensitive; type 4
<i>Lepidium davisii</i> Davis peppergrass	mostly barren, hard-bottomed playas	BLM Sensitive; type 3
<i>Phacelia minutissima</i> least phacelia	moist understory of false hellebore, aspen & tall forb communities	BLM Sensitive; type 2
Upland Species and Habitats		
<i>Astragalus yoder-williamsii</i> Mud Flat milkvetch	fine loamy soils in low sage, big sage, or rabbit brush communities	BLM Sensitive; type 3
<i>Dimeresia howellii</i> dimeresia	dry, rocky, cindery or gravelly soils; sparsely vegetated	BLM Sensitive; type 3
<i>Ipomopsis polycladon</i> spreading gilia	dry opens areas in sagebrush on sandy to silty soils	BLM Sensitive; type 3
<i>Lupinus uncialis</i> inch-high lupine	hills, bluffs, and level terraces in rhyolite or volcanic cinder	BLM Sensitive; type 4
<i>Nemacladus rigidus</i> rigid threadbush	sandy or cindery soils in desert shrub zone	BLM Sensitive; type 4
<i>Pediocactus simpsonii</i> var. <i>robustior</i> Simpson's hedgehog cactus	rocky or sandy benches or ridges in Wyoming or low sagebrush	BLM Watch; type 5
<i>Penstemon seorsus</i> short-lobe penstemon	dry plains and foothills; rocky	BLM Watch; type 5

Appendix C. Management Actions for ACECs (Owyhee RMP 1999), Castlehead-Lambert Allotment, Owyhee County, Idaho.

ACEC or Area Name	Pasture(s) Involved	Water Development				Livestock Management		Fencing		Juniper
		Springs	Pipeline	Wildlife	Reservoir	Salting	Grazing	Pasture	Exclosure	Juniper Cut/Burn
Owyhee River Bighorn Sheep Habitat Area ACEC	3, 4	P	P	R/P*	R/P*	R	R	R/P*	R/P*	P
The Badlands RNA/ACEC	3	R	P	P	P	P	R	P	R	P

*R – 7,913 acres, P – 1,746 acres. The prohibited (P) acres are actually outside the proposed allotment boundary (they occur in the area between the rim and the Owyhee River).

P – Prohibited. The specific water development, livestock management, fencing, juniper removal, and fire management actions are not allowed.

R – Restricted. Limitations apply to water developments, livestock management, fencing, juniper removal, fire management, and recreation use levels as described below.

Water developments. Allowed only where identified resource values (botanical, wildlife, scenic, cultural, watershed) will be enhanced or maintained and impacts can be mitigated.

Livestock management. Salt placement within and adjacent to the area will be considered on a site-specific basis for maximum protection of identified resource values. Domestic livestock grazing use (active preference) will not be increased within the area boundaries. Fencing may be necessary to exclude livestock in areas where degradation of identified resource values occurs.

Fencing. Allowed only where identified resource values (botanical, wildlife, scenic, cultural, watershed) will be enhanced or maintained and impacts can be mitigated.

Appendix D. Water Quality Restoration Plan for the Castlehead-Lambert Allotment.

A Portion of the Upper Owyhee River (HUC #17050104) Subbasin

Overview

Streams on the Castlehead-Lambert Allotment with perennial to intermittent flows include all or portions of: Beaver, Carter, Castle, Little Smith, Red Basin, Red Canyon, West Fork Red Canyon, East Fork Red Canyon, and Red Canyon creeks. Three streams draining small, low elevation basins with intermittent to ephemeral flows (Long Meadow, Porcupine, and Trap creeks) are also located in part in the Castlehead-Lambert allotment. All these streams are tributaries to the Owyhee River.

The Owyhee River canyon forms the southern boundary of the allotment, but the allotment does not include the river. West Fork Red Canyon and Red Canyon creeks form the western boundary of the allotment and they flow southwesterly to the Owyhee River (Map 1). Most streams within the allotment have their headwaters located on Juniper Mountain on the northern boundary of the allotment.

In 1998, two water bodies in the Castlehead-Lambert Allotment (in the upper Owyhee HUC# 17050104) were classified by the Environmental Protection Agency (EPA) under 303(d) of the Clean Water Act as water quality limited for the following reasons:

HUC #17050104

Castle Creek - Excessive sediment and elevated temperature

Red Canyon Creek – Elevated temperature

Designated beneficial uses of Red Canyon Creek include: cold water aquatic life, primary contact recreation, agricultural water supply, and aesthetics and wildlife habitat (IDAPA 58.01.02.140). All water bodies are required to meet Idaho water quality standards for designated beneficial uses within the State of Idaho. IDEQ (2003) also found the existing uses of Red Canyon Creek included salmonid spawning (of redband trout). Castle Creek has the following designated beneficial uses: water supply, aesthetics and wildlife habitat. Existing uses include salmonid spawning (redband trout), coldwater aquatic life, and primary or secondary contact recreation.

IDEQ (2003) concluded in the “Upper Owyhee Watershed Subbasin Assessment and Total Maximum Daily Load” that the beneficial uses of cold water aquatic life and salmonid spawning were impaired in Red Canyon Creek in the Castlehead-Lambert Allotment. Water quality in Castle creek was impaired because of excessive sediment and elevated stream temperatures. Additionally, BLM monitoring indicated water temperatures in Little Smith and East Fork Red Canyon creeks were elevated and not meeting State criteria for full support of the cold water biota beneficial use (USDI 2003a).

All pollutants listed in the 1998 303(d) list of impaired streams are from nonpoint sources originating on public, state or private lands within fifth order hydrologic units in the Upper Owyhee River subbasin of southwest Idaho (Map 1; Hydrologic Unit Code Map).

The above listed pollutants, with the exception of flow modification, are the result of streambank damage and loss of stream shade due to excessive levels of livestock grazing. Road crossings are a minor source of sediment (IDEQ 2003). The Upper Owyhee TMDL identifies management objectives for riparian habitats to address water quality restoration goals (DEQ 2003).

Recovery Goals and Objectives

The recovery goal is to comply with the Clean Water Act and Idaho Water Quality Standards for temperature, sediment, and bacteria on streams crossing public lands in the Castlehead-Lambert allotment and to meet load allocations set by IDEQ (2003) for water quality limited streams in the allotment.

IDEQ (2003) established a load allocation for streams in the Upper Owyhee River watershed that are impaired by sediment to have substrates composed of less than 30% fines (6mm in diameter), and a load allocation for temperature-impaired streams of greater than 80% stream shading.

Objectives include: improve herbaceous and woody species diversity, composition, density, vigor, cover, structure and root-mass; reduce streambank damage; reduce bacteria contamination of the streams.

The vegetation community components required to meet standards for temperature and sediment are expected to include:

- § Woody species density and canopy cover providing 80% or more stream shading (IDEQ 2003).
- § Streambanks predominantly vegetated with late-seral stage riparian shrubs and hydric herbaceous species such as Nebraska sedge and woolly sedge that stabilize streambanks and channels.

Restoration Plan

Best Management Practices (IDEQ-ISCC 1993) proposed to address the pollutant sources are as follows:

Castlehead-Lambert Allotment:

- § Pastures with streams and wetland habitats would either be grazed predominantly in spring with hot season use limited to one out of four years use, or two out of five years with grazing duration limited to 12 days of hot-season use during the years of hot-season grazing (Clary and Webster 1989, Myers 1989).

- § An exception would be Pasture 2, which would be grazed during the hot-season in two years out of five, but with a greater duration to the hot-season use (40 days in one year, and 34 days in another year). However, during one of the two years of hot season grazing, the use is from 8/20 to 9/23, when most stream segments in this pasture no longer have surface flows and the herbaceous riparian vegetation is cured. This should help limit livestock use of riparian plants to levels that are conducive to slow increases in plant density and cover that would contribute to improved water quality over the long-term
- § If portions of Little Smith and Castle creeks with incised channels and highly-erodible streambanks do not improve under the prescribed grazing system (two years of short-duration hot-season grazing out of five years of use), then additional management actions will be applied such as placing juniper revetments on eroding banks and planting sedges and willows, and/or stream segments will be fenced temporarily until highly-erodible streambanks are revegetated.
- § Utilization of bluebunch wheatgrass, or needlegrass, bottlebrush squirreltail, Idaho fescue or mountain brome would not exceed 50% of current year's growth at key areas in pastures as determined by the Quantitative Assessment Landscape Appearance Method (U.S. Bureau of Land Management 1996).
- § At least a 4-inch median stubble height would be attained for key hydric herbaceous species such as Nebraska sedge and woolly sedge at the end of the growing period in riparian areas along Beaver, Castle, Little Smith, East Fork Red Canyon, West Fork Red Canyon, Red Basin, and Red Canyon creeks (Clary and Webster 1989, Cowley 1992).
- § Utilization of key riparian browse vegetation would be measured in terms of incidence of use (Cowley 1992). The incidence of use on such shrubs as willow, alder and dogwood would not exceed 25% on those plants generally less than 3 feet in height in any given year on the above listed streams in the allotment.
- § Streambank damage attributable to livestock grazing would not exceed 10% on any stream segment in the Castlehead-LambertA.
- § Salt and supplement would not be placed within one quarter mile of riparian areas, springs, streams, meadows, aspen stands, playas, or water developments.
- § Seven spring wetland areas would be excluded from livestock grazing. At three of these springs, water would be piped to troughs for livestock use and the overflow returned to the wetland areas that are excluded from grazing.

The above described component practices are in compliance with the Natural Resources Conservation Service, Conservation Practice Standards for Prescribed Grazing, Code 528A.

Margin of Safety

How and to what extent the practice or group of practices is likely to reduce the pollutants and result in compliance with the Water Quality Standards:

- 1) Grazing riparian pastures (1A, 1B) during spring in three out of four years, or three out of five years with duration of hot-season grazing limited to 12 days, would greatly increase the density, cover, and vigor of riparian shrubs on streams in these pastures. In the year that streams in Pasture 1B are grazed for 28 days during the summer, livestock use of herbaceous riparian vegetation would likely be high and some bank alteration would occur, but overall trend in riparian shrub cover and shade and streambank stability would be upward because of grazing the streams in spring in three out of four years (Myers 1989).
- 2) Pasture 2 is the only pasture with streams and riparian habitats that would receive hot season grazing with a greater frequency than one in four years, and durations greater than 30 days. However, one year of hot-season grazing would occur during late August and September, when most stream segments in this pasture no longer have surface flows and the herbaceous riparian vegetation is cured. This should help limit livestock use of riparian plants to levels that are conducive to slow increases in plant density and cover that would contribute to improved water quality over the long-term. Livestock use levels and trend in stream condition would be closely monitored. If trend in riparian habitat condition is not upward with a grazing system of two years out of five years of hot-season grazing, then a new decision would be issued that limits the duration and frequency of hot season use to levels similar to that of other riparian pastures in the allotment.
- 3) Castle and Little Smith creeks would also be closely monitored to determine trends in streambank stability and vegetation cover. If segments with an incised channel and highly-erodible streambanks do not improve in condition, then additional management actions would be taken to improve the stream such as juniper revetments and restoration plantings to stabilize banks and/or temporary fencing to eliminate livestock use until streambanks are stable and well vegetated.
- 4) Streams grazed during the spring would have good potential for regrowth of willows and herbaceous riparian vegetation. This coupled with the retention of at least a 4-inch median stubble height on herbaceous riparian species, and 75% of the current years growth of key shrubs at the end of the grazing period, would insure improved herbaceous and woody riparian vegetation composition, vigor, cover, structure, density and root mass (Clary and Webster 1989, Kovalchik and Elmore 1992). Improved vegetation conditions would result in improved buffering of erosive forces of high flows and increased filtering of sediment allowing for bank stabilization and aggradation, and improved levels of shade. Streambank stability should improve, water infiltration and bank storage should increase, and water quality and fishery habitat should improve.

- 5) The narrowing and deepening of the streams associated with bank stabilization and channel aggradation along with improved stream cover (shade) would reduce water temperature thereby complying with or approaching compliance with the “Upper Owyhee Watershed Subbasin Assessment and Total Maximum Daily Load” (IDEQ 2003), as well as Standard 7 (Water Quality) for Rangeland Health.

Implementation Plan

The grazing system would be implemented in the year 2004. Fence construction to facilitate proper management of riparian areas is scheduled for 2004 and 2005. Construction of the pasture 1A and 1B division fence that would facilitate limited hot-season grazing in these two pastures is a priority. Construction of exclosures and spring developments would occur during 2005 and later.

Greenline transects and/or permanent photo trend sites (Cowley 1992, Winward 2000) will be established on Castle, Little Smith, East Fork Red Canyon, West Fork Red Canyon creeks in Pastures 1A and 1B, and on Beaver and Carter creeks in pasture 2, and Red Canyon Creek in pasture 3, beginning in the year 2004 to monitor progress towards meeting recovery goals and objectives.

Estimated Recovery Time

It is expected that a response to the management changes would be observed in as little as 5 years for some streams. Full recovery would be expected in 10 to 15 years on most streams that are functioning at risk. Those streams that are non-functioning or at the low end of the functioning at risk rating would be expected to take 20 years or more for full recovery.

Time frames for stream recovery in this area are based on observations of recovery times in nearby exclosures made by Riparian and Fisheries Specialists with the Lower Snake River District BLM.

Cumulative Impacts of Past, Present, and Future Management

It is expected that all streams in the Castlehead-Lambert Allotment would recover from past and present management under the proposed grazing management system. The Castlehead-Lambert Allotment comprises 5% of the upper Owyhee River hydrological unit (#17050104).

The proposed improved management on the Castlehead-Lambert Allotment will have the greatest affect on streams located entirely within the allotment; however, it will also deliver higher quality water to the Owyhee River.

The middle portions of several streams draining east and southward from Juniper Mountain are located within this allotment. The establishment of deep-rooted species such as sedge, rush, and

willow will help these stream segments to deepen and narrow and also increase stream shading, which will provide cooler water with less sediment and bacteria to downstream reaches.

Monitoring Plan

The greenline transect monitoring method, as described in Idaho DEQ's Water Quality Monitoring Protocols - Report No. 8" (Cowley 1992) and in Winward (2000), will be the primary monitoring tool.

Greenline transects and/or photo trend points will be established on Beaver, Carter, Castle, Little Smith, East Fork Red Canyon, Red Canyon, West Fork Red Canyon creeks beginning in the year 2004.

Livestock utilization of herbaceous and woody riparian species will be monitored periodically (U.S. Bureau of Land Management 1996, 1999).

Stream temperature will be monitored at 5 year intervals, or as deemed necessary to gather background data and to determine compliance with Idaho Water Quality Standards.

Functioning Condition assessments of streams on the Castlehead-Lambert allotment will be conducted at 10 year intervals or when a change in functioning condition is apparent, whichever comes sooner.

All monitoring is subject to future funding and available personnel.

Maps