BUREAU OF LAND MANAGEMENT – IDAHO – BOISE DISTRICT – OWYHEE FIELD OFFICE

Morgan Group Allotments Livestock Grazing Permit Renewal Preliminary Environmental Assessment

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Idaho BLM NEPA Permit Renewal Team

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1 INTRODUCTION

1.1 Title

Morgan Group Allotments Livestock Grazing Permit Renewal Preliminary Environmental Assessment

1.2 Name and Location of Preparing Office

Bureau of Land Management
Idaho State Office
1387 S. Vinnell Way
Boise, ID 83709

1.3 Background/History

This Environmental Assessment (EA) has been prepared to analyze the impacts of renewing livestock grazing permits for a term of 10 years on 19 allotments in Owyhee County, Idaho. The 19 allotments are all within the Owyhee Field Office of the Bureau of Land Management (BLM) Boise District, are a portion of the Owyhee 68 allotments, and are known as the Morgan Group or Group 5. The allotments that constitute the Morgan Group are: Bachelor Flat Fenced Federal Range (FFR; 0640), Berrett FFR (0609), Big Field FFR (0594), Bogus Creek FFR (0577), Boulder (0509), Boulder Flat (0526), Combination Creek (0595), Feltwell (0544),Glass Creek (0552), Gluch (0553), Gluch FFR (0466), Jim's Peak FFR (0576), Morgan (0505), Rail Creek FFR (0627), South Mountain Ind. (0600), West Maher FFR (0567), Walt's Pond FFR (0659), Warn (0596), and Wroten (0597) (Map GEN-1, GEN-2, RNGE-1, RNGE-2).

The BLM Owyhee Field Office has prioritized and grouped allotments to fully process and renew grazing permits in accordance with the Order Approving Stipulated Settlement Agreement (United States District Court for the District of Idaho Case 1:97-CV-00519-BLW) dated June 26, 2008. The agreement defined a schedule for completing the required environmental analyses and to issue final decisions and grazing permits for a number of allotments.

The 19 Morgan Group allotments in this EA, which are under the purview of the Owyhee Field Office, are located adjacent to one another within the northern portion of Owyhee County, Idaho. They occupy the central portions of the Owyhee Mountains south-southeast of Jordan Valley, Oregon. Elevations range from around 4,458 feet in the Gluch FFR allotment to 7,339 feet in the Jim's Peak FFR allotment.

Applications for renewal of grazing permits for use in these 19 allotments have been received by BLM from permittees who are currently authorized to graze livestock in these allotments. Renewed grazing permits would be in conformance with the Owyhee Resource Management Plan (ORMP) (USDI BLM 1999a), ensure compliance with the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (Idaho S&Gs) adopted in 1997 (Appendix A), and comply with 43 CFR 4100—Grazing Administration. Federal actions must be analyzed in accordance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations to determine potential environmental consequences.

Fenced Federal Range Allotments
Depending on the resource values identified on public lands, most FFR allotments in the Owyhee Field Office are identified as Category C allotments (see definition below). The ORMP classifies a number of FFR allotments in the M and I categories, but all of the Morgan Group FFR allotments are identified as Category C allotments. Resource management and grazing administration of these allotments is associated with the public lands only. All allotments are managed the same way, although Category C

allotments are given a lower priority for renewal of associated grazing permits, and fewer resources (i.e., funding for range improvements and personnel for monitoring) are expended for management. This is due to the amount of return that the investment would provide. For example, it is more cost effective for the BLM to provide more intensive monitoring and range improvement efforts on larger allotments with a significant amount of public land (e.g., 10,000 acres) and sensitive habitat than to spend a large amount of funding on small areas of public land (e.g., 50 acres) with no habitat, as noted below in Category C.

Guidance (Handbook 1740-1; Appendix 1, Illustration 3) assigning allotments to one of the three categories, and in accordance with Instruction Memorandum 2009-018, is intended to help field offices determine priorities for focusing staff and fiscal resources when processing grazing permits and leases. IM-WO-2009-018 defines the management categories as follows:

> Category I: Allotments where current livestock grazing management or level of use on public land is, or is expected to be, a significant causal factor in the non-achievement of land health standards, or where a change in mandatory terms and conditions in the grazing authorization is or may be necessary. When identifying Category I allotments, review condition of critical habitat, conflicts with sage-grouse, and whether projects have been proposed specifically for implementing the Healthy Lands Initiative.
>
> Category M: Allotments where land health standards are met or where livestock grazing on public land is not a significant causal factor for not meeting the standards and current livestock management is in conformance with guidelines developed by the State Directors in consultation with Resource Advisory Councils. Allotments where an evaluation of land health standards has not been completed but existing monitoring data indicate that resource conditions are satisfactory.
>
> Category C: Allotments where public lands produce less than 10 percent of the forage in the allotment or are less than 10 percent of the land area. An allotment should generally not be designated Category C if the public land in the allotment contains 1) critical habitat for a threatened or endangered species, or 2) wetlands negatively affected by livestock grazing.

The BLM currently manages FFR allotments as Category C allotments where it has been determined that livestock grazing management practices are compatible to meet Idaho Rangeland Health Standards and Guidelines and/or where ORMP management objectives are being achieved. In cases where rangeland health standards or RMP objectives are not being met or making progress toward being met, the BLM may change allotment categorizations to I or M.

Lands Involved

The following table displays the lands involved in the Morgan Group allotments. The allotments include 29,766 acres of BLM lands, 13,407 acres of private lands, and 14,861 acres of state lands, for a total of 58,033 total acres within the allotments.

Table ALLOT-1: Lands in the Morgan Group allotments

Meridian	Township	Range	Sections	Acres PD
Boise	6S	4W	30-33	58,033
	6S	5W	19-23, 25-36	
	6S	6W	2,3, 10, 11, 13-15, 22-26, 35, 36	
	7S	4W	4-29, 34-36	
	7S	5W	1-34	
	7S	6W	1, 2, 11-15, 22-27, 34-36	
	8S	3W	6, 7, 17-21, 28-32	
	8S	4W	1, 2, 11-14, 19, 23-26, 35, 36	
	8S	5W	4, 5, 11-15, 22-25	
	8S	6W	2	
	9S	3W	6	
	9S	4W	1	
Oregon	30S	46E	25, 36	
	30S	47E	30, 31	
	31S	46E	1, 2, 11, 12	
	31S	47E	6, 7	
	32S	46E	1-17, 20-23, 26-28, 34, 35	

Determinations

The Idaho Bureau of Land Management uses the Standards for Rangeland Health and Guidelines for Livestock Grazing Management, to ensure healthy and productive federal lands (Appendix A). Rangelands should be meeting the Standards or making significant progress toward meeting the Standards. Each allotment was evaluated to identify whether it was meeting or making significant progress toward meeting Idaho Rangeland Health Standards and if not meeting, whether current livestock grazing was a significant causal factor for its failure to meet any of the Standards. Table ALLOT-2 summarizes the determinations for the Morgan Group allotments by the BLM management unit. As required by 43 CFR 4180, these determinations of standards also disclose whether current (past 10 years) grazing management practices or levels of grazing use on public lands managed by the BLM are significant contributing factors in the allotment's failure to achieve the Standards for Rangeland Health and conform with the guidelines for livestock grazing management established for public lands managed by the BLM in Idaho.

The eight Standards are: Standard 1—Watersheds; Standard 2-Riparian Areas and Wetlands; Standard 3––Stream Channel/Floodplain; Standard 4—Native Plant Communities; Standard 5—Seedings; Standard 6—Exotic Plant Communities Other Than Seedings; Standard 7—Water Quality; and Standard 8—Threatened and Endangered Plants and Animals. If the allotment was failing to meet any one of the eight Standards, BLM concluded that the whole allotment was therefore not meeting the Standard. The signed determinations and findings are in Appendix E.

Table ALLOT-2: Determinations of rangeland conditions by allotment

	Are Rangeland Health Standards Being Met? (Yes/No/MP/NA)[1]								
Allotment Name	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Significant Causal Factors in not meeting the Standards and additional information[1]**
Bachelor Flat FFR	No*	Yes	Yes	No	NA	NA	No	No	4- Historic livestock grazing, wildfire and exotic vegetation; 1-Current livestock grazing 7- mercury; not attributed to livestock 8 (w)– Historic livestock grazing, invasive annuals, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout, Columbia spotted frog.
Berrett FFR	No*	No*	No*	No	NA	NA	Yes	No*	1, 2, 3, 8 - Current livestock grazing, streams and springs condition; 4- Historic livestock grazing, exotic vegetation; 8 (w) – Historic and current livestock grazing, invasive annuals; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout.
Big Field FFR	No*	No*	No*	No	NA	NA	NA	No*	1, 2, 3 - Current livestock grazing, streams and springs condition; 4 - Historic livestock grazing, exotic vegetation; 8 (p)- Exotic vegetation; 8 (w) – Historic and current livestock grazing; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout.
Bogus Creek FFR	No*	No*	No*	No	NA	NA	NA	No*	1, 2, 3 - Current livestock grazing, streams and springs condition; 4 - Historic livestock grazing, exotic vegetation, juniper encroachment; 8 (w) – Historic and current livestock grazing, juniper encroachment, invasive annuals; upland and riparian habitat conditions, habitat conditions for Columbia spotted frog.
Boulder	No*	No*	No*	No*	NA	NA	No	No*	1, 4 - Current and historic livestock grazing and exotic vegetation; 2, 3 - Current livestock grazing, streams and springs condition; 7- mercury 8 (w) - Historic and current livestock grazing, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse, Columbia spotted frog.
Boulder Flat	No*	No*	No*	No	NA	NA	No	No*	1- Current and historic livestock grazing and exotic vegetation; 4 - Historic livestock grazing, exotic vegetation; 2, 3 - Current livestock grazing, streams and springs condition; 7- mercury 8 (w) - Historic and current livestock grazing, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout, Columbia spotted frog.
Combination Creek	No	No*	No*	Yes	NA	NA	NA	No*	2, 3 - Current livestock grazing, streams and springs condition; 1 - Historic livestock grazing; juniper encroachment; 8 (w) – Historic and current livestock grazing; riparian habitat conditions.
Feltwell	No*	No*	No*	No	NA	NA	No*	No*	1, 2, 3, 7 - Current livestock grazing, streams and springs condition; 4 - Historic livestock grazing, exotic vegetation; 8 (w) - Historic and current livestock grazing, invasive annuals; upland and riparian habitat conditions.

	Are Rangeland Health Standards Being Met? (Yes/No/MP/NA)[1]								
Allotment Name	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Significant Causal Factors in not meeting the Standards and additional information[1]**
Glass Creek	No*	Yes	Yes	No*	Yes	NA	No*	No*	1,4,7 – Current and historic livestock grazing and exotic vegetation; 8 (w) - Historic and current livestock grazing, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout.
Gluch	Yes	NA	NA	Yes	NA	NA	No	Yes	7- DEQ 303(d) streams
Gluch FFR	No*	NA	NA	No	NA	No*	No	No*	1, 4, – Current and historic livestock grazing and exotic species, soil conditions; 7- DEQ 303(d) streams 8(w) - Historic and current livestock grazing, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse.
Jim's Peak FFR	No*	No*	No*	No	NA	NA	No*	No*	1, 2, 3, 7 - Current livestock grazing, streams and springs condition; 4 - Historic livestock grazing, exotic vegetation; 8 (w) - Historic and current livestock grazing, invasive annuals; upland and riparian habitat conditions.
Morgan	No*	Yes	Yes	No	NA	NA	No	No*	1, 2, 3 - Current livestock grazing, streams and springs condition; 7- mercury, flow alteration 4 - Historic livestock grazing, exotic vegetation; 8 (w) - Historic and current livestock grazing, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout, Columbia spotted frog.
Rail Creek FFR	No	No*	No*	No	NA	NA	No	No*	2, 3 - Current livestock grazing, streams and springs condition; 7- mercury 1, 4 - Historic livestock grazing, exotic vegetation; 8 (w) - Historic and current livestock grazing, invasive annuals; upland and riparian habitat conditions, habitat conditions for Columbia spotted frog.
South Mountain Ind.	No*	No*	No*	No	NA	NA	No	No*	1, 2, 3 - Current livestock grazing, streams and springs condition; 7- mercury 4 - Historic livestock grazing, exotic vegetation and juniper encroachment; 8 (w) - Historic and current livestock grazing; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout, Columbia spotted frog.
West Maher FFR	No*	No*	No*	No	NA	NA	No*	No*	1, 2, 3, 7 - Current livestock grazing, streams and springs condition; 4 - Historic livestock grazing, exotic vegetation; 8 (w) - Historic and current livestock grazing, invasive annuals, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse.
Walt's Pond FFR	No*	No*	No*	No	NA	NA	No	No*	1, 2, 3 - Current livestock grazing, streams and springs condition; 7- flow alteration 4 - Historic livestock grazing, exotic vegetation; 8 (w) - Historic and current livestock grazing, invasive annuals, water quality; upland and riparian habitat conditions, habitat conditions for sage grouse, redband trout.

	Are Rangeland Health Standards Being Met? (Yes/No/MP/NA)[1]								
Allotment Name	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Significant Causal Factors in not meeting the Standards and additional information[1]**
Warn	No*	No*	No*	Yes	NA	NA	No*	No*	1, 2, 3, 7 - Current livestock grazing, streams and springs condition; 8 (w) - Current livestock grazing, water quality; riparian habitat conditions.
Wroten	Yes	No*	No*	Yes	NA	NA	No*	No*	2, 37 - Current livestock grazing, stream and spring condition; 8 (w) - Historic and current livestock grazing; upland and riparian habitat conditions, habitat conditions for sage grouse.

N/A – Not applicable; MP-Making Significant Progress; * Current livestock grazing is a causal factor

[1](p): plants; (w): wildlife; Standards: 1 Watersheds; 2 Riparian Areas and Wetlands; 3 Stream Channel/Floodplain; 4 Native Plant Communities; 5 Seedings; 6 Exotic Plant Communities, other than Seedings; 7 Water quality; 8 Threatened and Endangered Plants and Animals

Background and History by Allotment

Table ALLOT-3: Allotment acres by land ownership (based on GIS data)

Allotment	BLM Acres	Private Acres	State Acres	Total Acres
Bachelor Flat FFR	915	1,076	198	2,189
Berrett FFR	886	2,065	2,077	5,028
Big Field FFR	1,044	1,712	0	2,756
Bogus Creek FFR	421	19	6,909	7,349
Boulder	1,825	160	7	1,993
Boulder Flat	3,950	35	440	4,425
Combination Creek	3,142	43	1,019	4,204
Feltwell	1,033	740	47	1,820
Glass Creek	1,627	130	0	1,756
Gluch	243	18	0	261
Gluch FFR	751	726	1,722	3,200
Jim`s Peak FFR	1,042	1,508	45	2,595
Morgan	4,733	218	510	5,462
Rail Creek FFR	124	1,857	1,033	3,015
South Mountain Individual	3,517	158	842	4,517
W. Maher FFR	808	633	0	1,442
Walt's Pond FFR	1,320	2,174	11	3,505
Warn	674	0	0	674
Wroten	1,710	135	0	1,845
Morgan Group Total	29,766	13,407	14,861	58,033

1.3.1 Bachelor Flat FFR Allotment

The Bachelor Flat FFR allotment is approximately 13 miles southwest of Silver City, Idaho, in Owyhee County. The allotment is composed of two pastures. The northern pasture is associated with private lands along Big Boulder Creek and the southern pasture is associated with private lands along Old Man Creek. The allotment is in USDA Natural Resource Conservation Service Major Land Resource Area 25, Owyhee High Plateau. The allotment encompasses public, State and private lands totaling approximately 2,189 acres.

Elevations range from 4,600 to 5,100 feet. The annual precipitation ranges from 11 to 15 inches and the frost-free periods range from 75 to 120 days. The major landforms in the area are categorized as structural benches, foothills, and bottomlands. Soils are commonly moderately deep to hardpan loams with a slope of 1 to 35 percent. The hazard of water erosion is slight or moderate. The hazard of wind erosion is moderate. Common vegetation includes low sagebrush (*Artemisia arbuscula*), Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and mountain big sagebrush (*Artemisia tridentata*) with an occasional western juniper (*Juniperus occidentalis*).

In the ORMP (1999), the Bachelor Flat FFR allotment was placed in the *Improve with low priority* Selective Management Category. Improve allotments are managed with adequate expenditure of funding and manpower to improve current unsatisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 127 animal unit months (AUMs) of active preference for livestock grazing.

1.3.2 Berrett FFR Allotment

In the Owyhee Resource Management Plan, the Berrett FFR allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or

make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 114 AUMs of active preference for livestock grazing.

1.3.3 Big Field FFR Allotment

In the ORMP, the Big Field FFR allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or make progress in meeting the Idaho Standards for Rangeland Health. The ORMP identified 147 AUMs of active preference for livestock grazing.

1.3.4 Bogus Creek FFR Allotment

The Bogus Creek FFR allotment is located approximately 15 miles southwest of Silver City. In the 1999 Owyhee Resource Management Plan (ORMP), the Bogus Creek FFR allotment was placed in Selective Management Category Custodial. Custodial allotments are managed with minimal expenditure of appropriated funds and continuation of existing resource values protection. They must also meet or make progress in meeting the Idaho Standards for Rangeland Health. The RMP identified 24 animal unit months of active preference for livestock grazing.

One existing grazing permit authorizes livestock grazing use of the Bogus Creek FFR allotment with a current total permitted use of 24 animal unit months (AUMs)[1], of which all are active use and none are suspension AUMs. Although the existing permit identifies a season of use between 12/1 and 12/31, it also includes a term and condition that the number of livestock and season of use within the allotment is at the permittee's discretion. Recent actual use data annually provided by the permittee indicate that the allotment is typically used beginning in late April and extending to late December.

In the Owyhee Resource Management Plan, the Bogus Creek FFR allotment was placed in the *Custodial* Selective Management Category. Custodial allotments are managed with minimal expenditure of appropriated funds and continuation of existing resource values protection. They must also meet or make progress in meeting the Idaho Standards for Rangeland Health. The ORMP identified 24 AUMs of active preference for livestock grazing.

1.3.5 Boulder Allotment

The Boulder Allotment is approximately 15 miles south of Silver City, Idaho, in Owyhee County, and is composed of two pastures totaling 1,993 acres of public, private, and state lands (Table ALLOT-3). The elevations on the allotment range from 5,100 to 5,900 feet. The major landforms in the areas are foothills, tablelands, and structural benches. The general area is undulating to steep with clayey and loamy, well drained, cool, shallow, and moderately deep soils. The soils formed in residuum and alluvium derived from welded rhyolitic tuff, breccia, and basalt. The annual precipitation is 13 to 18 inches and the frost-free period is 60 to 95 days (Appendix F). Vegetation production and accessibility is limited by depth to hardpan, depth to bedrock, low available water capacity, restricted permeability, slope, stones on surface and short frost-free period. Low sagebrush and Idaho fescue are the dominate vegetation species in plant communities found on the more shallow soils. Mountain sagebrush, bluebunch wheatgrass, and Idaho fescue are generally found on deeper soils.

In the Owyhee Resource Management Plan, the Boulder allotment was placed in the *Improve with medium priority* Selective Management Category. Improve allotments are managed with adequate expenditure of funding and manpower to improve current unsatisfactory resource conditions. The allotment must meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 225 AUMs of active preference for livestock grazing.

[1] One animal unit month (AUM) is the amount of forage necessary for the sustenance of one cow or its equivalent for a period of one month.

1.3.6 ***Boulder Flat Allotment***

The Boulder Flat allotment is approximately 12 miles southwest of Silver City, Idaho, in Owyhee County. The allotment is in United States Deparment of Agriculture (USDA) Natural Resource Conservation Service Major Land Resource Area 25, Owyhee High Plateau. The allotment encompasses public, state, and private lands totaling approximately 4,425 acres.

The allotment elevations range from 4,600 to 5,180 feet. The annual precipitation ranges from 11 to 18 inches and the frost-free period ranges from 60 to 105 days. The major landforms in the allotment are categorized as tablelands and canyons. The soils are rubbleland, rock outcrop, pachic argixerolls in the canyons and stony loams on the tablelands. Slopes range from 3 to 50 percent. The water erosion hazard is slight to high. The wind erosion hazard is slight to moderate. Common vegetation includes mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, and an occasional western juniper.

In the ORMP, the Boulder Flat allotment was placed in the *Maintain* Selective Management category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 344 AUMs of active preference for livestock grazing.

1.3.7 ***Combination Creek Allotment***

The Combination Creek allotment lies 15 miles south of Silver City, Idaho in Owyhee. Elevations range from 4,700 to 6,100 feet. The major land forms in the allotment are foothills, tablelands and structural benches. The general area is undulating to steep with loamy, well drained, cool, shallow, and moderately deep soils. The soils formed in residuum and colluvium derived from welded rhyolitic tuff. The annual precipitation is 13 to 18 inches and the frost-free period is 60 to 90 days. Vegetation production and accessibility is limited by slope, depth to bedrock, very low available water capacity, stones on surface, hazard of water erosion on steeper slopes, and a short frost-free period. Low sagebrush and Idaho fescue are the dominant species in plant communities found on the more shallow soils. Mountain sagebrush, bluebunch wheatgrass, and Idaho fescue are generally found on deeper soils.

In the 1999 ORMP, the Combination Creek allotment was placed in the *Improve with medium priority* Selective Management Category. Improve allotments are managed with adequate expenditure of funding and manpower to improve current unsatisfactory resource conditions. The allotment must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 410 AUMs of active preference for livestock grazing.

1.3.8 Feltwell Allotment

In the ORMP, the Feltwell allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 279 AUMs of active preference for livestock grazing.

1.3.9 ***Glass Creek Allotment***

The Glass Creek allotment is approximately 5 miles south of Jordan Valley, Oregon. It is located southwest of Silver City and north of South Mountain (Glass Creek Map GEN-1) and is part of the South Mountain Core Area. Elevations range from 4,500 to 4,800 feet. The terrain varies from flat lowlands to rolling hills and steep side slopes. Most landform features are rhyolitic in origin and consist of valley bottomlands, foothills, and perennial and ephemeral drainages.

The allotment is within USDA Major Land Resource Area, D 25—Owyhee Uplands. The majority of the soils in the allotment are shallow to moderately deep and well drained. Soils are clayey to loamy and vary in surface and subsurface rock fragments. These soils formed in residuum and alluvium derived predominantly from welded rhyolitic tuff. The area is primarily represented by Loamy 11-13" ecological sites with basin big sagebrush/bluebunch wheatgrass plant communities and Shallow Claypan 12-16" ecological sites with low sagebrush, bluebunch wheatgrass, and Idaho fescue plant communities. A 1981 prescribed fire burned approximately 550 acres, most of which were within pasture 1. The burned area was drill seeded with crested wheatgrass (*Agropyron cristatum*), alfalfa (*Medicago sativa*), yellow sweet clover (*Melilotus officinalis*), and four-wing saltbush (*Atriplex canescens*).

Prior to1981 cattle and horses grazed the allotment annually between April 1 and July 31. Additionally, numerous bands of sheep was authorized to trail from Oregon in the spring to summer near South Mountain, returning to Oregon in the fall along the same route.
The original Glass Creek allotment was adjudicated at 11.45 acres/ AUM, not including sheep trailing use. When the allotment was divided in November 1967, Ray Gluch was permitted 65 AUMs for cattle and horses, and Vernon Warn was permitted 74 AUMs for cattle (controlled by Terry Warn since 1966). The season of use at adjudication in 1965 was April 1 to July 31 for Ray Gluch and April 16 to June 30 for Vernon Warn.

The 1981 Grazing Decision specified early spring (4/16-5/4), mid-spring (4/16-5/25), summer (8/1-8/20), late summer (8/1-9/10) use, and a rest treatment in a 5-year rotation for the 2 pastures. The rest treatment in a 5-year rotation was intended to eliminate annual same-season use.

A 1981 prescribed fire burned approximately 550 acres in the northern portion of the allotment. The burned area was re-seeded the same year, and a protective fence was built on the south end of the fire, dividing the Glass Creek allotment into two pastures. The seeding was rested and permitted use was reduced for 2 years to allow establishment of the seeding. The plant communities in the remainder of the allotment (pasture 2) consist of low sagebrush with an understory of native perennial grasses.

Between 1983 and 1990, cattle grazing occurred in pasture 1 from April 15 to May 31 annually. Pasture 2 grazing occurred in a deferred rotation from April 15 to July 8 the first year, and August 1 to October 15 the second year. However, this deferred grazing rotation was not consistently followed. Horse use occurred every year during the summer months (July and August) in pasture 2. The April 15 turnout date was retained until 1994, when it was modified to an April 1 turnout. Between 1983 and 1990, temporary non-renewable (TNR) was authorized in the pasture 1 seeding, when production conditions permitted. TNR was authorized occasionally in pasture 2 also.

In 1991, the summer horse use was discontinued. Season of use authorized in pasture 1 was similar to the previous authorization. Pasture 2 has been rested from grazing for 9 out of the 13 years from 1991 to 2004. During this same period, two bands of Mackenzie Ranch sheep have been permitted to continue to follow the traditional sheep trail route, overnighting in the Glass Creek allotment en route to Flint Creek in the spring and returning in the fall.

In the ORMP, the Glass Creek allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 139 AUMs of active preference for livestock grazing.

1.3.10 ***Gluch Allotment***

The Gluch allotment is approximately 6 miles south of Jordan Valley, Oregon, along the Idaho-Oregon state line, just south of the Pleasant Valley School, and is part of the South Mountain Core Area. Elevations range from 4,540 to 4,560 feet, the terrain is flat to rolling, and most landform features are rhyolitic in origin and consist of valley bottomlands and rolling hills.

The allotment is within the USDA Major Land Resource Area, D 25. The majority of the soils in the allotment are shallow to moderately deep and well drained. Soils are clayey to loamy and vary in surface and subsurface rock fragments. These soils formed in residuum and alluvium derived predominantly from welded rhyolitic tuff. The associated ecological sites consist primarily of Loamy 11-13" with a basin big sagebrush and bluebunch wheatgrass plant community, and Shallow Claypan 12-16" with a low sagebrush, bluebunch wheatgrass, Idaho fescue plant community.

The Gluch allotment is one management unit and is not divided into pastures. The allotment consists of 261 acres, of which 243 acres are BLM administered public lands and 18 acres are privately owned; there are no state lands in this allotment.

The BLM issued a proposed decision dated December 29, 1981, that reduced the active AUMs in the Gluch allotment from 128 to 98. A final decision was issued on December 29, 1982, and an amended final decision on September 21, 1984. The Supplement split the former Robert Gluch Individual allotment into the current Gluch (0553) and Gluch FFR (0466) allotments. Under the amended final decision, the new Gluch allotment was authorized for 50 AUMs of permitted use and the Gluch FFR allotment was authorized 105 AUMs of permitted use. Total licensed use ranged between 128 and 131 AUMs from 1975 to 1982. Total actual use ranged between 30 and 82 AUMs from 1985 to 2005, averaging 49 AUMs (see Appendix B).

Prior to 1982, the grazing authorization included a season of use from April 1 to July 31 with 32 cow/calf pairs. The 1982 Decision specified a season of use from April 16 to November 15 with deferred grazing treatments. The Amended 1984 Final Decision authorized the implementation of the Gluch allotment Management Plan (AMP), which outlined a 2-year deferred grazing rotation of spring use (4/16-6/15) the first year, followed by late summer-fall use (8/1-11/15) in the second year. Although the Amended 1984 Final Decision and AMP prescribed a 2-year deferred grazing rotation, the allotment has been grazed early (March and April) spring annually.

In the ORMP, the Gluch allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 50 AUMs of active preference for livestock grazing.

1.3.11 ***Gluch FFR Allotment***

The Gluch FFR allotment is approximately 4 miles south of Jordan Valley, Oregon, crosses the Idaho-Oregon state line, and is part of the South Mountain Core Area. Elevations range from 4,500 to 4,600 feet. The terrain is flat to rolling. Most landform features are rhyolitic in origin, consisting primarily of valley bottomlands and rolling hills.

The allotment is within USDA Major Land Resource Area, D 25. The majority of the soils in the allotment are shallow to moderately deep and well drained. Soils are clayey to loamy and vary in surface and subsurface rock fragments. These soils formed in residuum and alluvium that were derived predominantly from welded rhyolitic tuff. The associated ecological sites consist primarily of Loamy 11-13" (basin big sagebrush, bluebunch wheatgrass community) and Shallow Claypan 12-16" (low sagebrush, bluebunch wheatgrass, Idaho fescue community).

The Gluch FFR allotment is one management unit and is not divided into pastures. The allotment consists of approximately 3,200 acres, of which 751 are BLM administered public lands, 1,722 are state lands, and 726 are private (Gluch FFR Map GEN-1). In 1983, a prescribed fire burned approximately 150 acres in this allotment; it was re-seeded with crested wheatgrass, which did not establish well and remains scattered throughout the current native plant community.

The BLM issued a proposed decision reducing the active AUMs in the Gluch allotment from 128 to 98 dated December 29, 1981. A final decision was issued on December 29, 1982 and an amended final decision on September 21, 1984. The Supplement split the former Robert Gluch Individual allotment into the current Gluch (0553) and Gluch FFR (0466) allotments. Under the amended final decision, the new Gluch allotment was authorized for 50 AUMs of permitted use and the Gluch FFR allotment was authorized 105 AUMs of permitted use.

Total actual and licensed use on the Idaho portion of the Gluch FFR allotment ranged between 49 and 105 AUMs from 1990 to 2006 and averaged 70 AUMs (Appendix B). Levels of use under the State of Oregon lease on the Oregon portion of the Gluch FFR allotment are not documented. The proposed decision outlining livestock grazing was issued on September 21, 1984 and identified the season of use and grazing management in Gluch FFR allotment as discretionary, with exception to utilization levels stipulated not to exceed 50 percent of the current year's growth. The season of use identified on the grazing permit is December 1-31 for billing purposes only, allowing the permittee to grazing cattle any time during the grazing year (3/1-2/28) at the permittee's discretion.

In the ORMP, the Gluch FFR allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 105 AUMs of active preference for livestock grazing.

1.3.12 Jim's Peak FFR Allotment

In the ORMP (1999), the Jim's Peak FFR allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 56 AUMs of active preference for livestock grazing.

1.3.13 ***Morgan Allotment***

The Morgan allotment lies approximately 20 miles west of Silver City, Idaho, in Owyhee County. The elevations on the allotment range from 4,700 to 5,800 feet. The major landform in the area is categorized as mountains. The general area is rolling to steep with clayey, well drained, cool, moderately deep to very deep soils that formed in residuum and slope alluvium derived from basalt and welded rhyolitic tuff. The annual precipitation is 13 to 17 inches and the frost-free period is 30 to 70 days. Vegetation production and accessibility is limited by slope, depth to bedrock, very low available water capacity, restricted permeability, stones on surface, hazard of water erosion on steeper slopes, and a short frost-free period. Low sagebrush and Idaho fescue are the dominant species in plant communities found on the more shallow soils. Mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, and scattered western juniper are generally found on deeper soils. The allotment consists of approximately 4,733 acres of BLM lands, 510 acres of state lands, and 218 acres of private lands, and is divided into four pastures.

In the ORMP, the Morgan allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for

current satisfactory resource conditions. The allotment must meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 446 AUMs of active preference for livestock grazing.

1.3.14 Rail Creek FFR Allotment

In the ORMP, the Rail Creek FFR allotment was placed in the *Custodial* Selective Management Category. Custodial allotments are managed with minimal expenditure of appropriated funds and continuation of existing resource values protection. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 13 AUMs of active preference for livestock grazing.

1.3.15 ***South Mountain Individual Allotment***

The South Mountain Individual allotment lies approximately 12 miles southwest of Silver City, Idaho, in Owyhee County. The allotment is composed of two separated pastures. The allotment is in USDA Natural Resource Conservation Service Major Land Resource Area 25, Owyhee High Plateau. The allotment consists of 4,518 acres of public, state, and private lands in two pastures.

The elevations of the allotment range from 4,900 to 5,400 feet. The major landforms are foothills, tablelands, and mountains. The general area is undulating moving toward steep with clayey and loamy, well drained, cool, moderately deep to very deep soils that formed in residuum and slope alluvium derived from basalt, breccia, and welded rhyolitic tuff. The annual precipitation is 13 to 18 inches and the frost-free period is 30 to 95 days. Vegetation production and accessibility is limited by slope, depth to bedrock, very low available water capacity, restricted permeability, stones on surface, hazard of water erosion on steeper slopes, and short frost-free period. Low sagebrush and Idaho fescue are the dominant species in plant communities found on the more shallow soils. Mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, and scattered western juniper are generally found on deeper soils.

In the 1999 ORMP, the South Mountain Individual allotment was placed in the *Improve with low priority* Selective Management Category. Improve allotments are managed with adequate expenditure of funding and manpower to improve current unsatisfactory resource conditions. The allotment must meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 511 AUMs of active preference for livestock grazing.

1.3.16 ***Walt's Pond FFR Allotment***

The Walt's Pond FFR allotment is approximately 15 miles southwest of Silver City, Idaho, in Owyhee County. The elevation of the allotment ranges from 4,500 to 5,600 feet. The allotment is in USDA Natural Resource Conservation Service Major Land Resource Area 25, Owyhee High Plateau. The annual precipitation ranges from 13 to 17 inches and the frost-free periods range from 70 to 95 days. The major landforms in the area are categorized as canyons in pasture 1 and foothills in pasture 2. The soils in pasture 1 are moderately deep to very deep and are rubbleland, rock outcrop, and pachic argixerolls. Pasture 2 soils are moderately deep to deep loams, stony loam, gravelly loam, and sandy loam. Soil slopes range from 5 to 50 percent. The water erosion hazard is slight to high. The wind erosion hazard is moderate. Low sagebrush and Idaho fescue are dominant species in plant communities found on the shallower soils. Basin big sagebrush, Idaho fescue, bluebunch wheatgrass, and an occasional juniper are found on deeper soils.

In the ORMP, the Walt's Pond FFR allotment was placed in the *Custodial* Selective Management Category. Custodial allotments are managed with minimal expenditure of appropriated funds and continuation of existing resource values protection. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 76 AUMs of active preference for livestock grazing.

1.3.17 ***Warn Allotment***

The Warn allotment is approximately 14 miles south of Jordan Valley, Oregon, southwest of Silver City, and west of South Mountain (Warn Map GEN-1). It is part of the South Mountain Core Area. Elevations on the allotment range from 5,000 to 5,700 feet. The terrain is flat to rolling to fairly steep. Most landform features are rhyolitic in origin and consist of gently sloping hills to fairly steep foothills and ridges.

The allotment is within USDA Major Land Resource Area D 25—Owyhee High Plateau. The majority of the soils in the allotment is shallow to moderately deep, well drained, clayey to loamy and occasionally silty, and vary in surface and subsurface rock fragments. These soils formed in residuum and alluvium derived predominantly from welded rhyolitic tuff. The ecological sites consist primarily of Loamy 13-16" with a mountain big sagebrush, bluebunch wheatgrass, Idaho fescue plant community, and Shallow Claypan 12-16" with a low sagebrush, bluebunch wheatgrass, Idaho fescue plant community.

The Warn allotment consists of one management unit and is not divided into pastures. The allotment encompasses approximately 674 acres, all of which are BLM-administered public lands.

The Warn allotment was previously named the Lone Tree Individual allotment. It was separated from the common spring use area in October 1967, with trailing privileges reserved for Lequerica Brothers. sheep. From 1969 through 1981, the season of use was authorized from June 1 to July 31. Beginning in 1997, the season of use in the Warn allotment was changed to May 1 to May 31 on the annual application. Utilization limits of 50 percent on key perennial grasses were also imposed and were to be the actual basis for any adjustments in permitted use.

Permitted use in the Warn allotment is currently 75 active AUMs with a season of use between May 1st and May 31st. Temporary nonrenewable use was authorized in the fall for the Warn allotment between 1991 and 2001.

In the ORMP, the Warn allotment was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. The allotment must meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 74 AUMs of active preference for livestock grazing.

1.3.18 ***West Maher FFR Allotment***

The West Maher FFR allotment is approximately 11 miles south of Jordan Valley, Oregon. It is located southwest of Silver City and northwest of South Mountain and is part of the South Mountain Core Area. Elevations range from 4,700 to 5,800 feet. The terrain is rolling to very steep. Most landform features are rhyolitic in origin, which consist of foothills, ridges, and perennial and ephemeral drainages.

The allotment is within USDA Major Land Resource Area, D 25. The majority of the soils in the allotment are shallow to moderately deep and well drained, texture ranges from clayey to loamy and vary in surface and subsurface rock fragments. These soils formed in residuum and alluvium derived predominantly from welded rhyolitic tuff. The associated ecological sites are primarily Loamy 13-16" with a mountain big sagebrush, bluebunch wheatgrass, and Idaho fescue plant community, and Shallow Claypan 12-16" with a low sagebrush, bluebunch wheatgrass, and Idaho fescue plant community.

The West Maher FFR allotment is one management unit and is divided into two pastures. The allotment consists of approximately 1,442 acres of which 808 are BLM-administered public lands and 633 are privately owned lands.

The West Maher FFR allotment was established prior to the South Mountain adjudication. It originally consisted of 120 AUMs of permitted use at 100 percent public land. On September 11, 1987, the BLM issued a proposed decision that became final without protest in which the decision retained the original permitted use and authorized livestock grazing at the permittees discretion.

In the ORMP, the West Maher FFR allotment (listed in the ORMP as Maher FFR) was placed in the *Maintain* Selective Management Category. Maintain allotments are managed with minimal expenditure of appropriated funds and maintained for current satisfactory resource conditions. The allotment must meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 120 AUMs of active preference for livestock grazing.

1.3.19 Wroten Allotment

In the ORMP (1999), the Wroten allotment was placed in the *Improve with low priority* Selective Management Category. Improve allotments are managed with the objective to manage the public lands with adequate expenditure of funding and manpower to improve current unsatisfactory resource conditions. They must also meet or make progress toward meeting the Idaho Standards for Rangeland Health. The ORMP identified 400 AUMs of active preference for livestock grazing.

1.4 Purpose and Need

Purpose:

The purpose of this action is to enable the BLM Owyhee Field Office to determine if, and under what terms and conditions to renew grazing permits in the Morgan Group allotments in compliance with the NEPA, Federal Land Policy and Management Act (FLPMA), the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (Appendix A), the ORMP, and other policies including those outlined in BLM IM-2010-043, consistent with a court-approved settlement agreement requiring BLM to fully process a number of grazing permits on or before December 31, 2013.

Need:

This action is needed now because-

(1) The Owyhee Field Office has received applications to renew grazing permits for the Morgan Group allotments.

(2) Many of the allotments at issue are currently being managed under permits developed prior to adoption of the Idaho Standards for Rangeland Health and approval of the 1999 ORMP.

(3) BLM agreed to fully process permits for these allotments on or before December 31, 2013. (*See WWP v. Dyer 1:97-cv-00519-BLW (Docket # 451 dated May 15, 2008*). To meet this deadline, BLM is not considering new range improvements in this permit renewal process (see section 2.3 Morgan Group Allotments Livestock Grazing Permit Renewal Environmental Assessment *for Alternatives Considered but not Analyzed in Detail]*, for further discussion of this point).

1.5 Supporting Information

Supporting background information not included as part of this EA document consists of:

- Digital photos taken in upland and riparian areas where BLM conducted standards assessment field work
- Upland and riparian field forms used to document Idaho BLM standards assessments
- Field forms and digital photos of upland and riparian monitoring areas

All information listed above is available to the public in digital format and may be obtained from BLM upon request.

1.6 Scoping, Issues, and Decision to be Made

1.6.1 Scoping

On January 11, 2013, The Owyhee Field Office initiated by letter the collective public scoping process for Groups 3 through 5 of the Owyhee 68 grazing permit renewal process. These groups are referred to as the Toy Mountain, South Mountain, and Morgan Groups, respectively. The letter informed recipients that the purpose of the public outreach effort was to identify resource and management issues associated with the Idaho Rangeland Health Standards and Guidelines and the ORMP for the purpose of developing grazing management alternatives for all three groups, including for the Morgan Group—Group5 NEPA document. The letter also served to request additional resources and monitoring information that could help the BLM to complete the permit renewal process. The letter encouraged comments and information to be received by February 25, 2013 for each group of allotments but did not set a closing date for the receipt of public comments. The scoping document was also presented to the Shoshone-Paiute Tribe and Owyhee County Commissioners.

The Owyhee Field Office (OFO) range staff, Field Manager, and members of the NEPA Permit Renewal (NPR) Team met with the permittees authorized for livestock grazing in the Morgan Group allotments during April and May of 2013, to discuss allotment conditions, objectives, and livestock management on the respective allotments, including amendments to permittees applications.

1.6.2 Scoping Comments

Comments were received from Katie Fite of Western Watersheds Project (WWP), Idaho Department of Fish and Game (IDF&G), Junayo Ranch, and Idaho Department of Environmental Quality (IDEQ).

The circulation of this EA serves as an additional method of public outreach, providing the permittees, any member of the interested public, State and local governments, and Tribes a 21-day period to review and comment on the NEPA document.

1.6.3 Issues

Throughout the internal and external (public) scoping process and project development period, the BLM interdisciplinary team identified the following issues concerning livestock grazing management in one or more of the Morgan Group allotments:

- Habitat conditions for greater sage-grouse (*Centrocercus urophasianus*; from this point on referred to as sage-grouse): Sage-grouse habitat health is directly related to upland vegetation and watershed conditions. Specific areas of the Morgan Group allotments contain altered sagebrush

community composition, structure, and function that are affecting sage-grouse and other sagebrush habitat-dependent species.

- Riparian vegetation conditions: Livestock grazing is affecting riparian condition and aquatic habitat by changing the health and composition of riparian vegetation communities.
- Fish and amphibian habitat conditions: Stream, floodplain, wetland, and mesic (moderately moist) habitat conditions are directly related to conditions within the riparian vegetation community. Altering of the riparian community may affect the health and sustainability of fish and amphibian populations.
- Upland vegetation and watershed conditions: Livestock grazing is affecting upland vegetation by reducing or removing native vegetation communities that protect watershed soil and hydrologic function.
- Special status plant species: Livestock grazing is adversely affecting special status plants by altering surrounding upland vegetation, habitat and reproduction of individuals.
- Noxious and invasive weeds: Livestock grazing and trailing has the potential to increase or spread noxious and invasive weeds.
- Livestock trailing: Trailing may adversely affect upland vegetation, soils, weeds and riparian vegetation.
- Socioeconomic impacts: Livestock grazing affects local and regional socioeconomic activities generated by livestock production.
- Wildfire fuels: Livestock grazing has the potential to change vegetation that may affect wildfire.
- Climate Change: The issue of climate change and its relationship to the proposed federal action of renewing grazing permits is twofold. Livestock grazing in Owyhee County contributes CO_2 and methane emissions to the earth's atmosphere. In addition, climate change, itself a stressor on the sagebrush-steppe semi-arid ecosystem found in the Owyhee Uplands can, when found in conjunction with cattle grazing, further stress the ecosystem's vegetation.

1.6.4 Decision to be Made

The Owyhee Field Manager is the authorized officer responsible for the decisions regarding management of public lands within the Owyhee Field Office, including the authorization of livestock grazing through permit within the 19 Morgan Group allotments and also the connected authorization of crossing permits to trail livestock across public land associated with grazing use in the 19 allotments. Based on the results of the NEPA analysis, the authorized officer will make an informed decision whether, and under what terms and conditions, to renew grazing permits and authorize crossing permits. If grazing and crossing permits are offered, management actions, mitigation measures, and monitoring requirements will be prescribed for each of the 19 Morgan Group allotments to ensure management objectives and Idaho S&Gs are met.

1.7 Conformance

The alternatives analyzed here involve public lands and are subject to and in conformance with the ORMP dated December 1999. Relevant objectives from the ORMP are summarized below:

- SOIL 1: Improve unsatisfactory and maintain satisfactory watershed health/condition on all areas.
- SOIL 2: Achieve stabilization of current, and prevent the potential for future, localized accelerated soil erosion problems (particularly on stream banks, roads, and trails).
- WATR 1: Meet or exceed State of Idaho water quality standards on all Federally administered waters within the Owyhee Resource Area.
- VEGE 1: Improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas.
- RPN 1: Maintain or improve riparian-wetland areas to attain proper functioning and satisfactory conditions. Riparian-wetland areas include streams, springs, seeps, and wetlands.

- WDLF1: Maintain or enhance the condition, abundance, structural stage, and distribution of plant communities and special habitat features required to support a high diversity and desired population of wildlife.
- FISH 1: Improve or maintain perennial stream/ riparian areas to attain satisfactory conditions to support native fish.
- SPSS1: Manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.
- LVST 1: Provide for sustained level of livestock use compatible with meeting other resource objectives.
- VISL1: Manage the public lands for visual resource values under visual resource management classifications.
- WNES 2: Following any enabling legislation, manage designated wilderness areas to ensure an enduring wilderness resource.
- CULT 1: Protect known cultural resource values from loss until their significance is determined.
- CULT 2: Provide special management emphasis for the protection and conservation of significant cultural resource sites and values.
- ACEC 1: Retain existing and designate new areas of critical environmental concern (ACECs) where relevance and importance criteria are met and where special management is needed to protect the values identified.

Relevant Statutes, Regulations, or Other Plans:

- American Indian Religious Freedom Act of 1978
- Archaeological Resource Protection Act of 1979
- Bald and Golden Eagle Protection Act
- Bureau of Land Management, IM # 2012-043, Greater Sage-Grouse Interim Management Policies and Procedures
- Bureau of Land Management 6840 Manual on Special Status Species Management 2008
- Bureau of Land Management National Sage-Grouse Habitat Conservation Strategy 2010
- Clean Air Act of 1970 (amended 1990)
- Clean Water Act of 1972
- Code of Federal Regulations (CFR); Title 40; Part 1500 – Council on Environmental Quality 2009
- CFR; Title 43; Part 4100 – Grazing Administration – Exclusive of Alaska 2006
- Coordinated Implementation Plan for Bird Conservation in Idaho
- Endangered Species Act (ESA) of 1973, Section 7, as amended
- Executive Order 11593: Protection and Enhancement of the Cultural Environment 1971
- Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation
- Federal Land Policy and Management Act 1976
- Handbook 1740-1; Appendix 1, Illustration 3
- Greater Sage-Grouse Interim Management Policies and Procedures [2]
- Idaho Comprehensive Wildlife Conservation Strategy 2005
- Idaho Forest Practices Act (1974), Title 38, Chapter 13, Idaho Code
- Idaho Sage-Grouse Conservation Strategy 2006
- Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management
- IM-WO-2009-018 Management Categories

[2] Per BLM Instruction Memorandum No. 2012-043
http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2012/IM_2012-043.html

- Interim Strategy for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California 1995 (PACFISH)
- Migratory Bird Treaty Act of 1918 (MBTA)
- Executive Order 13186: Responsibilities of Federal Agencies To Protect Migratory Birds
- National Fire Plan 2000
- National Historic Preservation Act of 1966
- Native American Graves Protection and Repatriation Act of 1990
- North American Mule Deer Conservation Plan
- The Omnibus Public Lands Management Act of 2009
- The Public Rangeland Improvement Act of 1978
- The Taylor Grazing Act of 1934
- The Wild and Scenic Rivers Act of 1968
- The Wilderness Act of 1964

2 PROPOSED ACTION AND ALTERNATIVES

2.1 Management Common to all Grazing Alternatives

2.1.1 Management Objectives

Rangeland Project Maintenance and Construction

Cooperative agreements between the individual livestock operators and the BLM have assigned responsibility for rangeland improvement maintenance to the individual operators. These cooperative agreements will remain in effect regardless of which grazing permit renewal alternative considered in this NEPA document is implemented. As a result, maintenance of existing projects is outside the scope of this NEPA document.

None of the alternatives considered in this NEPA document for grazing permit renewal is dependent on new project construction. No new project construction or reconstruction is considered within any alternative of this NEPA document. Analysis of consequences of any new project construction, reconstruction, and maintenance will be addressed through separate NEPA analysis specific to the proposed project(s) and will not be included in this NEPA document.

Suspension AUMs

In accordance with regulation pertaining to reducing permitted use (43 CFR 4110.3-2), alternatives that result in a reduction in active use AUMs to meet Rangeland Health Standards or make significant progress, as well as reductions in active use AUMs to meet ORMP management objectives, would be implemented by reducing permitted use. Active use AUMs no longer available would not be converted to suspension[3]. Suspension AUMs held on permits prior to this activity planning process would continue to be held on permits as suspension.

[3] In accordance with revisions to the grazing regulations as amended through February 6, 1996, paragraph "c" with provisions requiring the authorized officer to hold AUMs comprising the decreased permitted use in suspension was removed from 43 CFR 4110.3-2.

Monitoring

Monitoring studies would be conducted during the term of the grazing permits in accordance with guidance provided by the BLM Idaho State Office Instruction Memorandum Monitoring Strategies for Rangelands, IM ID-2008-022 (USDI BLM 2008b). Monitoring studies conducted during the term of the permits would include, but are not limited to, the following: nested plot frequency, upland utilization, browse utilization, photo plots, multiple indicator monitoring (MIM), stubble height measurement, bank alteration, riparian woody browse utilization, water quality testing, and sage grouse habitat suitability assessments.

2.1.2 Boise District terms and conditions common to all grazing alternatives:

1. Grazing use will be in accordance with the grazing schedule identified in the final decision of the Owyhee Field Office Manager dated _____. Livestock grazing will be in accordance with your allotment grazing schedule(s). Changes to the scheduled use require approval.
2. Turn-out is subject to the Boise District range readiness criteria.
3. The permittee's certified actual use report is due within 15 days of completing the authorized annual grazing use.
4. Salt and/or supplements shall not be placed within one-quarter (1/4)-mile of springs, streams, meadows, aspen stands, playas, special status plant populations, or water developments.
5. 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.
6. Pursuant to 43 CFR 10.4(B), the permittee 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), the permittee must immediately stop any ongoing activities connected with such discovery and make a reasonable effort to protect the discovered remains or objects.
7. Livestock exclosures located within the grazing allotment are closed to all domestic grazing use.
8. Range improvements must be maintained in accordance with the cooperative agreement and range improvement permit in which you are a signatory or assignee. All maintenance of range improvements within designated wilderness requires prior consultation with the authorized officer.
9. All appropriate documentation regarding base property leases, lands offered for exchange-of-use, and livestock control agreements must be approved prior to turn out. Leases of land and/or livestock must be notarized prior to submission and be in compliance with Boise District Policy.
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 will be in accordance with your allotment grazing schedule(s). Changes in scheduled pasture use dates will require prior authorization.
12. Utilization may not exceed 50 percent of the current year's growth.

2.1.3 Livestock Trailing/Crossing

In the summer of 2012, the Owyhee Field Office released the 2012 Owyhee Field Office Livestock Trailing Environmental Assessment (2012 Trailing EA) (USDI BLM 2012b). No new trailing routes exist in the 19 Morgan Group allotments at this time; however, the impacts from the existing trailing routes described in the 2012 Trailing EA and the Chipmunk Group EIS # DOI-BLM-ID-B030-2012-

0014-EIS will be analyzed in this EA for an additional 10-year period and will be authorized on an annual basis. Any effects in addition to those described in the 2012 Trailing EA and Chipmunk Group EIS will be analyzed in the effects section of this EA.

Trailing, or moving animals across federal, state, or private land, is a component of regular grazing management practices in the Morgan Group allotments. Livestock are primarily actively trailed on the existing roads, where no or limited forage is consumed and the trailing occurs for short durations. For the majority of situations, trailing activities have not been documented, nor are they expected to substantially affect resources. Thus, they are not affecting the ability of these allotments to meet or make significant progress toward meeting standards.

The timing of specific trailing events varies annually based on factors such as forage production, drought, resource conditions, weather, wildfire, court decisions, and individual livestock operations across the Owyhee Mountains. Livestock trailing effects are analyzed over a 10-year period and referenced to the 2012 Trailing EA. Although the timing of occurrence of livestock trailing may be adjusted to coincide with the grazing alternative selected, the effects of the trailing would be the same as described in the 2012 Trailing EA. Effects other than those described in the 2012 Trailing EA will be discussed in the effects section of this EA by resource. Trailing may be authorized on these routes during rested years. Trailing effects common to all grazing alternatives are described in Chapter 3 below.

2.2 Description of Proposed Action and Alternatives

2.2.1 Alternative 1—Current Situation

Under Alternative 1,Current Situation, grazing permits for the 19 allotments of the Morgan Group would be renewed consistent with the summarized actions that have led to the current conditions. Alternative 1 provides a useful baseline for comparison of effects from other alternatives by defining the actions that have led to existing conditions and that have occurred under the authorizations in the current grazing permits and/or the recent actual use on the 19 Morgan Group allotments. These authorizations vary by year due to weather, timing, and preference, and are recorded in recent utilization and actual use as described in Appendix B. Authorized active use in each of the 19 allotments would be consistent with the maximum actual use that has been made recently. When the current situation for any of the 19 allotments in the Morgan Group closely matched the terms and conditions of the existing permit, the current situation alternative is equivalent to the current permit terms and conditions or a no action alternative.

Under Alternative 1, permits to graze livestock on the 19 Morgan Group allotments would be renewed with the terms and conditions of either the maximum actual use or the permits currently in effect. This would include terms and conditions imposed by the U.S. District Court in February 29, 2000. The mandatory and other terms and conditions for each allotment are listed by allotment below (Section 2.4**)**. The interim terms and conditions as currently permitted are:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Under Alternative 1, standard Boise District terms and conditions identified in Section 2.1 would apply, in addition to other terms and conditions that would be incorporated into the grazing permit as identified in Section 2.4 below. Management objectives identified in Section 2.1 are provided to inform permit holders of BLM's management intent on public lands within preliminary priority habitat/preliminary general habitat (PPH/PGH) for sage-grouse. Permit holders are encouraged, as partners, to manage their livestock operations in a manner to consistent with BLM IM 2012-043 (USDI BLM 2012a).

2.2.2 Alternative 2—Applicants' Proposed Action

Under Alternative 2, Applicants' Proposed Action, grazing permits for the 19 allotments of the Morgan Group would be renewed consistent with the actions or terms and conditions of applications received from permittees. Consultation, cooperation, and coordination, between the permittee and BLM should strive toward applications that meet land health standards, are consistent with the guidelines for livestock grazing management, and make progress toward meeting the ORMP objectives. To the degree possible, Alternative 2 should meet the purpose and need stated in this EA.

FFR allotments will be authorized as March 1 through February 28 to reflect discretional use by percent of public land in the allotment. These cattle numbers have changed slightly to reflect use any time of the year; however, AUMs have not changed.

Under Alternative 2, standard Boise District terms and conditions identified in Section 2.1 would apply, and others are incorporated into the grazing permit as identified. The mandatory and other terms and conditions for each allotment are listed in section 2.4 below.

2.2.3 Alternative 3

Under Alternative 3, grazing permits for the 19 allotments of the Morgan Group would be renewed with actions or terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to meet or make significant progress toward meeting all land health standards and ORMP objectives not met due to current livestock management practices. Any permittee application for grazing use in an allotment that is received and that meets the criteria of Alternative 3, may eliminate the need for developing the alternative for that allotment. Although the frequency of grazing use would be limited during seasons when impacts to identified resources are greatest, flexibility in grazing schedules would be provided by limiting the duration and intensity of grazing use during a critical period to compensate for frequent use during a critical period. Unless specified by allotment, cattle numbers will not exceed what is identified in the mandatory terms and conditions. In addition, no other terms and conditions will be authorized for Alternative 3 unless specified by allotment.

Constraints used to develop Alternative 3 actions are one set of tools that would allow progress toward meeting or maintain meeting standards and ORMP objectives. Constraints to seasons, intensity, duration, and/or frequency of grazing use as follow would be applied under Alternative 3 specific to the pastures of each allotment where the following resources are present:

- Wildlife:
    - No more than 2 years of use in any consecutive 3 year period during sage-grouse nesting/early brood-rearing season (April 1 to June 30)[4] when PPH-Key habitat occurs in the pasture
    - No more than 2 years of use in any consecutive 3 year period during spawning season (March 15 to June 15)[5] when occupied redband trout streams occur on BLM lands in the pasture
    - No more than 2 years of use in any consecutive 3 year period during breeding (egg mass stage) season (May 1 to June 15)[6] when occupied Columbia spotted frog streams and lentic areas occur in the pasture
    - Based on the habitat of the two special status plants known to occur in the Group 5 allotments, the upland vegetation and riparian constraints provide the necessary livestock limitations to maintain or improve the special status plants present. For this reason there are no constraints unique to special status plants.

- Upland Perennial Vegetation:
    - When the mean elevation of the pasture is less than 5,000 feet[7],
        - no more than 1 year of grazing use during the active growing season (May 1 to June 30) would be scheduled in any consecutive three-yearthree-year period[8];

OR

[4] Managing breeding habitats are critical for the survival of sage-grouse populations (Connelly et al. 2000). This constraint would aid in managing livestock grazing to maintain healthy, residual cover of herbaceous understory vegetation to reduce predation during the critical nesting and early brood-rearing stages, in addition to preventing direct trampling and disturbance of nests, eggs, and incubating females. Nesting and early brood-rearing habitat use period dates are derived from Table 5-2 in the Conservation plan for the Greater Sage-grouse in Idaho (Idaho Sage-grouse Advisory Committee 2006).

[5] Livestock have been shown to have high estimated rates of trampling on simulated salmonid redds (Gregory and Gamett 2009). Models of redd trampling by livestock has been shown to cause large increases in egg-to-fry mortality which could lead to undesirable population-level effects (i.e., reduced population growth rates), especially in populations with limited demographic resilience (Peterson et al. 2010). This constraint would aid in managing spawning habitat by reducing trampling of redds and significantly increasing egg-to-fry survival (BLM 2013). Spawning and egg incubation core-period dates are derived from Table F-1 in Grafe et al. (2002) and modified by information for local populations (Schill et al. 2004, BLM 2013).

[6] One of the most important factors in the demography of Columbia spotted frogs is survival of the young (i.e., eggs, larvae, and metamorphs)(Patla and Keinath 2005). Livestock have been shown to disturb and break apart fragile egg masses (Engle 2000, USFWS 2013) and cause direct mortality to larvae and young metamorphs (Maxell 2000). This constraint would aid in managing breeding habitat by reducing disturbance to egg masses and mortality of eggs and larvae due to livestock trampling. Although dates may vary among years depending on temperatures and snowmelt, the core-period dates of egg deposition and emergence of larvae are derived from Patla and Keinath (2005) and modified by information for local populations (Lohr and Haak 2009, 2010, Lohr 2011; USFWS 2013).

[7] Mountain big sagebrush sites are present at higher elevation and in areas that receive greater effective annual precipitation than Wyoming big sagebrush and basin big sagebrush sites. The combined higher elevation, with cooler temperatures through the growing season and greater annual effective precipitation, extends the growing season for sites dominated by mountain big sagebrush as compared to the other two subspecies. Mountain big sagebrush generally begins growth approximately 2 weeks after Wyoming and basin big sagebrush (Johnson, 2000). The delay in the growing season would be more dramatic as elevation increases and mountain big sagebrush ecological sites replace Wyoming and basin big sagebrush ecological sites. Similarly, co-dominant native bunchgrass species associated with mountain big sagebrush ecological sites respond with a phenological delay as elevation increases (see Appendix F which contains information on the relationship between elevation and the phenological development of key bunchgrass species present in the Owyhee Field Office). GIS analysis of the relationship between ecological site descriptions dominated by these three big sagebrush subspecies reveals that within the Owyhee 68 groups 3-5 allotments, no sites classified within the Wyoming or basin big sagebrush ecological site descriptions occur above 5000 feet elevation. Analysis also shows a zone between 4,000 and 5,000 feet elevation with scarce representation of Wyoming and basin big sagebrush sites. Use of 5,000 feet elevation as a transition point for an extended active growing season for upland vegetation communities is supported by the delay in the phenological development of plant communities within the project area.

[8] A number of sources suggest limiting the frequency of grazing use of bluebunch wheatgrass during the active growing season to no more than one of three years (Stoddart, 1946) (Blaisdell & Pechanec, 1949) (Mueggler, 1972) (Mueggler, 1975) (Anderson L. D., 1991) (Miller, Seufert, & Haferkamp, 1994) (Brewer, Mosley, Lucas, & Schmidt, 2007) (USDA NRCS, 2012). Flexibility would be provided in the development of grazing schedules under alternative three by limiting the duration and intensity of grazing use during the active growing season when use is schedule more frequent than one of three years during the active growing season

        - no more than 2 years of grazing use during the active growing season would be scheduled in any consecutive three-year period when 30 or fewer days[9] of use occurs during the active growing season and the intensity of use is held to less than 41 percent[10] utilization at the end of the active growing season;

OR

        - no more than 2 years of grazing use during the active growing season would be scheduled in any consecutive three-year period during the active growing season when more than 30 days of grazing use occurs during the active growing season and the intensity of use that occurs during the active growing season is held to less than 21 percent utilization at the end of the active growing season.
    - When the mean elevation of the pasture is greater than 5,000 feet,
        - no more than 1 year of grazing use during the active growing season (May 1 to July 15) would be scheduled in any consecutive three-year period;

OR

        - no more than 2 years of grazing use during the active growing season would be scheduled in any consecutive three-year period when 30 or fewer days of use occurs during the active growing season and the intensity of use is held to less than 41 percent utilization at the end of the active growing season;

OR

        - no more than 2 years of grazing use during the active growing season would be scheduled in any consecutive three-year period during the active growing season when more than 30 days of grazing use occurs during the active growing season and the intensity of use that occurs during the active growing season is held to less than 21 percent utilization at the end of the active growing season.
- Soils:
    - When the mean elevation of the pasture is less than 5,000 feet, no more than 2 years of use would be scheduled during periods of high soil moisture for low elevations (March 1 to May 15)[11] in any consecutive three-year period.
    - When the mean elevation of the pasture is greater than 5,000 feet, no more than 2 years of use would be scheduled during periods of high soil moisture for high elevations (March 1 to May 31)[12] in any consecutive three-year period.
- Riparian:

(Reed, Roath and Bradford 1999), in providing a grazing response index, identified the frequency of grazing while plants are actively growing, in addition to the intensity of use and opportunity for plants to grow prior to grazing or regrow after grazing has occurred, as factors that contribute toward repeated, selective use of the best, most palatable plants; overgrazing. These authors provided a citation concluded that seven to 10 days are required for a plant to grow enough to be grazed again.

[10] Utilization levels would be assessed, as determined by the key forage plant method, at the end of the growing season for key species and before plant senescence. The light level is a class of utilization between 21 and 40 percent whereas the slight level is a class of utilization between 5 and 20 percent. The constraint is consistent with ORMP management action number 4 under the Livestock Management Objective LVST 1; limiting impacts to vigor and health of perennial bunchgrasses during the active growing season.

[11] A number of sources (Laycock and Conrad 1967) (Warren, Thurow, et al., The influence of livestock trampling under intensive rotation grazing on soil hydrologic characteristics 1986) (S. Eldridge 2004) (Bilotta, Brazier and Haygarth 2007) suggest limitations for grazing on wet or saturated soils due to increases in physical impacts of compaction and pugging (plunging hoofs into wet soil, forming a void). This is based on the principle that the resistance of a soil to deformation declines as soil moisture increases and therefore the greatest amount of soil damage occurs when livestock tread on wet soils. When livestock are removed from the pasture during these high risk times ((USDA NRCS n.d.)), damage to soils and vegetation will be limited.

[12] Extended deferred period is due to elevated soil moisture retention and delayed snow melt that increase with elevation ((USDA NRCS n.d.)); it coincides with upland perennial vegetation constraints that serve as a proxy and reflect changes in precipitation and temperature. The constraint is consistent with ORMP management objective SOIL 1 - limiting impacts to watershed health/condition and associated management actions of providing adequate amounts of ground cover to support proper infiltration, maintain soil moisture, stabilize soils, and maintain site productivity.

- When the mean elevation of the pasture is less than 5,000 feet (see vegetation rational for elevation breaks), no more than 2 years of use June 15 to September 30[13] in any consecutive three-year period
- When the mean elevation of the pasture is greater than 5,000 feet, no more than 2 years of use July 1 to September 30 in any consecutive three-year period
- Where the indicator is appropriate[14], and when grazing occurs more than 1 in 3 years during the specified time constraint period, limit the intensity of use to (measured at the end of the riparian growing season in key riparian areas[15]):
  - Stubble height no less than 6"[16]
  - Woody browse use no greater than 30 percent incidence of use on most recent year's lead growth[17]
  - Bank alteration no greater than 10 percent[18]

2.2.4 Alternative 4

Under Alternative 4, grazing permits for the 19 allotments of the Morgan Group 5 allotments would be renewed with actions (terms and conditions) that emphasize limiting the frequency of grazing use during seasons when impacts to identified resources are greatest. Limits on critical seasons of grazing use under Alternative 4 would also limit the intensity and duration of grazing during those periods. Limitations would constrain use to a degree necessary to meet, make significant progress toward meeting, or maintain meeting all standards and the ORMP objectives within pastures where identified resources are present. In addition, Alternative 4 would implement actions that protect and enhance high value resources (e.g. perennial or extensive riparian resources, special status species habitats, resources associated with special management areas).

Actions of Alternative 4 would provide for additional resistance and resilience following disturbance and changing conditions. These additional protective measures would be provided by more frequently implementing actions that limit grazing use during seasons when impacts to identified resources are greatest than would occur under Alternative 3 and would not be as dependent on monitoring limitations on the intensity of use that are a part of grazing use flexibility in Alternative 3.

Constraints used to develop Alternative 4 actions are one set of actions that will allow progress toward meeting or maintain meeting standards and ORMP objectives. Similarly, these constraints are one set of actions that provide additional protection of high value resources. Constraints to seasons, intensity, duration, and/or frequency of grazing use meet objectives and to protect and enhance high-value resources would be applied specific to pastures where the following resources are present:

- Special status species:

[13] Many sources discuss the impacts of livestock grazing in riparian areas and to stream channels during the summer months: Bailey & Brown, 2011; Green & Kauffman, 1995; Belsky, Matzke, & Uselman, 1999; Liggins, 1999 Stevens, McArthur, & Davis, 1992; Clary, 1995)

[14] For example: bank alteration may not be necessary where a stream is rock armored, woody browse is NA when there is not a woody component (at the discretion of the OFO)

[15] Key riparian areas for intensity monitoring may include the locations of established DMAs and other locations which fit the definition of a key area provided in BLM Technical Reference 1737-23 or 1737-15; Key areas may be cooperatively chosen by OFO specialists, permittees, and other interested public

[16] Stubble height technique as described in the Interagency Technical Reference 1737-23, *Multiple Indicator Monitoring of Stream Channels and Streamside Vegetation* (USDI BLM 2011)

[17] Woody species use technique as described in the Interagency Technical Reference 1737-23, *Multiple Indicator Monitoring of Stream Channels and Streamside Vegetation* (USDI BLM 2011)

[18] Bank Alteration technique as described in the Interagency Technical Reference 1737-23, *Multiple Indicator Monitoring of Stream Channels and Streamside Vegetation* (USDI BLM 2011)

- No more than 1 year of use in any consecutive three-year period during sage-grouse pre-laying/lekking season (March 1 to March 31)[19] when an occupied and/or active lek occurs within the pasture or the pasture occurs within PPH-Key and a 75% breeding bird density area
- No more than 1 year of use in any consecutive three-year period during sage-grouse nesting/early brood-rearing season (April 1 to June 30)[1] when PPH habitat occurs in the pasture
- No more than 1 year of use in any consecutive three-year period during sage-grouse late brood-rearing/summer season (July 1 to August 31)[20] within PPH-key habitat and the local population's summer range occur in the pasture *and* the pasture is not meeting Standard 8 due to sage-grouse upland summer or summer riparian habitat
- No more than 1 years of use in any consecutive three-year period during spawning season (March 15 to June 15)[3] when occupied redband trout streams occur on BLM lands in the pasture
- No more than 1 years of use in any consecutive three-year period during breeding (egg mass stage) season (May 1 to June 15)[4] when the pasture contains potential habitat (i.e., lentic areas, perennial streams) and occurs in occupied Columbia spotted frog watersheds

- Upland Perennial Vegetation[21]:
  - When the mean elevation of the pasture is less than 5,000 feet, no more than 1 year of use would be scheduled during the active growing season for low elevations (May 1 to June 30) in any consecutive three-year period.
  - When the mean elevation of the pasture in greater than 5,000 feet , no more than 1 year of use would be scheduled during the active growing season for high elevations (May 1 to July 15) in any consecutive three-year period.

- Soils:
  - When the mean elevation of the pasture is less than 5,000 feet, no more than 1 year of use would be scheduled during periods of high soil moisture for low elevations (March 1 to May 15)[8] in any consecutive three-year period.
  - When the mean elevation of the pasture is greater than 5,000 feet, no more than 1 year of use would be scheduled during periods of high soil moisture for high elevations (March 1 to May 31)[9] in any consecutive three-year period.

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[19] Managing breeding habitats are critical for the survival of sage-grouse populations (Connelly et al. 2000). This constraint would aid in managing livestock grazing to provide healthy and abundant herbaceous understory vegetation to improve the condition of pre-laying females and provide nesting cover during the breeding season, in addition to preventing displacement of sage-grouse from leks. Lekking and early breeding habitat use period dates are derived from Table 5-2 in the Conservation plan for the Greater Sage-grouse in Idaho (Idaho Sage-grouse Advisory Committee 2006).

[20] Because areas with relatively moist conditions and abundant succulent forbs are typically limited across the landscape in mid to late summer, managing late brood-rearing/summer habitats is important for recruitment of immature sage-grouse into the adult population. This constraint would aid in managing livestock grazing to provide abundant succulent herbaceous vegetation (i.e., perennial forbs and bunchgrasses) for forage and concealment cover to improve the survival and condition of immature sage-grouse during the late brood-rearing/summer season. Late brood-rearing/summer habitat use period dates are derived from Table 5-2 in the Conservation plan for the Greater Sage-grouse in Idaho (Idaho Sage-grouse Advisory Committee 2006).

[21] A number of sources suggest limiting the frequency of grazing use of bluebunch wheatgrass during the active growing season to no more than one of three years (Stodart 1946, Blaisdell and Pechanec 1949, Mueggler 1972, Anderson 1991, Miller, Seufert, and Haferkamp 1994, Brewer, Mosley, Lucas, and Schmidt 2007, USADA NRCS 2012). (Stoddart 1946) (Blaisdell and Pechanec 1949) (Mueggler, Influence of competition on the response of bluebunch wheatgrass to clipping 1972) (Anderson 1991) (Miller, Seufert and Haferkamp, Management of bluebunch wheatgrass (Agropyron spicatum): A review 1994) (Brewer, et al. 2007) (USDA NRCS 2012).

- Riparian:
  - When the mean elevation of the pasture is less than 5,000 feet (see vegetation rational for elevation breaks), no more than 1 year of use June 15 to September 30 in any consecutive three-year period
  - When the mean elevation of the pasture in greater than 5,000 feet, no more than 1 year of use July 1 to September 30 in any consecutive three-year period
  - When 1.0 or more mile(s) of perennial streams occur in a pasture per national hydrography dataset (NHD) and the pasture contains streams that were identified by the Idaho Department of Fish and Game as being within the range of Columbia red band trout, no use during mid-summer (dates dependent on elevation; see above) in all years[22]

High value resources defined by the above Alternative 4 constraints are:

- When sage-grouse pre-laying/leking habitats are present,
- When sage-grouse late brood-rearing/summer habitats are present, or
- When 1.0 or more mile(s) of perennial streams occur in a pasture per NHD and the pasture contains streams that were identified by the Idaho Department of Fish and Game as being within the range of Columbia red band trout.

2.2.5 Alternative 5—No Grazing

No grazing would be authorized on public lands within the 19 Morgan Group allotments for a term of 10 years. Applications for grazing permit renewal would be denied and no grazing permits would be offered. All AUMs of permitted use for all of the Morgan Group allotments would be unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment(s) would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to current base property(s).

2.2.6 *Preferred Alternative*

The preferred alternative is the result of assigning management prescriptions in a way designed to meet the resource needs of each individual allotment. This preferred alternative, therefore, is a composite of the action alternatives that are analyzed in this EA because no individual alternative analyzed is expected to provide the resource benefits for all 19 allotments that BLM was seeking. This preferred alternative is summarized in Table PREF-1 below.

Table PREF-1: Preferred Alternatives by allotment

Allotment Name	Preferred Alternative
Bachelor Flat FFR	Alternative 3
Berrett FFR	Alternative 3
Big Field FFR	Alternative 3
Bogus Creek FFR	Alternative 2
Boulder	Alternative 4
Boulder Flat	Alternative 3
Combination Creek	Alternative 4
Feltwell	Alternative 4

[22] An analysis was performed to attain the range of perennial stream (per NHD) by pasture; 64 of the 123 pastures contain perennial streams (0.02-9.66 mile), and 30% of them have less than 1.0 mile of perennial stream. In other words 6% or 9.5 miles of the total perennial miles (152.8) occur in reaches of less than 1.0 mile by pasture. These pastures were eliminated from the added constraints (19 pasture were eliminated). Additionally, if a pasture did not also have redband trout (RBT) range identified by Idaho Fish and Game, the pasture was eliminated (8 additional pastures eliminated). Thus, the added constraints would apply to 37 pastures within the Group 3-5 allotments (see the project record for further detail).

Allotment Name	Preferred Alternative
Glass Creek	Alternative 2
Gluch	Alternative 2
Gluch FFR	Alternative 3
Jim's Peak FFR	Alternative 4
Morgan	Alternative 3
Rail Creek FFR	Alternative 3
South Mountain Ind.	Alternative 3
West Maher FFR	Alternative 4
Walt's Pond FFR	Alternative 3
Warn	Alternative 3
Wroten	Alternative 4

2.3 Alternatives Considered but Not Analyzed in Detail

Alternative 6—No Action Alternative

The renewal of the grazing permit with the same terms and conditions as the current permits is the equivalent of a no-action alternative and was considered but not analyzed. In accordance with the BLM NEPA Handbook (H-1790-1), the no-action alternative for externally generated proposals or applications is generally to reject the proposal or deny the application. The sole exception to this is for renewal of a grazing permit, for which the no-action alternative is to issue a new permit with the same terms and conditions as the expiring permit. As noted in the BLM NEPA Handbook, an alternative that documents the current and future state of the environment can be used to compare the effects brought about by the proposed action or alternatives.

Often, the livestock management practices implemented in recent years and that have resulted in documented resource conditions differ to some degree from terms and conditions of the current permit. As a result, analysis of an alternative that lists terms and conditions of the current grazing permit does not serve a purpose when recent livestock management practices do not closely follow the terms and conditions of the current grazing permit. This EA analyzes the effects of an alternative (Alternative 1—Current Situation) that reflects livestock management actions that have been recently implemented, rather than an alternative that would renew the grazing permits with terms and conditions unchanged, to provide the baseline for analysis that documents the current and future state of the environment in the absence of action.

As a result, a no-action alternative or renewing the permit without changes is not analyzed in detail. When the current situation for any of the 19 allotments in the Morgan Group closely matched the terms and conditions of the existing permit, the current situation alternative is equivalent to the current permit terms and conditions or a no-action alternative.

Alternative 7—Range improvements

New Rangeland Projects and Infrastructure

A number of applications received for permit renewal identify rangeland improvement projects[23] (usually fences or water developments) that would modify existing projects or propose the construction of new projects. Though rangeland projects are one of a number of tools available to meet land health standards and/or resource objectives, BLM did not consider such proposals in detail for the following reasons:[24]

- BLM limited the action to renewing grazing permits using existing infrastructure on the allotments at issue, and thus requests to build new infrastructure do not meet the purpose and need for this action. Although the ORMP recognizes that rangeland projects have the potential to assist BLM in meeting management objectives in some situations, the ORMP states, "Use a minimal level of rangeland developments (e.g., fences, water facilities) to adjust livestock grazing practices to achieve multiple use resource objectives and meet standards for rangeland health (RMP/ROD at 24)". This language identifies range improvements as only one tool among many that can be used to implement appropriate livestock management practices.
- A variety and considerable number of range improvement projects such as spring developments, fences, reservoirs, storage tanks, and troughs have already been constructed across the allotments to aid in livestock grazing management. For example, there are approximately 178 miles of fencing and approximately 43 troughs and reservoirs in place on public land in the Morgan Group allotments. The BLM decided to rely on additional means to improve rangeland health and meet ORMP objectives in this permit renewal process, including in part, varying the seasons of use for grazing, adjusting the timing and intensity of use, and also by considering adjustments to stocking rates.
- The BLM is preparing an RMP-amending Environmental Impact Statement that considers alternative strategies to protect greater sage-grouse in Idaho and southwestern Montana; consequently, the Owyhee Field Office is reluctant to approve new range improvement projects in sage-grouse habitat.[25]

- BLM Washington Office Instruction Memorandum 2012-043 provides interim conservation policies and procedures to the field offices to be applied to ongoing and proposed authorizations and activities that affect greater sage-grouse and its habitats while the sub-regional RMP Amendment process is underway. The guidance is in effect until the BLM develops and decides how to best incorporate long-term conservation measures for greater sage-grouse into applicable Land Use Plans. Proposed fences are addressed with the following guidance:

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[23] *Range improvement* means an authorized physical modification or treatment which is designed to improve production of forage; change vegetation composition; control patterns of use; provide water; stabilize soil and water conditions; restore, protect and improve the condition of rangeland ecosystems to benefit livestock, wild horses and burros, and fish and wildlife. The term includes, but is not limited to, structures, treatment projects, and use of mechanical devices or modifications achieved through mechanical means (43 CFR 4100.0-5).

[24] Information specific to each allotment and project proposed in permit renewal applications is provided in section 2.2.2 of this EA.

[25] 2005BLM Land Use Planning Handbook H-1601-1, Status of Existing Decisions During the Amendment or Revision Process: During the amendment or revision process, the BLM should review all proposed implementation actions through the NEPA process to determine whether approval of a proposed action would harm resource values so as to limit the choice of reasonable alternative actions relative to the land use plan decisions being reexamined. Even though the current land use plan may allow an action, the BLM manager has the discretion to defer or modify proposed implementation-level actions and require appropriate conditions of approval, stipulations, relocations, or redesigns to reduce the effect of the action on the values being considered through the amendment or revision process. The appropriate modification to the proposed action is subject to valid existing rights and program-specific regulations. A decision to temporarily defer an action could be made where a different land use or allocation is currently being considered in the preferred alternative of a draft or proposed RMP revision or amendment. These decisions would be specific to individual projects or activities and must not lead to an area-wide moratorium on certain activities during the planning process (H-1601-1 at 47).

Evaluate the need for proposed fences, especially those within 1.25 miles of leks that have been active within the past 5 years and in movement corridors between leks and roost locations. Consider deferring fence construction unless the objective is to benefit greater sage-grouse habitat, improve land health, promote successful reclamation, protect human health and safety, or provide resource protection. ---

Similarly, water developments are addressed with the following guidance:

NEPA analysis for all water developments must assess impacts to greater sage-grouse and its habitat. Install escape ramps and a mechanism such as a float or shut-off valve to control the flow of water in tanks and troughs. Design structures in a manner that minimizes potential for production of mosquitos which may carry West Nile virus.

As a result, the complexity of considering and analyzing proposed projects during grazing permit renewal is heightened pending the identification of long-term conservation measures for greater sage-grouse in the amendment to the ORMP not yet completed.

- Inventories and surveys would be necessary to fully and appropriately analyze and disclose the direct, indirect, and cumulative impacts associated with new or modified infrastructure projects. The limited time available in order to meet the terms of June 26, 2008 Order Approving Stipulated Settlement Agreement permits makes it impossible to complete the analysis of project modification and/or construction. There simply is not sufficient time to conduct the necessary site-specific inventories and surveys of resources affected by infrastructure projects.

- The project proposals received failed to identify the way in which they would facilitate significant progress toward, or the attainment of, land health standards. While many of the proposed projects appear to facilitate livestock production, the majority appear to have a limited relationship to the grazing management practices needed to meet or make progress toward meeting land health standards, conform to guidelines, or meet management objectives.

- The projects proposed provided insufficient site-specific information (locations, engineering specifications, etc.) for BLM to fully analyze the improvements.

- Funding availability for range improvements in years past was much more reliable and predictable than it is currently. The 2011 Budget Control Act (sequestration), and impending budget reductions gives the Department of Interior and BLM unprecedented challenges in anticipating what level of funding will be available for all programs including range improvement projects for livestock grazing in the years ahead. Because of these funding uncertainties, approving range improvements in concept now provides no assurance that their construction on the ground would be realized in the foreseeable future.

- BLM's regulations for grazing administration specific to the standards and guidelines (43 CFR 4180.2) require that the authorized BLM officer, upon determining existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards and conform with the guidelines, take appropriate action as soon as practicable but not later than the start of the next grazing year.

Considering the time required for project design, completion of site-specific surveys and NEPA analysis, plus construction time, it is unlikely that the authorized officer could take the required appropriate action prior to the start of the next grazing year. It would be most likely that these projects could not be completed in time, and would therefore require a set of interim actions to be taken while projects were still in various stages of analysis and construction. Even these interim actions could require another layer of NEPA analysis before implementation, further delaying progress toward improving rangeland conditions.

- Although BLM excluded range improvements from this permit renewal process for the above reasons, this is not intended to preclude proposals for range improvement projects that directly address rangeland health standards, ORMP objectives, and issues relating to protection of BLM sensitive species such as sage-grouse. Permittees are still encouraged to submit applications for range improvement projects outside the current permit renewal process, and the BLM will take a close look at the merit of these proposals within the context of any budgetary constraints at the time.

Alternative 8—Wildfire Fuels

Wildfire is a natural event that defines a range of variability in potential vegetation communities of sagebrush steppe vegetation types. Wildfire behavior is dependent on a number of factors, including weather and climatic conditions, as well as the size and connectivity of fuels, fuel loading, fuel moisture, and topographic slope. In the absence of actions that significantly alter fuel loading, wildfire spread rates for grass fuel types and grass/shrub fuel types are similar. Models for the rate of spread in these fuel types follow similar curves for low fuel load and moderate fuel load and differ most at the extremes of fuel moisture and wind speed (USDA USFS 2005).

Invasive annual grasses have been shown to alter wildfire behavior. Knapp (1996) reviewed the history, persistence, and influences to human activities of cheatgrass (*Bromus tectorum*) dominance in the Great Basin desert and noted that changes in density of cheatgrass have led to commensurate changes in fire frequency. Further, fires have shown a tendency to occur repeatedly within cheatgrass-dominated areas. Balch et al. (2012) found that cheatgrass-dominated lands had a shorter fire-return interval, were disproportionately represented in the larger fires, were significantly more likely to have been the ignition point for fires, and showed a strong inter-annual response to wet years in comparison to other prominent land cover classes across the Great Basin.

Livestock grazing has been identified as an underutilized tool in assisting managers to achieve fuels and vegetation management objectives. A number of sources suggest that livestock grazing could minimize wildfire impacts to high priority areas (Great Basin Restoration Initiative Workgroup 2010, Davies, et al. 2010, Diamond, Call and Devoe 2009, (Taylor, Jr. 2006). The Governor's alternative for sage-grouse management in Idaho says, "The unintended consequences of altering grazing use, such as possible increased risk of wildfire, must be carefully considered in any management proposal" (The State of Idaho 2012).

Following a series of large wildfires in south-central Idaho and northern Nevada in 2007, a team of scientists, habitat specialists, and land managers examined initial information pertaining to plant communities and patterns of livestock grazing, as they related to fuel loads and fire behavior. Vegetation communities involved in the 2007 fires are similar to sagebrush steppe within the Morgan Group allotments. The team concluded that much of the area involved in these fires burned under extreme fuel and weather conditions that likely overshadow livestock grazing as a factor influencing fine fuels and thus

fire behavior. One finding was that fire behavior in sagebrush vegetation types is driven by sagebrush cover and height, with the herbaceous component on which livestock focus their grazing playing a lesser role. Consequently, opportunities to influence fire behavior through livestock grazing are greatest in grassland vegetation types. Secondly, the potential effects of grazing on fire behavior are highly dependent on weather, fuel load, and fuel moisture conditions. Grazing applied at sustainable utilization levels would have limited or negligible effects on fire behavior when fuel moisture and weather conditions are extreme. When weather and fuel moisture conditions are less extreme, grazing may reduce the rate of spread and intensity of fires allowing for more patchy burns with lower fuel consumption levels. The team further identified the use of targeted grazing programs on specific areas as greater opportunities when livestock can affect fire behavior through reduction in fine fuels on semi-arid rangelands, as opposed to landscape-scale grazing that is not strategic (USDI USGS 2008).

Targeted grazing is the application of a specific kind of livestock at a determined season, duration, and intensity to accomplish defined vegetation or landscape goals. The major difference between good grazing management and targeted grazing is that targeted grazing refocuses outputs of grazing from livestock production to vegetation and landscape enhancement (Launchbaugh and Walker 2006). Recent application of targeted grazing has included control of noxious weeds, control of completing vegetation in agroforestry, and the establishment and maintenance of fuel breaks. Targeted grazing is one of a number of tools available for constructing desirable ecosystems. Targeted grazing should be used in combination with other technologies to meet vegetation management objectives, with consideration for economic, ecological, and social implications.

Sheep and goats have been identified as livestock more conducive to fuel reduction in vegetation types with a shrub component, as compared to cattle. Although woody species are a greater portion of the selected diet of sheep and goats, intensive livestock management including protein and energy supplements increases consumption of shrubs (Taylor, Jr. 2006).

A number of sources, in addition to the USGS (2008) report following the Murphy Complex fires, have identified the utility of targeted livestock grazing as one of a number of tools that can be used in an integrated plan to establish and maintain fuel breaks, as opposed to landscape-scale livestock grazing to reduce fuel loads (Great Basin Restoration Initiative Workgroup 2010, University of Nevada Cooperative Extension 2007, Taylor, Jr. 2006). In addition to the emphasis on site-specific targeted grazing to provide fuel breaks, these sources and other citations listed above have consistently noted that grazing as a fuels management tool is primarily limited to grassland-dominated vegetation types. Many of these sources recognize the need to ensure that prescriptions for reduction in fine fuels through targeting grazing before the fire season do not also reduce the health and vigor of perennial herbaceous species during the active growing season, do not impair watershed function, or do not limit the ability to meet other resource objectives on a landscape scale. The adverse effect on these resources in small areas to meet targeted grazing prescriptions that establish and maintain linked fuel breaks needs to be considered against a goal to minimize impacts of wildfire to large areas of intact habitat (Great Basin Restoration Initiative Workgroup 2010, USDI USGS 2008).

The Policy Analysis Group for the College of Natural Resources of the University of Idaho provided information on policy options related to wildfire management and fuels treatments on Idaho's rangelands. The report summarized the potential benefits and detrimental effects of a number of tools, including livestock grazing. Although the group's report did not recommend an alternative, it focused on landscape-scale treatments and identified livestock grazing as an effective tool to reduce fuel loading. In addition, the report included information on potential adverse impacts from grazing treatments for fuels reductions, the same impacts that are identified in a number of other sources. Like other sources listed previously, the report identified livestock grazing as a complex and dynamic tool with many plant and animal variables.

The role of targeted grazing to manage fuels, as compared to traditional grazing authorizations by permit or lease, is discussed in the Great Basin Restoration Initiative Workgroup's report (2010). Although targeted livestock grazing to reduce fuels within strategic strips or zones can help reduce wildfire impacts, accomplishing this goal is a formidable challenge given the many climatic, biological, wildfire behavior, and livestock management variables that may affect the outcome. The option and benefits of using stewardship contracting are discussed. The report suggests that targeted fuels management is best addressed in a fire management plan that can integrate all wildland fire management guidance, direction, and activities to implement national fire policy and fire management direction from the resource management plan. Taylor (2006) also identified that planning for use of livestock grazing for fuels management planning needs to consider the integration of additional fuels management tools. Livestock grazing actions for fuels management involves a shift in purpose from providing for a use of public lands to a purpose to meet vegetation or fuels objectives.

Diamond, Call, and Devoe (2009) found that targeted, or prescribed, cattle grazing that removed 80 to 90 percent of cheatgrass biomass during the growing season was an effective tool to reduce flame length and rate of spread of fire during the following fire season, especially when combined with late summer prescribed fire treatment and the same grazing treatment in the following year. Few rangeland managers, including the authors in the final sentence of the article, would suggest that native perennial herbaceous species could be maintained, let alone improved, with this series of vegetation treatments. In addition, site stability and watershed function would likely be jeopardized with consecutive years of herbaceous utilization at these levels and with frequent prescribed burning. Ecological objectives should be included as a part of the overall strategy of targeted grazing to reduce fuel loading (Taylor, Jr. 2006). Utilization levels of 50 to 60 percent on crested wheatgrass were effective in creating a patchy burn in the Murphy Complex fires (USDI USGS 2008). In addition, contracted sheep grazing has been used by the BLM Boise District Office to establish and maintain narrow fuel breaks in the wildland-urban interface. The BLM has and will continue to develop plans to create fuel breaks that provide firefighters an additional tool in managing wildland fire. Livestock grazing will continue to be a tool available to establish and maintain strategically located fuel breaks.

In conclusion, landscape-scale fuels treatment through livestock grazing has limited application within the sagebrush/bunchgrass vegetation types in the Morgan Group allotments, a landscape with few large or connected areas dominated by annual species or grazing-tolerant introduced perennial grasses. The use of livestock grazing as a fuels treatment in an integrated program is better adapted to fuels planning and contracting (including stewardship contracting) with objectives for vegetation and fuels management, rather than administered through the typical grazing permit/lease program. Although grazing authorized in the alternatives of this EA will reduce fine fuels, the intensity of grazing necessary to be an effective fuels treatment at the landscape-level is outside the purpose and need for this permit renewal EA. Additionally, targeted grazing for fuels reduction to establish fuel breaks is outside the purpose and need of this NEPA document, which responds to applications for grazing permit renewal authorizing cattle and horse grazing to meet Rangeland Health Standards and resource management objectives. Therefore, targeted grazing is not included in alternatives considered.

Using livestock grazing as a tool for managing vegetation and fuel loads will be addressed in the Idaho/Southwest Montana Environmental Impact Statement for sage-grouse, a planning effort that will amend relevant BLM resource management plans (RMPS), including the ORMP. Once the RMPs are amended, renewal of permits for grazing within the Owyhee Field Office will incorporate resource objectives and actions according to direction in the amended ORMP.

Alternative 9—Global Climate Change

The science on predicting future climate conditions is continuously evolving. Land management actions might contribute to changes in atmospheric greenhouse gas levels, which can affect global climate.

Addressing effects on greenhouse gas (GHG) levels within the scope of NEPA is difficult due to the lack of explicit regulatory guidance on how to meaningfully apply existing NEPA regulations to this evolving issue, and due to the continuously evolving science available at varying levels.

Agencies apply the rule of reason to ensure that their discussion pertains to the issues that deserve study and de-emphasizes issues that are less useful to the decision regarding the proposal, its alternatives, and mitigation options (40 CFR 1500.4(f), (g), 1501.7, 1508.25). In addressing GHG emissions, the BLM ensures that such description is commensurate with the importance of the GHG emissions of the proposed action, avoiding useless bulk and boilerplate documentation, so that the NEPA document may concentrate attention on important issues (40 CFR 1502.5, 1502.24).

The BLM's 2008 NEPA Handbook, H-1790-1, explains that a topic must have a cause-and-effect relationship with the proposed action or alternatives to be considered an issue (H-1790-1, p. 40).

Climate change does not have a clear cause-and effect-relationship with the proposed action or alternatives. It is currently beyond the scope of existing science to identify a specific source of greenhouse gas emissions or sequestration and designate it as the cause of specific climate or resource impacts at a specific location.

The proposed action and alternatives, when implemented, would not have a clear, measurable cause-and-effect relationship to climate change because the available science cannot identify a specific source of greenhouse gas emissions such as those from livestock grazing and tie it to a specific amount or type of changes in climate.

Therefore, the effects of livestock grazing to the global climate will not be analyzed in detail in this EA. Effects of climate change on native perennial vegetation resources when also affected by livestock grazing are discussed in the rangeland vegetation sections of this EA.

Alternative 10—Reserve Forage Allotments or Temporary Non Renewable (TNR) grazing use

The Environmental Protection Agency (EPA) submitted an alternative in February 2012 that would designate allotments to be used temporarily and on a non-renewable basis to allow for rangeland restoration and recovery. There was no opportunity at this time for any of the Morgan Group allotments to be converted to forage reserve allotments.

Alternative 11—Management Alternatives

The following management alternatives were submitted by Western Watersheds Project in April 2012 to BLM for consideration for development of this EA.

The active/passive restoration alternative would include the following actions:

1. Protect remaining relatively intact sagebrush habitats.
2. Enable passive restoration of lands at risk of weed invasion and/or suffering degradation or facing further losses of native species.
3. Provide for active restoration and removal of livestock facilities or roads or end practices that damage important, sensitive and imperiled species' habitats and populations. This includes actions such as removal of fences and water developments, salt/supplement sites, and associated roading or other disturbance.
4. Provide for active restoration of crested wheatgrass seedings and cheatgrass or other exotic species areas.

Active or passive restoration alternatives will not be analyzed in this EA. BLM has developed and considered a reasonable range of alternatives, including a no-grazing alternative, which will be analyzed in this EA. The BLM Boise District Office has a weed management plan in place that includes an active weed management program within the Owyhee Field Office.

A request to designate new ACECs has been considered but will not be analyzed in detail, per Section 202(c) of FLPMA (43 U.S.C.1712), which requires that in developing land use plans (or amending existing plans); the BLM must give priority to designating and protecting areas of critical environmental concern (ACECs). Designation of a new ACEC is a land use planning-level decision that would require an amendment to the existing ORMP. The BLM is not in the position to include an ORMP amendment in this permit renewal process. Grazing authorization renewal is an implementation-level decision that does not involve changes to an RMP.

Alternative 12—Idaho Governor's Sage-Grouse Management

The following summary of the Governor's Sage-Grouse Management Alternative was considered during the Morgan Group allotments EA. Although the BLM eliminated this alternative from detailed study, many concepts and aspects of the alternative are already available to the BLM and have been incorporated into Alternatives 3 through 5 of the EA, including: incorporation of habitat characteristics, conducting habitat assessments and priority area assessments, determination of achievement of habitat objectives, achievement of objectives 2 of 5 years (the Governor's Alternative differs by proposing achievement in 3 of 5 years), and monitoring to determine effectiveness. In addition, the Governor's Alternative was intended for the BLM Idaho RMP amendment process, and BLM understood that this alternative would not be applicable at the project level until the RMP amendment process has been completed; and furthermore, only if the selected alternative in the Record of Decision (ROD) includes the Governor's sage-grouse alternative.

The Idaho Governor's Office of Species Conservation with the unanimous recommendation of the Task Force adopted a designation of a Sage-Grouse Management Area (SGMA) with three distinct management zones: Core Habitat (CHZ), Important Habitat (IHZ) and General Habitat (GHZ). The BLM recognizes these management areas and have similar habitat zones identified for management of sage-grouse that have been used in the development of the EA.

Generally, these management zones outline a suite of basic management activities that may, under certain conditions, occur within a given area. In other words, the three management zones within the SGMA represent a management continuum that includes at one end a relatively restrictive approach aimed at providing a high level of protection to the species within the CHZ, and on the other end, a relatively flexible approach for the GHZ allowing for more multiple-use activities. While the IHZ provides greater flexibility than in the CHZ, the overall quality and ecological importance of the habitat within this zone is more closely aligned with the habitat in the CHZ than in the GHZ.

Allocation to a specific management zone does not mandate or direct the relevant Federal agency to propose or implement any action; rather, the three habitat zones provide an array of permitted and prohibited activities. Activities not specifically addressed by the Alternative are still subject to the allowances and restrictions of the applicable resource management plan.

This alternative only provides special management for sage-grouse on lands managed by the BLM and U.S. Forest Service, and while beneficial to other sage-steppe species, agencies will still have the obligation to analyze other values when considering a proposed action.

The relevant Federal agencies considering these measures as part of environmental analyses, planning updates and ESA listing determinations should recognize that actions on these lands can have direct and

indirect impacts on State endowment trust lands managed by the Idaho Department of Lands. Thus, it is important to evaluate sage-grouse management in a comprehensive and holistic manner.

Alternative 13—Baltzor Grazing Application

The Alan Baltzor grazing application in the Gluch allotment will not be analyzed in further detail in this EA and will be addressed through the final decision.

2.4 Allotment-specific Proposed Action and Alternatives

2.4.1 Bachelor Flat FFR Allotment

2.4.1.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Bachelor Flat FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Bachelor Flat FFR allotment, an allotment that includes a 29 percent of BLM land[26], would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Bachelor Flat FFR allotment would be unchanged from the existing permit with 127 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-1.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Phillip and Ben Williams. The current permit for this allotment is summarized in Table Alt 1-1. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, the Bachelor Flat FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants is not to exceed 50 percent of annual production.

Table ALT-1: Alternative 1 permit summary for the Bachelor Flat FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	125 Cattle	4/1-12/31	100	127	0	127

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit.

[26] Percent public land for the Group 5 allotments were calculated based on the normal year potential production of ecological sites for the proportion of public lands in the allotment, as compared to the total of public lands plus lands which may be controlled by the permittee (USDA NRCS 2009). Although the ecological condition of lands within the allotment may not be in reference condition, the assumption was made that both public lands and lands controlled by the permittee are in equal condition and the proportion of production from each does not differ from the proportion of production at reference site conditions. Instead of using 100 percent public lands as displayed in Alternative 1, the BLM displays these lands in Alternative 2-4 using the calculations as appropriate.

Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-1 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.1.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Bachelor Flat FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Phillip and Ben Williams. The number of livestock and season of use on the Bachelor Flat FFR allotment, an allotment that includes 29 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is reproduced in Appendix D.

Permitted grazing use in the Bachelor Flat FFR allotment would be unchanged from the existing permit with 127 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-2.

Table ALT-2: Alternative 2 permit summary for the Bachelor Flat FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	125 Cattle	4/15-11/15	29	127	0	127

Livestock grazing management

In accordance with the April 15, 2013 application, the grazing schedule for pastures of the Bachelor Flat FFR allotment identified in Table ALT-3 would be authorized. Seasons of use may vary as long as total AUMs are not exceeded.

Table ALT-3: Alternative 2 grazing schedule for the Bachelor Flat FFR allotment

Pasture	All Years
Pasture 1	4/15-6/15
Pasture 2	6/16-11/15

2.4.1.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Bachelor Flat FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment.

While the season of available grazing use authorized and total AUMs used from public lands would be defined, the number of livestock on the Bachelor Flat FFR allotment, an allotment that includes a 29 percent of BLM land, would be as described in the tables below.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 20; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Red Band Trout: Use will be allowed from March 15 to June 15, no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
4. Soils: Pasture 1: Use will be allowed from March 1 to May 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. . Pasture 2: Use will be allowed from March 1 to May 31; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
5. Riparian: Pasture 1: Use will be allowed from June 15 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. . Pasture 2; Use will be allowed from July 1 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .

Permitted grazing use in the Bachelor Flat FFR allotment would be unchanged from the existing permit with 127 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-4.

Table ALT-4: Alternative 3 permit summary for the Bachelor Flat FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	125 Cattle	4/15-11/15	29	127	0	127

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Bachelor Flat FFR allotment schedule would be defined as listed in Table ALT-5 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 127 AUMs are not exceeded; cattle number may vary up to maximum 125 head.

Table ALT-5: Alternative 3 grazing schedule for the Bachelor Flat FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-6/15	4/15-6/15	9/1-11/15
Pasture 2	6/16-11/15	6/16-11/15	6/16-8/31

2.4.1.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Bachelor Flat FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment.

Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 20; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
2. Red Band Trout: Use will be allowed from March 15 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Columbia Spotted Frog Watershed: Use will be allowed from March 15 to June 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
4. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
5. Soils: Pasture 1: Use will be allowed from March 1 to May 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. Pasture 2: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
6. Riparian: Pasture 1: Use will be allowed from June 15 to September 30; Use will be allowed from all years. Pasture 2: Use will be allowed from July 1 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.

Permitted grazing use in the Bachelor Flat FFR allotment would be reduced from the existing permit to 122 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-6.

Table ALT-6: Alternative 4 permit summary for the Bachelor Flat FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	120 Cattle	4/15-11/15	29	122	0	122

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Bachelor Flat FFR allotment schedule would be defined as listed in Table ALT-7 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 122 AUMs are not exceeded; cattle number may vary up to maximum 120 head.

Table ALT-7: Alternative 4 grazing schedule for the Bachelor Flat FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-6/15	7/15-8/31	Rest
Pasture 2	6/16-11/15	9/1-11/15	Rest

2.4.1.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Bachelor Flat FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 127 AUMs of permitted use in the Bachelor Flat FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for

grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.2 Berrett FFR Allotment

2.4.2.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Berrett FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Berrett FFR allotment, an allotment that includes a 16 percent of BLM land, would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Berrett FFR allotment would be unchanged from the existing permit with 114 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-8.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Dale Berrett. The current permit for this allotment is summarized in Table Alt-8. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, the Berrett FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants is not to exceed 50 percent of annual production.

Table ALT-8: Alternative 1 permit summary for the Berrett FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	112 Cattle	1/1-12/31	100	114	0	114

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-8 and the following numbered bullets:

- A Minimum 4 inch stubble height will be left on herbaceous vegetation within the riparian area along .5 miles of Williams Creek in the Berrett FFR allotment at the end of the growing season as identified in the fisheries objective of the Owyhee EIS.
- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.2.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Berrett FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Dale Berrett. The number of livestock and season of use on the Berrett FFR allotment, an allotment that includes 16 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Berrett FFR allotment would be unchanged from the existing permit with 114 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-9.

Table ALT-9: Alternative 2 permit summary for the Berrett FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	200 Cattle	4/15-10/15	16	114	0	114

Livestock Management

In accordance with the April 12, 2013 application, the grazing schedule for pastures of the Berrett FFR allotment identified in Table ALT-10 would be authorized. Seasons of use may vary as long as total 114 AUMs are not exceeded; cattle number may vary up to maximum 200 head.

Table ALT-10: Alternative 2 grazing schedule for the Berrett FFR allotment

Pasture	Cattle Numbers	All Years
Pasture 1	120	4/15-7/15
Pasture 2	120	4/15-7/1
Pasture 3	200	4/15-10/15
Pasture 4	200	7/1-10/15

2.4.2.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Berrett FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. While the season of available grazing use authorized and total AUMs used from public lands would be defined, the number of livestock on the Berrett FFR allotment, an allotment that includes a 16 percent of BLM land, would be as described in the tables below.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 20; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Red Band Trout: Pastures 3 and 4: Use will be allowed from March 15 to June 15, no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.

4. Soils: Use will be allowed from March 1 to May 31; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
5. Riparian: Pastures 1and 4: Use will be allowed from July 1 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.

Permitted grazing use in the Berrett FFR allotment would be unchanged from the existing permit with 114 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-11.

Table ALT-11: Alternative 3 permit summary for the Berrett FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	200 Cattle	4/15-10/15	16	114	0	114

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Berrett FFR allotment schedule would be defined as listed in Table ALT-12 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Within pasture 4; a minimum of 6 inch stubble height, 30 percent browse (where applicable), and less than 10 percent bank alteration will be maintained in key riparian areas at the end of the grazing season.
2. Seasons of use may vary as long as total 114 AUMs are not exceeded; cattle number may vary up to maximum 200 head.

Table ALT-12: Alternative 3 grazing schedule for the Berrett FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-7/15	4/15-6/30	9/1-11/15
Pasture 2 (Private)[1]	3/1-2/28	3/1-2/28	3/1-2/28
Pasture 3	4/15-10/15	4/15-10/15	7/1-8/31
Pasture 4	7/1-10/15	7/1-10/15	10/1-11/15

[1]Pasture 2 was left in the allotment boundary and is a used in conjunction with BLM lands to establish 16 percent public land.

2.4.2.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Berrett FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 20; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. Pasture 4 Use will be allowed from March 1 to June 20; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Pastures 3 and 4 use will be allowed from March 15 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.

3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
5. Riparian: Pasture 1: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. . Pasture 4: Use will be allowed from June 15 to September 30; no use all years.

Permitted grazing use in the Berrett FFR allotment would be reduced from the existing permit to 98 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-13.

Table ALT-13: Alternative 4 permit summary for the Berrett FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	96 Cattle	4/15-10/15	16	98	0	98

Livestock grazing management
As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Berrett FFR allotment schedule would be defined as listed in Table ALT-14 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 98 AUMs are not exceeded; cattle number may vary up to maximum 96 head.

Table ALT-14: Alternative 4 grazing schedule for the Berrett FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-7/15	9/1-11/15	Rest
Pasture 2 (Private)[1]	3/1-2/28	3/1-2/28	3/1-2/28
Pasture 3	4/15-10/15	9/1-11/15	Rest
Pasture 4	7/1-10/15	10/1-11/15	Rest

[1]Pasture 2 was left in the allotment boundary and is a used in conjunction with BLM lands to establish 16 percent public land.

2.4.2.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Berrett FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 114 AUMs of permitted use in the Berrett FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.3 Big Field FFR Allotment

2.4.3.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Big Field FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Big Field FFR allotment, an allotment that includes a 40 percent of BLM land,

would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Big Field FFR allotment would be unchanged from the existing permit with 114 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-15.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Morgan Ranches. The current permit for this allotment is summarized in Table Alt 1-15. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, the Big Field FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants is not to exceed 50 percent of annual production.

Table ALT-15: Alternative 1 permit summary for the Big Field FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	142 Cattle	6/1-10/25	100	147	21	168

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-15 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.3.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Big Field FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Morgan Ranches. The number of livestock and season of use on the Big Field FFR allotment, an allotment that includes 40 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Big Field FFR allotment would be unchanged from the existing permit with 147 AUMs active use authorized and 21 suspended AUMs as summarized in Table Alt-16.

Table ALT-16: Alternative 2 permit summary for the Big Field FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	100 Cattle	6/15-10/15	40	147	21	168

Livestock Management
In accordance with the April 16, 2013 application, the grazing schedule for pastures of the Big Field FFR allotment identified in Table ALT-17 would be authorized. Seasons of use may vary as long as total 168 AUMs are not exceeded; cattle number may vary up to maximum 100 head.

Table ALT-17: Alternative 2 grazing schedule for the Big Field FFR allotment

Pasture	All Years
Pasture 1	6/15-10/15

2.4.3.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Big Field FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. While the season of available grazing use authorized and total AUMs used from public lands would be defined, the number of livestock on the Big Field FFR allotment, an allotment that includes a 40 percent of BLM land, would be as described in the tables below.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 20; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
2. Red Band Trout: Use will be allowed from March 15 to June 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
4. Soils: Use will be allowed from March 1 to May 31; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
5. Riparian: Use will be allowed from July 1 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .

Permitted grazing use in the Big Field FFR allotment would be unchanged from the existing permit with 147 AUMs active use authorized and 21 suspended AUMs as summarized in Table Alt-18.

Table ALT-18: Alternative 3 permit summary for the Big Field FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted

Morgan Ranches (1101510)	100 Cattle	6/15-11/15	40	147	21	168

Livestock grazing management
As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Big Field FFR allotment schedule would be defined as listed in Table ALT-19 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. A minimum of 6 inch stubble height, 30 percent browse (where applicable), and less than 10 percent bank alteration will be maintained in key riparian areas at the end of the grazing season.
2. Seasons of use may vary as long as total 147 AUMs are not exceeded; cattle number may vary up to maximum 100 head.

Table ALT-19: Alternative 3 grazing schedule for the Big Field FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/15-10/15	6/15-10/15	10/1-11/15

2.4.3.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Big Field FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to June 20 and July 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Use will be allowed from March 15 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
5. Riparian: No use from July 1 to September 30 for all years.

Permitted grazing use in the Big Field FFR allotment would be reduced from the existing permit to 140 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-20. The tables Alt-20 and Alt 21 below show maximum seasons and numbers of livestock, however active AUMs will not be exceeded in any year.

Table ALT-20: Alternative 4 permit summary for the Big Field FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	135 Cattle	6/15-11/15	40	140	21	161

Livestock grazing management
As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Big Field FFR allotment schedule would be defined as listed in Table ALT-21 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 140 AUMs are not exceeded; cattle number may vary up to maximum 135 head.

Table ALT-21: Alternative 4 grazing schedule for the Big Field FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/15-10/15	10/1-11/15	Rest

2.4.3.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Big Field FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 161 AUMs of permitted use in the Big Field FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.4 Bogus Creek FFR Allotment

2.4.4.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Bogus Creek FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Bogus Creek FFR allotment, an allotment that includes a 6 percent of BLM land, would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Bogus Creek FFR allotment would be unchanged from the existing permit with 24 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-22.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Morgan Ranches. The current permit for this allotment is summarized in Table Alt 1-22. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, the Bogus Creek FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants is not to exceed 50 percent of annual production.

Table ALT-22: Alternative 1 permit summary for the Bogus Creek FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	24 Cattle	6/15-10/1	100	24	0	24

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-22 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.4.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Bogus Creek FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Morgan Ranches. The number of livestock and season of use on the Bogus Creek FFR allotment, an allotment that includes 6 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is reproduced in Appendix D.

Permitted grazing use in the Bogus Creek FFR allotment would be unchanged from the existing permit with 24 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-23.

Table ALT-23: Alternative 2 permit summary for the Bogus Creek FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	350 Cattle	6/15-11/15	6	24	0	24

Livestock Management

In accordance with the April 16, 2013 application, the grazing schedule for pastures of the Bogus Creek FFR allotment identified in Table ALT-24 would be authorized. Seasons of use may vary as long as total 24 AUMs are not exceeded; cattle number may vary up to maximum 350 head.

Table ALT-24: Alternative 2 grazing schedule for the Bogus Creek allotment

Pasture	Year 1	Year 2	Year 3[1]
Pasture 1	6/15-10/15	6/15-10/15	10/1-11/15

[1]Use one in three years in the fall when water is available

2.4.4.3 Alternative 3

Alternative 3 was not developed for the Bogus Creek FFR because Alternative 2 adequately addressed resource constraints.

Resource Constraints:

1. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Soils: Use will be allowed from March 1 to May 31; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
3. Riparian: Use will be allowed from July 1 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.

2.4.4.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Bogus Creek FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Columbia Spotted Frog Watershed: Use will be allowed from May 1 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Bogus Creek FFR allotment would be unchanged from the existing permit with 24 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-25.

Table ALT-25: Alternative 4 permit summary for the Bogus Creek FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	24 Cattle	6/15-11/15	6	24	0	24

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Bogus Creek FFR allotment schedule would be defined as listed in Table

ALT-26 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 24 AUMs are not exceeded; cattle number may vary up to maximum 24 head.

Table ALT-26: Alternative 4 grazing schedule for the Bogus Creek FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/15-10/15	10/1-11/15	Rest

2.4.4.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Bogus Creek FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 24 AUMs of permitted use in the Bogus Creek allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.5 Boulder Allotment

2.4.5.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Boulder allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 has averaged 217 AUMs, with a maximum of 244 AUMs in 2009 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Dale Berrett would be authorized to graze 97 head of cattle.

Permitted grazing use in the Boulder allotment would be unchanged from the existing permit with 225 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-27.

Table ALT-27: Alternative 1 permit summary for the Boulder allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	97 Cattle	4/15-7/15	91	225	0	225

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-27 and the following numbered bullets:

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

- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Grazing Management

Table ALT-28.1 describes the grazing management on the allotment in accordance with the 1985 Decision. In addition to the grazing rotation identified in Table ALT-28.1, the following livestock grazing management flexibility and allotment management objectives include utilization of key forage plants may not exceed 50 percent of annual production.

Table ALT-28.1: Boulder allotment 1985 decision

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/16-5/15	7/1-7/31	4/16-5/15

However, livestock grazing management between 1997 and 2012, in accordance with actual use reports, has varied in comparison with the 1985 Decision (Table ALT-28.2). The pasture has been split into three pastures and rest has been incorporated into the grazing schematic. Changes have been made in the turn-in-and-out dates for livestock by pasture. Actual use reports submitted between 1997 and 2012 indicate that AUMs have ranged from 201 to 244 and average actual use was 217AUMs for the allotment (Appendix B).

Table ALT-28.2: Boulder allotment three-pasture grazing system as described in actual use reports (Appendix B)

Pasture	2010	2011	2012
Pasture 1	Rest	4/20-5/25	4/17-5/17
Pasture 2	4/20-5/20	5/26-6/30	Rest
Pasture 3	5/21-7/2	Rest	5/18-6/30

2.4.5.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Boulder allotment in accordance with terms and conditions within the application received April 12, 2013 from Dale Berrett. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Boulder allotment would be unchanged from the existing permit with 225 AUMs active use authorized and no suspension of AUMs as summarized in Table Alt-29.

Table ALT-29: Alternative 2 permit summary for the Boulder allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	125 Cattle	4/15-6/30	91	225	0	225

Livestock Management

In accordance with the April 12, 2013 application, the grazing schedule for pastures of the Boulder allotment identified in Table ALT-30 would be authorized. Permitted scheduled use in the Boulder allotment would be unchanged from the existing actual use. Cattle numbers may vary up to 125 not to exceed AUMs by allotment.

Table ALT-30: Alternative 2 grazing schedule for the Boulder allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-5/15	Rest	5/16-6/30
Pasture 2	5/16-6/30	4/15-5/15	Rest
Pasture 3	Rest	5/16-6/30	4/15-5/15

2.4.5.3 Alternative 3

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Boulder allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 20; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Boulder allotment would be unchanged from the existing permit with 225 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-31.

Table ALT-31: Alternative 3 permit summary for the Boulder allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	125 Cattle	5/15-7/30	91	225	0	225

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Boulder allotment schedule would be defined as listed in Table ALT-32 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Cattle numbers may vary up to 125 not to exceed 225 AUMs by allotment.

Table ALT-32: Alternative 3 grazing schedule for the Boulder allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	5/15-6/15	Rest	6/15-7/13
Pasture 2	6/16-7/12	5/20-6/15	Rest

Pasture 3	Rest	6/16-7/16	5/15-6/14

2.4.5.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Boulder allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Columbia Spotted Frog Watershed: Pastures 1 and 2 use will be allowed from May 1 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
5. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Boulder allotment would be reduced from the existing permit to maximum of 97cattle and 170 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-33.

Table ALT-33: Alternative 4 permit summary for the Boulder allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Dale Berrett (1101388)	97 Cattle	4/17-10-30	91	170	0	171

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Boulder allotment schedule would be defined as listed in Table ALT-34 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

Table ALT-34: Alternative 4 grazing schedule for the Boulder allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/17-5/15	Rest	9/1-9/29
Pasture 2	5/16-6/11	9/1-9/27	Rest
Pasture 3	Rest	8/1-8/31	9/30-10/30

2.4.5.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Boulder allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit

would be offered. All 225 AUMs of permitted use in the Boulder allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.6 Boulder Flat Allotment

2.4.6.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Boulder Flat allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 has averaged 305 AUMs, with a maximum of 344 AUMs in 2007 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Phillip and Ben Williams would be authorized to graze 64 head of cattle.

Permitted grazing use in the Boulder Flat allotment would be unchanged from the existing permit with 344 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-35.

Table ALT-35: Alternative 1 permit summary for the Boulder Flat allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	64 Cattle	4/16-10/15	89	344	0	344

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-35 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Grazing Management

Table ALT-36.1 describes the grazing management on the allotment in accordance with the 1985 Decision. In addition to the grazing rotation identified in Table ALT-36.1, the following livestock grazing management flexibility and allotment management objectives include utilization of key forage plants may not exceed 50 percent of annual production.

Table ALT-36.1: Boulder Flat allotment 1985 decision

Pasture	1987	1988	1989
Pasture 1	4/16 to50 percent	D	Repeat
Pasture 2	D	4/16 to50 percent	Cycle

Dates are approximate and may vary according to climatic conditions and utilization.
D—deferred until the turnout pasture has been utilized to 50 percent. Under good climatic condition the second pasture can be rested.

However, livestock grazing management between 1997 and 2012, in accordance with actual use reports, has varied in comparison with the 1985 Decision (Table ALT-36.2). Changes have been made in the turn-in-and-out dates for livestock by pasture and using the pastures as one. Actual use reports submitted between 1997 and 2012 indicate that AUMs have ranged from 214 to 344 and average actual use was 305 AUMs for the allotment.

Table ALT-36.2: Boulder Flat allotment two-pasture grazing system as described in actual use reports (Appendix B)

Pasture	2010	2011	2012
Pasture 1	4/29-6/12	5/7-6/19	5/7-10/15
Pasture 2	4/29-6/12	5/7-6/19	5/7-10/15

2.4.6.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Boulder Flat allotment in accordance with terms and conditions within the application received April 15, 2013 from Phillip and Ben Williams. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Boulder Flat allotment would be unchanged from the existing permit with 344 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-37.

Table ALT-37: Alternative 2 permit summary for the Boulder Flat allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	152 Cattle	4/15-10/15	89	344	0	344

Livestock Management

In accordance with the April 12, 2013 application, the grazing schedule for pastures of the Boulder Flat allotment identified in Table ALT-38 would be authorized. Seasons of use may vary as long as total 344 AUMs are not exceeded; cattle number may vary up to maximum 152 head. Use of pastures from 7/1 to10/15 every third year if water available.

Table ALT-38: Alternative 2 grazing schedule for the Boulder Flat allotment

Pasture	Year 1	Year 2
Pasture 1	4/15-5/15	6/1-6/30
Pasture 2	5/16-6/15	4/15-5/30

2.4.6.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Boulder Flat allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Red Band Trout: Use will be allowed from March 15 to June 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
5. Riparian: Pasture 1 use will be allowed from June 15 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. Pasture 2 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Boulder Flat allotment would be unchanged from the existing permit with 344 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-39.

Table ALT-39: Alternative 3 permit summary for the Boulder Flat allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	152 Cattle	4/15-9/15	89	344	0	344

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Boulder Flat allotment schedule would be defined as listed in Table ALT-40 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 344 AUMs are not exceeded; cattle number may vary up to maximum 152 head.

Table ALT-40: Alternative 3 grazing schedule for the Boulder Flat allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-5/15	6/1-6/30	7/1-7/31
Pasture 2	5/16-6/15	4/15-5/30	8/1-9/15

2.4.6.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Boulder Flat allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a

degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Use will be allowed from March 15 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Columbia Spotted Frog Watershed: Pastures 1 and 2 Use will be allowed from May 1 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
5. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
6. Riparian: Pasture 1 use will be allowed from June 15 to September 30; no use all years. Pasture 2 use will be allowed from July 1 to September 30; no use all years.

Permitted grazing use in the Boulder Flat allotment would be reduced from the existing permit to 305 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-41.

Table ALT-41: Alternative 4 permit summary for the Boulder Flat allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Phillip and Ben Williams (1102867)	136 Cattle	4/15-12/16	89	305	0	305

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Boulder Flat allotment schedule would be defined as listed in Table ALT-42 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 305 AUMs are not exceeded; cattle number may vary up to maximum 136 head.

Table ALT-42: Alternative 4 grazing schedule for the Boulder Flat allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-5/15	Rest	10/1-10/31
Pasture 2	5/16-6/15	Rest	11/1-12/16

2.4.6.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Boulder Flat allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 344 AUMs of permitted use in the Boulder Flat allotment would be cancelled and

unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.7 Combination Creek Allotment

2.4.7.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Combination Creek allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 has averaged 354 AUMs, with a maximum of 410 AUMs in 1998 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Morgan Ranches would be authorized to graze 103 head of cattle.

Permitted grazing use in the Combination Creek allotment would be unchanged from the existing permit with 410 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-43.

Table ALT-43: Alternative 1 permit summary for the Combination Creek allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	103 Cattle	6/1-10/31	79	410	0	410

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-43 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Grazing Management

Table ALT-44.1 describes the grazing management on the allotment in accordance with the 1985 Decision. In addition to the grazing rotation identified in Table ALT-44.1, the following livestock grazing management flexibility and allotment management objectives include utilization of key forage plants may not exceed 50 percent of annual production.

Table ALT-44: Combination Creek allotment 1985 decision

Pasture	1985	1986	1987
Pasture 1	Su	ASR	Repeat Cycle

Su—summer; 6/1 to 50 percent utilization
ASR—After seed ripe- 6/1-6/15 turn out and move through. Return after seed ripe 7/15
Dates are approximate and may vary according to climatic conditions and utilization.

However, livestock grazing management between 1997 and 2012, in accordance with actual use reports, has varied in comparison with the 1985 Decision (Table ALT-44.2). Changes have been made in the turn-in-and-out dates for livestock by pasture and using the pastures as one. Actual use reports submitted between 1997 and 2012 indicate that AUMs have ranged from 314 to 410 and average actual use was 354 AUMs for the allotment.

Table ALT-44.2: Combination Creek allotment one-pasture grazing system as described in actual use reports (Appendix B)

Pasture	2010	2011	2012
Pasture 1	6/17-10/15	7/2-10/1	6/15-10/15

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-44.2 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.7.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Combination Creek allotment in accordance with terms and conditions within the application received April 16, 2013 from Morgan Ranches. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Combination Creek allotment would be unchanged from the existing permit with 410 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-45.

Table ALT-45: Alternative 2 permit summary for the Combination Creek allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	350 Cattle	6/1-11/15	79	410	0	410

Livestock Management

In accordance with the April 16, 2013 application, the grazing schedule for pastures of the Combination Creek allotment identified in Table ALT-46 would be authorized. Seasons of use may vary as long as total 410 AUMs are not exceeded; cattle number may vary up to maximum 350 head. Use of pastures from 10/1-11/15 every third year if water available.

Table ALT-46: Alternative 2 grazing schedule for the Combination Creek allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/1-10/31	6/1-10/31	10/1-11/15

2.4.7.3 Alternative 3

Alternative 3 was not developed for the Combination Creek allotment because Alternative 2 adequately addressed resource constraints:

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Red Band Trout: Use will be allowed from March 15 to June 15, no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 31; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
5. Riparian: Use will be allowed from July 1 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.

2.4.7.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Combination Creek allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Use will be allowed from March 15 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
5. Riparian: Use will be allowed from July 1 to September 30; no use all years.

Permitted grazing use in the Combination Creek allotment would be reduced from the existing permit to 354 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-47.

Table ALT-47: Alternative 4 permit summary for the Combination Creek allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	103 Cattle	6/1-11/15	79	354	0	354

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Combination Creek allotment schedule would be defined as listed in Table ALT-48 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

Table ALT-48: Alternative 4 grazing schedule for the Combination Creek allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/1-10/31	10/1-11/15	Rest

2.4.7.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Combination Creek allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 410 AUMs of permitted use in the Combination Creek allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.8 Feltwell Allotment

2.4.8.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Feltwell allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 has averaged 224 AUMs, with a maximum of 283 AUMs in 2005 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public

land within the allotment. As a result, WF and Carolyn Peton would be authorized to graze 69 head of cattle.

Permitted grazing use in the Feltwell allotment would be unchanged from the existing permit with 279 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-49.

Table ALT-49: Alternative 1 permit summary for the Feltwell allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
WF and Carolyn Peton (1104126)	69 Cattle	5/1-9/1	100	279	0	279

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-49 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Management

The number of livestock and season of use on the Feltwell allotment, an allotment that includes a 63 percent of BLM land. Actual use ranged from 71 to 283 AUMs from 1997 to 2011, with average actual use of 224 AUMs (Appendix B). No data was reported in 2002–2004 and 2007. Actual use reported was insufficient to estimate actual use by pasture due to splitting the pastures with other pastures that were all private land. Therefore, only allotment total AUMs will be sufficient to analyze for actual use reported in the Feltwell allotment.

Actual use reported in 2006, 2008, 2010, and 2011 were insufficient to use for calculating average actual use, because AUMs were reported for combined pastures and it was unclear which pasture was used. However, dates of use ranged from May 1 through September 1 annually.

2.4.8.2 Alternative 2

Under Alternative 2, BLM would renew the livestock-grazing permit for use in the Feltwell allotment in accordance with terms and conditions within the application received April 17, 2013 from WF and Carolyn Peton and Mindy Kershner. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is reproduced in Appendix D. The number of livestock and season of use on the Feltwell allotment includes 63 percent of BLM land.

Permitted grazing use in the Feltwell allotment would be unchanged from the existing permit with 279 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-50.

Table ALT-50: Alternative 2 permit summary for the Feltwell allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
WF & Carolyn Peton (1104126)	80 Cattle	4/1-9/15	63	279	0	279

Livestock Management
In accordance with the April 17, 2013 application, the grazing schedule for pastures of the Feltwell allotment identified in Table ALT-51 would be authorized. Seasons of use may vary as long as the total 279 AUMs are not exceeded; cattle number may vary up to maximum 80 head.

Table ALT-51: Alternative 2 grazing schedule for the Feltwell allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/1-7/15	8/16-9/15	4/1-7/15
Pasture 2	4/1-7/15	8/16-9/15	4/1-7/15
Pasture 3	7/16-8/15	7/16-8/15	8/16-9/15
Pasture 4	8/16-9/15	4/1-7/15	7/16-8/15
Pasture 5/6 (Private)	3/1-2/28	3/1-2/28	3/1-2/28

Seasons may vary depending on precipitation up to a week on either end of the pasture dates; on and off the Feltwell allotment dates would remain the same. Max cow numbers may be up to 80 cattle not to exceed 279 AUMs.

2.4.8.3 Alternative 3

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Feltwell allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values. The number of livestock and season of use on the Feltwell allotment that includes 63 percent of BLM land

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Riparian: Pastures 1, 2 and 3 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Feltwell allotment would be reduced from the existing permit to 224 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-52.

Table ALT-52: Alternative 3 permit summary for the Feltwell allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
WF & Carolyn Peton (1104126)	80 Cattle	5/15-11/15	63	224	0	224

Livestock grazing management
As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Feltwell allotment schedule would be defined as listed in Table ALT-53 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Within pasture 3; a minimum of 6 inch stubble height, 30 percent browse (where applicable), and less than 10 percent bank alteration will be maintained in key riparian areas at the end of the grazing season.
2. Seasons of use may vary as long as total 279 AUMs are not exceeded; cattle number may vary up to maximum 80 head.

Table ALT-53: Alternative 3 grazing schedule for the Feltwell allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	5/15-6/12	8/9-9/6	10/1-10/29
Pasture 2	5/15-6/12	8/9-9/6	10/1-10/29
Pasture 3	6/13-9/28	10/1-11/15	6/15-9/30
Pasture 4	9/29-10/22	9/7-9/30	5/22-6/14
Pasture 5/6 (Private)	3/1-2/28	3/1-2/28	3/1-2/28

2.4.8.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Feltwell allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values. The number of livestock and season of use on the Feltwell allotment that includes 63 percent of BLM land

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Riparian: Pasture 1, 2 and 3 Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Feltwell allotment would be reduced from the existing permit to 188 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-54.

Table ALT-54: Alternative 4 permit summary for the Feltwell allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
WF and Carolyn Peton (1104126)	69 Cattle	6/13-11/15	63	188	0	188

Livestock grazing management
As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Feltwell allotment schedule would be defined as listed in Table ALT-55 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

Table ALT-55: Alternative 4 grazing schedule for the Feltwell allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	Rest	8/21-9/30	10/1-10/29
Pasture 2	Rest	8/21-9/30	10/1-10/29
Pasture 3	6/13-9/28	10/1-11/15	Rest
Pasture 4	9/29-10/22	Rest	9/7-9/30
Pasture 5/6 (Private)	3/1-2/28	3/1-2/28	3/1-2/28

2.4.8.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Feltwell allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 279 AUMs of permitted use in the Feltwell allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.9 Glass Creek Allotment

2.4.9.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Glass Creek allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 has averaged 124 AUMs, with a maximum of 148 AUMs in 1998 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Tom Gluch and Terry Warn would each be authorized to graze 49 head of cattle.

Permitted grazing use in the Glass Creek allotment would be unchanged from the existing permit with 139 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-56.

Table ALT-56: Alternative 1 permit summary for the Glass Creek allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	49 Cattle	4/4-6/15	87	65	0	65
Terry Warn (1101462)	49 Cattle	4/16-6/31	100	74	0	74

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-28.2 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Grazing Management

Table ALT-57.1 describes the grazing management on the allotment in accordance with the 1981 Decision. In addition to the grazing rotation identified in Table ALT-57.1, the following livestock grazing management flexibility and allotment management objectives include utilization of key forage plants may not exceed 50 percent of annual production.

Table ALT-57.1: Glass Creek allotment 1981 decision

Pasture	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Pasture 1	Rest	Rest	4/16-5/22	4/16-5/22	8/1-9/7	Repeat Cycle
Pasture 2	4/16-7/8	4/16-7/8	8/1-10/13	8/1-10/13	4/16-7/8	From Year 3

However, livestock grazing management between 1997 and 2012, in accordance with actual use reports, has varied in comparison with the 1981 Decision (Table ALT-57.2). Changes have been made in the turn-in-and-out dates for livestock by pasture and using the allotment as two pastures. Actual use reports submitted between 1997 and 2012 indicate that AUMs have ranged from 62 to 148 and average actual use was 124 AUMs for the allotment.

Table ALT-57.2: Glass Creek allotment two-pasture grazing system as described in actual use reports (Appendix B)

Pasture	2010	2011	2012
Pasture 1	4/16-5/30	4/16-5/31	4/16-5/30
Pasture 2	Rest	No Data	4/16-5/27

2.4.9.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Glass Creek allotment in accordance with terms and conditions within the applications received April 19, 2013 from Tom Gluch and Terry Warn. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Glass Creek allotment would be as described in the tables below with 139 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-58.

Table ALT-58: Alternative 2 permit summary for the Glass Creek allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	50 Cattle	4/16-6/15	87	65	0	65
Terry Warn (1101462)	50 Cattle	4/16-6/15	100	74	0	74

Livestock Management

In accordance with the April 19, 2013 application, the grazing schedule for pastures of the Glass Creek allotment identified in Table ALT-59 would be authorized. Seasons of use may vary as long as total 139 AUMs are not exceeded; cattle number may vary up to maximum 100 head.

Table ALT-59: Alternative 2 grazing schedule for the Glass Creek allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/16-6/15	4/16-6/15	Rest
Pasture 2	Rest	Rest	4/16-6/15

2.4.9.3 Alternative 3

Alternative 3 was not developed for the Glass Creek FFR allotment because Alternative 2 adequately addressed resource constraints:

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .

2.4.9.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Glass Creek allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment.

Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Glass Creek allotment would be reduced from the existing permit to 73 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-60.

Table ALT-60: Alternative 4 permit summary for the Glass Creek allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	49 Cattle	4/16-8/30	87	37	0	37
Terry Warn (1101462)	49 Cattle	4/16-8/30	100	36	0	36

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Glass Creek allotment schedule would be defined as listed in Table ALT-61 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 73 AUMs are not exceeded; cattle number may vary up to maximum 98 head.

Table ALT-61: Alternative 4 grazing schedule for the Glass Creek allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/16-6/30	7/1-8/30	Rest
Pasture 2	Rest	Rest	4/16-6/15

2.4.9.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Glass Creek allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 139 AUMs of permitted use in the Glass Creek allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.10 Gluch Allotment

2.4.10.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Gluch allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-

year period between 1997 and 2012 has averaged 45 AUMs, with a maximum of 55 AUMs in 2009 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Tom Gluch would be authorized to graze 50 head of cattle.

Permitted grazing use in the Gluch allotment would be unchanged from the existing permit with 50 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-62.

Table ALT-62: Alternative 1 permit summary for the Gluch allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	50 Cattle	3/15-5/17	100	50	0	50

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-62 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Grazing Management

Table ALT-63.1 describes the grazing management on the allotment in accordance with the 1984 Decision. In addition to the grazing rotation identified in Table ALT-63.1, the following livestock grazing management flexibility and allotment management objectives include utilization of key forage plants may not exceed 50 percent of annual production.

Table ALT-63.1: Gluch allotment 1984 decision

Pasture	1985	1986	1987
Pasture 1	4/16-6/15	8/1-11/15	Repeat Cycle

However, livestock grazing management between 1997 and 2012, in accordance with actual use reports, has varied in comparison with the 1985 Decision (Table ALT-63.2). Changes have been made in the turn-in-and-out dates for livestock by pasture and using the pastures as one. Actual use reports submitted between 1997 and 2012 indicate that AUMs have ranged from 22 to 55 and average actual use was 45 AUMs for the allotment.

Table ALT-63.2: Gluch allotment one-pasture grazing system as described in actual use reports (Appendix B)

Pasture	2010	2011	2012

Pasture 1	3/17-4/12	4/1-5/2	3/24-4/25

2.4.10.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Gluch allotment in accordance with terms and conditions within the applications received April 19, 2013 from Tom Gluch. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Gluch allotment would be unchanged from the existing permit with 50 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-64.

Table ALT-64: Alternative 2 permit summary for the Gluch allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	50 Cattle	3/16-4/15	100	50	0	50

Livestock Management

In accordance with the April 19, 2013 application, the grazing schedule for pastures of the Gluch allotment identified in Table ALT-65 would be authorized. Seasons of use may vary as long as total 50 AUMs are not exceeded; cattle number may vary up to maximum 50 head.

Table ALT-65: Alternative 2 grazing schedule for the Gluch allotment

Pasture	All Years
Pasture 1	3/16-4/15

2.4.10.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Gluch allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Gluch allotment would be reduced from the existing permit to 50 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-66.

Table ALT-66: Alternative 3 permit summary for the Gluch allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	50 Cattle	3/16-6/30	100	50	0	50

Livestock grazing management
As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Gluch allotment schedule would be defined as listed in Table ALT-67 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 50 AUMs are not exceeded; cattle number may vary up to maximum 50 head.

Table ALT-67: Alternative 3 grazing schedule for the Gluch allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	3/16-4/15	3/16-4/15	6/1-6/30

2.4.10.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Gluch allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Gluch allotment would be reduced from the existing permit to 44 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-68.

Table ALT-68: Alternative 4 permit summary for the Gluch allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	44 Cattle	3/16-6/30	100	44	0	44

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Gluch allotment schedule would be defined as listed in Table ALT-69 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 44 AUMs are not exceeded; cattle number may vary up to maximum 44 head.

Table ALT-69: Alternative 4 grazing schedule for the Gluch allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	3/16-4/15	rest	6/1-6/30

2.4.10.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Gluch allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 50 AUMs of permitted use in the Gluch allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.11 Gluch FFR Allotment

2.4.11.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Gluch FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Gluch FFR allotment, an allotment that includes a 19 percent of BLM land, would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Gluch FFR allotment would be unchanged from the existing permit with 105 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-70.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Tom Gluch. The current permit for this allotment is summarized in Table Alt 1-70. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, the Gluch FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants is not to exceed 50 percent of annual production.

The Gluch FFR allotment actual use was reported as one pasture; however, there have been fences in place on the allotment since at least the early 1980s (see allotment map GEN-1). Pasture 1 has been used in the winter and spring repeatedly as a feed ground January 1 through April 1. Pasture 2 has been used repeatedly in the spring April 1 to May 1; pasture 3 has been used repeatedly in the spring May 1 to June 1. Pasture 4 was used in conjunction with the hay fields mainly for fall use. However, it has been used any time of the year repeatedly; use was authorized under an exchange-of-use agreement. Pasture 5 is a

water gap with the reservoir and minimal Idaho BLM lands are associated with this pasture; it is mostly made up of Oregon state lands and is used in the spring and summer.

Table ALT-70: Alternative 1 permit summary for the Gluch FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	103 Cattle	3/10-8/16	100	105	0	105

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-70 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.11.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Gluch FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Tom Gluch. The number of livestock and season of use on the Gluch FFR allotment, an allotment that includes 19 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Gluch FFR allotment would be unchanged from the existing permit with 105 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-71.

Table ALT-71: Alternative 2 permit summary for the Gluch FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	300 Cattle	3/1-2/28	19	105	0	105

Livestock Management

In accordance with the April 19, 2013 application, the grazing schedule for pastures of the Gluch FFR allotment identified in Table ALT-72 would be authorized. Seasons of use may vary as long as total 105 AUMs are not exceeded; cattle number may vary up to maximum 300 head. Take out Oregon State Land in Pasture 2.

Table ALT-72: Alternative 2 grazing schedule for the Gluch FFR allotment

Pasture	All Years
Pasture 1	1/1-4/1
Pasture 2	4/2-4/30
Pasture 3	5/1-5/30
Pasture 4 (Private)	3/1-2/28
Pasture 5 (Oregon State)	3/1-2/28

2.4.11.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Gluch FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. While the season of available grazing use authorized and total AUMs used from public lands would be defined, the number of livestock on the Gluch FFR allotment, an allotment that includes a 19 percent of BLM land, would be as described in the tables below.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .

Permitted grazing use in the Gluch FFR allotment would be unchanged from the existing permit with 75AUMs active use authorized and no suspended AUMs as summarized in Table Alt-73.

Table ALT-73: Alternative 3 permit summary for the Gluch FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	300 Cattle	3/1-2/28	19	75	0	75

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Gluch FFR allotment schedule would be defined as listed in Table ALT-74 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 75 AUMs are not exceeded; cattle number may vary up to maximum 300 head.

Table ALT-74: Alternative 3 grazing schedule for the Gluch FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	1/1-4/1	1/1-4/1	Rest
Pasture 2	Rest	4/2-4/30	4/2-4/30
Pasture 3	5/1-5/30	Rest	5/1-5/30
Pasture 4 (Private)	3/1-2/28	3/1-2/28	3/1-2/28
Pasture 5 (Oregon State)	3/1-2/28	3/1-2/28	3/1-2/28

2.4.11.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Gluch FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Gluch FFR allotment would be reduced from the existing permit to 75 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-75.

Table ALT-75: Alternative 4 permit summary for the Gluch FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Tom Gluch (1101412)	103 Cattle	3/1-2/28	19	75	0	75

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Gluch FFR allotment schedule would be defined as listed in Table ALT-76 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 75 AUMs are not exceeded; cattle number may vary up to maximum 103 head.

Table ALT-76: Alternative 4 grazing schedule for the Gluch FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	1/1-4/1	7/1-12/31	Rest
Pasture 2	7/1-12/31	Rest	4/2-4/30
Pasture 3	Rest	5/1-5/31	7/1-12/31
Pasture 4 (Private)	3/1-2/28	3/1-2/28	3/1-2/28
Pasture 5 (Oregon State)	3/1-2/28	3/1-2/28	3/1-2/28

2.4.11.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Gluch FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 105 AUMs of permitted use in the Gluch FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.12 Jim's Peak FFR Allotment

2.4.12.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Jim's Peak FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Jim's Peak FFR allotment, an allotment that includes a 40 percent of BLM land, would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Jim's Peak FFR allotment would be unchanged from the existing permit with 56 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-77.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Morgan Ranches. The current permit for this allotment is summarized in Table ALT-77. The number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, Jim's Peak FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants is not to exceed 50 percent of annual production.

Table ALT-77: Alternative 1 permit summary for the Jim's Peak FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	55 Cattle	6/10-9/15	100	56	0	56

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-77 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.12.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Jim's Peak FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Morgan Ranches. The number of livestock and season of use on the Jim's Peak FFR allotment, an allotment that includes 40 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Jim's Peak FFR allotment would be unchanged from the existing permit with 56 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-78.

Table ALT-78: Alternative 2 permit summary for the Jim's Peak FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	100 Cattle	6/15-11/15	40	56	0	56

Livestock Management

In accordance with the April 14, 2013 application, the grazing schedule for pastures of the Jim's Peak FFR allotment identified in Table ALT-79 would be authorized. Seasons of use may vary as long as total 56 AUMs are not exceeded; cattle number may vary up to maximum 100 head.

Table ALT-79: Alternative 2 grazing schedule for the Jim's Peak FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/15-10/15	6/15-10/31	10/1-11/15

2.4.12.3 Alternative 3

Alternative 3 was not developed for the Jim's Peak FFR because Alternative 2 adequately addressed resource constraints.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
4. Riparian: Pastures 1, 2 and 3 use will be allowed from July 1 to September 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.

2.4.12.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Jim's Peak FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

5. Wildlife: Use will be allowed from April 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
6. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
7. Soils: Use will be allowed from March 1 to May 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
8. Riparian: Pastures 1, 2 and 3 Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Jim's Peak FFR allotment would be reduced from the existing permit with 54 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-80.

Table ALT-80: Alternative 4 permit summary for the Jim's Peak FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	53 Cattle	6/15-11/15	40	54	0	54

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Jim's Peak FFR allotment schedule would be defined as listed in Table ALT-81 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 54 AUMs are not exceeded; cattle number may vary up to maximum 53 head.

Table ALT-81: Alternative 4 grazing schedule for the Jim's Peak FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/15-10/15	Rest	10/1-11/15

2.4.12.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Jim's Peak FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 56 AUMs of permitted use in the Jim's Peak FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.13 Morgan Allotment

2.4.13.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Morgan allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1998 and 2012 with an average of 276 AUMs, with a maximum of 436 AUMs in 1999 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Morgan Ranches would be authorized to graze 60 head of cattle and eight horses.

Permitted grazing use in the Morgan allotment would be unchanged from the existing permit with 436 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-82. Permitted use would be authorized at maximum use level between 1997 through 2012.

Table ALT-82: Alternative 1 permit summary for the Morgan allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	60 Cattle 8 Horses	4/1-7/15	82	436	0	446

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-82 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and

- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.13.2 Alternative 2

The permittee has applied for the use to remain the same as that described under Alternative 1. The Morgan allotment has four pastures and is used anytime between April 1 through July 15 yearly with a maximum 60 cattle and eight horses; not to exceed 446 AUMs.

2.4.13.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Morgan allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Red Band Trout: Pastures 3 and 4 use will be allowed from March 15 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Pasture 1 use will be allowed from March 1 to May 31; Pastures 2, 3 and 4 Use will be allowed from March 1 to May 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
5. Riparian: Pastures 1, 2 and 3 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Morgan allotment would be reduced from the existing permit to 436 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-83.

Table ALT-83: Alternative 3 permit summary for the Morgan allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	60 Cattle 8 Horses	3/15-12/30	82	436	0	436

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Morgan allotment schedule would be defined as listed in Table ALT-84 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 436 AUMs are not exceeded; cattle number may vary up to maximum 60 head and horses up to 8 head.

Table ALT-84: Alternative 3 grazing schedule for the Morgan allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	3/16-6/15	10/1-12/30	3/16-6/15
Pasture 2	10/1-11/15	6/1-7/16	6/1-7/15
Pasture 3	4/20-6/15	4/20-6/15	10/1-11/26
Pasture 4	4/20-5/22	4/20-5/22	10/1-11/2

2.4.13.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Morgan allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Pastures 3 and 4 use will be allowed from March 15 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
3. Columbia Spotted Frog: Pastures 3 and 4 use will be allowed from May 1 to June 15, no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
5. Soils: Pasture 1 Use will be allowed from March 1 to May 31; Pastures 2, 3 and 4 use will be allowed from March 1 to May 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
6. Riparian: Pasture 1 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. . Pastures 2 and 3 June 15 through September 30; no use all years.

Permitted grazing use in the Morgan allotment would be reduced from the existing permit to 364 AUMs active use authorized and no suspension AUMs as summarized in Table Alt-85.

Table ALT-85: Alternative 4 permit summary for the Morgan allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	60 Cattle 8 Horses	3/15-12/30	82	364	0	364

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Morgan allotment schedule would be defined as listed in Table ALT-86 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 364 AUMs are not exceeded; cattle number may vary up to maximum 60 head and horses 8 head.

Table ALT-86: Alternative 4 grazing schedule for the Morgan allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	3/16-6/15	10/1-12/30	Rest
Pasture 2	10/1-11/15	Rest	6/1-7/15
Pasture 3	Rest	4/20-6/15	10/1-11/26
Pasture 4	Rest	4/20-5/22	10/1-11/2

2.4.13.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Morgan allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 446 AUMs of permitted use in the Morgan allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.14 Rail Creek FFR Allotment

2.4.14.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Rail Creek FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Rail Creek FFR allotment, an allotment that includes a 3 percent of BLM land, would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Rail Creek FFR allotment would be unchanged from the existing permit with 13 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-87.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Morgan Ranches. The current permit for this allotment is summarized in Table Alt-87. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, the Rail Creek FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants would not exceed 50 percent of annual production.

Table ALT-87: Alternative 1 permit summary for the Rail Creek FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	13 Cattle	6/1-11/30	100	13	0	13

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-87 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.14.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Rail Creek FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Morgan Ranches. The number of livestock and season of use on the Rail Creek FFR allotment, an allotment that includes 3 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Rail Creek FFR allotment would be unchanged from the existing permit with 13 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-88.

Table ALT-88: Alternative 2 permit summary for the Rail Creek FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	300 Cattle	5/15-10/15	3	13	0	13

Livestock Management

In accordance with the April 14, 2013 application, the grazing schedule for pastures of the Rail Creek FFR allotment identified in Table ALT-89 would be authorized. Seasons of use may vary as long as total 13 AUMs are not exceeded; cattle number may vary up to maximum 300 head.

Table ALT-89: Alternative 2 grazing schedule for the Rail Creek FFR allotment

Pasture	All Years
Pasture 1	5/15-10/15
Pasture 2	5/15-10/15

2.4.14.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Rail Creek FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. While the season of available grazing use authorized and total AUMs used from public lands would be defined, the number of livestock on the Rail Creek FFR allotment, an allotment that includes a 3 percent of BLM land, would be as described in the tables below.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
4. Riparian: Pasture 2 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Rail Creek FFR allotment would be unchanged from the existing permit with 13 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-90.

Table ALT-90: Alternative 3 permit summary for the Rail Creek FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	300 Cattle	6/1-12/15	3	13	0	13

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Rail Creek FFR allotment schedule would be defined as listed in Table ALT-91 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 13 AUMs are not exceeded; cattle number may vary up to maximum 300 head.

Table ALT-91: Alternative 3 grazing schedule for the Rail Creek FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/1-8/31	6/1-8/31	10/1-10/31
Pasture 2	9/1-11/30	9/1-11/30	11/1-12/15

2.4.14.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Rail Creek FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource

constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Pasture 2 use will be allowed from March 15 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
3. Columbia Spotted Frog: Use will be allowed from May 1 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
5. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
6. Riparian: Pasture 2 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Rail Creek FFR allotment would be reduced from the existing permit with 13 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-92.

Table ALT-92: Alternative 4 permit summary for the Rail Creek FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	70 Cattle	6/1-12/15	3	13	0	13

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Rail Creek FFR allotment schedule would be defined as listed in Table ALT-93 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 13 AUMs are not exceeded; cattle number may vary up to maximum 70 head.

Table ALT-93: Alternative 4 grazing schedule for the Rail Creek FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	6/1-8/31	Rest	10/1-10/31
Pasture 2	9/1-11/30	Rest	11/1-12/15

2.4.14.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Rail Creek FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 13 AUMs of permitted use in the Rail Creek FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.15 South Mountain Individual Allotment

2.4.15.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the South Mountain Individual allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 with an average of 342 AUMs, with a maximum of 736 AUMs in 2000 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Morgan Ranches would be authorized to graze 100 head of cattle.

Permitted grazing use in the South Mountain Individual allotment would be unchanged from the existing permit with 511 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-94.

Table ALT-94: Alternative 1 permit summary for the South Mountain Individual allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	100 Cattle	2/20-11/30	69	511	0	511

Livestock Grazing Management

The number of livestock and season of use on the South Mountain Individual allotment has ranged from 78 to 736 AUMs between 1997 and 2012, with an average of 342 for the allotment (Appendix B). Actual use reported was insufficient to estimate actual use by pasture due to the using the pastures during the same grazing period. Therefore, only allotment total AUMs will be sufficient to analyze for actual use reported in the South Mountain Individual allotment. However, dates of use ranged from February 20 through November 30 annually.

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-94 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.15.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the South Mountain Individual allotment in accordance with terms and conditions within the applications received April 14, 2013 from Morgan Ranches. Terms and conditions for stubble height, woody browse, utilization, and

stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the South Mountain Individual allotment would be unchanged from the existing permit with 511 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-95.

Table ALT-95: Alternative 2 permit summary for the South Mountain Individual allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	250 Cattle	4/20-11/30	69	511	0	511

Livestock Management
In accordance with the April 14, 2013 application, the grazing schedule for pastures of the South Mountain Individual allotment identified in Table ALT-96 would be authorized. Seasons of use may vary as long as total 511 AUMs are not exceeded; cattle number may vary up to maximum 250 head.

Table ALT-96: Alternative 2 grazing schedule for the South Mountain Individual allotment

Pasture	Year 1	Year 2
Pasture 1	4/20-7/1	9/19-11/30
Pasture 2	7/2-11/30	4/20-9/18

2.4.15.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the South Mountain Individual allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Red Band Trout: Use will be allowed from March 15 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
5. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the South Mountain Individual allotment would be unchanged from the existing permit to 511 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-97.

Table ALT-97: Alternative 3 permit summary for the South Mountain Individual allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	250 Cattle	4/20-11/30	69	511	0	511

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the South Mountain Individual allotment schedule would be defined as listed in Table ALT-98 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Within pasture 2, a minimum of 6 inch stubble height, 30 percent browse (where applicable), and less than 10 percent bank alteration will be maintained in key riparian areas at the end of the grazing season.
2. Seasons of use may vary as long as total 511 AUMs are not exceeded; cattle number may vary up to maximum 250 head.

Table ALT-98: Alternative 3 grazing schedule for the South Mountain Individual allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/20-7/1	4/20-7/1	10/1-11/30
Pasture 2	7/2-11/30	7/2-11/30	4/27-6/15

2.4.15.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the South Mountain Individual allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Use will be allowed from March 15 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
5. Riparian: Pasture 1 July 1 to September 30; no use all years.

Permitted grazing use in the South Mountain Individual allotment would be reduced from the existing permit to 342 AUMs active use authorized and no suspended AUMs as summarized in Table ALT-99.

Table ALT-99: Alternative 4 permit summary for the South Mountain Individual allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	67 Cattle	4/20-11/30	69	342	0	342

Livestock grazing management
As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the South Mountain Individual allotment schedule would be defined as listed in Table ALT-100 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 342 AUMs are not exceeded; cattle number may vary up to maximum 67 head.

Table ALT-100: Alternative 4 grazing schedule for the South Mountain Individual allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/20-7/1	Rest	10/1-11/30
Pasture 2	7/2-11/30	Rest	4/27-6/15

2.4.15.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the South Mountain Individual allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 511 AUMs of permitted use in the South Mountain Individual allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.16 Walt's Pond FFR Allotment

2.4.16.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Walt's Pond FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the Walt's Pond FFR allotment, an allotment that includes a 20 percent of BLM land, would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the Walt's Pond FFR allotment would be unchanged from the existing permit with 76 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-108.

Livestock grazing is authorized by a term grazing permit issued to Morgan Ranches. The current permit for this allotment is summarized in Table ALT-108. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, the Walt's Pond FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed

in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants would not exceed 50 percent of annual production.

Table ALT-108: Alternative 1 permit summary for the Walt's Pond FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	75 Cattle	4/1-6/5	100	76	0	76

Livestock Grazing Management
Although the allotment is divided into two separate pastures, the allotment is managed as one pasture. The BLM land associated with the Walt's Pond FFR allotment is 20 percent of the allotment and is managed in conjunction with the private land. Actual use for the allotment has ranged from 52 to 77 AUMs between 2003 and 2012, with an average of 72 AUMs for the allotment (Appendix B).

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-108 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.16.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Walt's Pond FFR allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Morgan Ranches. The number of livestock and season of use on the Walt's Pond FFR allotment, an allotment that includes 20 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Walt's Pond FFR allotment would be unchanged from the existing permit with 76 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-109.

Table ALT-109: Alternative 2 permit summary for the Walt's Pond FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	75 Cattle	3/1-2/28	20	76	0	76

Livestock Management
The permittee has applied for the use to remain the same as that described under Alternative 1. The grazing schedule the Walt's Pond FFR allotment identified in Table ALT-110 would be authorized. Seasons of use may vary as long as total 76 AUMs are not exceeded; cattle number may vary up to maximum 75 head.

Table ALT-110: Alternative 2 grazing schedule for the Walt's Pond FFR allotment

Pasture	All Years
Pasture 1	3/1-2/28
Pasture 2	3/1-2/28

2.4.16.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Walt's Pond FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. While the season of available grazing use authorized and total AUMs used from public lands would be defined, the number of livestock on the Walt's Pond FFR allotment, an allotment that includes a 20 percent of BLM land, would be as described in the tables below.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Red Band Trout: Use will be allowed from March 15 to June 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
5. Riparian: Pasture 1 use will be allowed from June 15 to September 30. Pasture 2 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Walt's Pond FFR allotment would be unchanged from the existing permit with 76 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-111.

Table ALT-111: Alternative 3 permit summary for the Walt's Pond FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	75 Cattle	4/1-6/5 10/1-12/25	20	76	0	76

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Walt's Pond FFR allotment schedule would be defined as listed in Table ALT-112 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 76 AUMs are not exceeded; cattle number may vary up to maximum 75 head.

Table ALT-112: Alternative 3 grazing schedule for the Walt's Pond FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	10/1-12/25	10/1-12/25	4/1-6/5
Pasture 2	4/1-6/5	4/1-6/5	10/1-12/25

2.4.16.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Walt's Pond FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Use will be allowed from March 15 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Pasture 1 use will be allowed from March 1 to May 15; Pasture 2 use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
5. Riparian: Pasture 1 use will be allowed from June 15 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. . Pasture 2 use will be allowed from July 1 to September 30; no use all years.

Permitted grazing use in the Walt's Pond FFR allotment would be reduced from the existing permit with 76 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-113.

Table ALT-113: Alternative 4 permit summary for the Walt's Pond FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Morgan Ranches (1101510)	75 Cattle	4/1-6/5 10/1-12/25	20	76	0	76

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Walt's Pond FFR allotment schedule would be defined as listed in Table ALT-114 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 76 AUMs are not exceeded; cattle number may vary up to maximum 75 head.

Table ALT-114: Alternative 4 grazing schedule for the Walt's Pond FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	10/1-12/25	rest	4/1-6/5
Pasture 2	rest	4/1-6/5	10/1-12/25

2.4.16.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Walt's Pond FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 76 AUMs of permitted use in the Walt's Pond FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.17 Warn Allotment

2.4.17.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Warn allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 with an average of 82 AUMs, with a maximum of 118 AUMs in 1999 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Terry Warn would be authorized to graze 74 head of cattle.

Permitted grazing use in the Warn allotment would be unchanged from the existing permit with 74 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-115.

Table ALT-115: Alternative 1 permit summary for the Warn allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	74 Cattle	4/15-6/19	100	74	0	74

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-115 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Grazing Management

Table ALT-116 describes the grazing management on the allotment in accordance with the 1982 Decision. In addition to the grazing rotation identified in Table ALT-116, the following livestock grazing management flexibility and allotment management objectives include utilization of key forage plants may not exceed 50 percent of annual production.

Table ALT-116: Warn allotment 1982 decision

Pasture	Year 1	Year 2	Year 3	Year 4
Pasture 1	6/1 to 50 percent use	7/15 to 50 percent use	9/1 to 50 percent use	Repeat Cycle

2.4.17.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Warn allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Terry Warn. The number of livestock and season of use on the Warn allotment would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Warn allotment would be unchanged from the existing permit with 13 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-117.

Table ALT-117: Alternative 2 permit summary for the Warn allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	200 Cattle	4/15-10/30	100	74	0	74

Livestock Management

The permittee has applied for the use to remain the same as that described under Alternative 1. The grazing schedule the Warn allotment identified in Table ALT-118 would be authorized. Seasons of use may vary as long as total 74 AUMs are not exceeded; cattle number may vary up to maximum 200 head.

Table ALT-118: Alternative 2 grazing schedule for the Warn allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-6/30	4/15-6/30	10/1-10/30

2.4.17.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Warn allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the Warn allotment would be reduced from the existing permit to 74 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-125.

Table ALT-125: Alternative 3 permit summary for the Warn allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	200 Cattle	5/1-10/31	100	74	0	74

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Warn allotment schedule would be defined as listed in Table ALT-126 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 74 AUMs are not exceeded; cattle number may vary up to maximum 200 head.

Table ALT-126: Alternative 3 grazing schedule for the Warn allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	5/1-5/31	5/1-5/31	10/1-10/30

2.4.17.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Warn allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Use will be allowed from March 15 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
3. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
5. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.

Permitted grazing use in the Warn allotment would be unchanged from the existing permit to 74 AUMs active use authorized and no suspened AUMs as summarized in Table Alt-119.

Table ALT-119: Alternative 4 permit summary for the Warn allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	74 Cattle	4/15-10/30	100	74	0	74

Livestock grazing management

As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Warn allotment schedule would be defined as listed in Table ALT-120 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 74 AUMs are not exceeded; cattle number may vary up to maximum 74 head.

Table ALT-120: Alternative 4 grazing schedule for the Warn allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-6/30	10/1-10/30	Rest

2.4.17.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Warn allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 74 AUMs of permitted use in the Warn allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.18 West Maher FFR Allotment

2.4.18.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the West Maher FFR allotment consistent with the summarized actions that have led to the current conditions. The same terms and conditions of the existing permit would be included in the permit offered. The number of livestock and season of use on the West Maher FFR allotment, an allotment that includes a 61 percent of BLM land, would be unchanged from the existing permit and at the discretion of the permittee. Appendix B provides a summary of actual use reported in recent years and provides information regarding the permittees implementation of that discretion.

Permitted grazing use in the West Maher FFR allotment would be unchanged from the existing permit with 120 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-121.

Livestock Grazing Management

Livestock grazing is authorized by a term grazing permit issued to Terry Warn. The current permit for this allotment is summarized in Table ALT-121. Under Alternative 1, the number of livestock and the season of use on the FFR allotment would be at the permittees discretion. Currently, West. Maher FFR allotment is authorized to be grazed any time during the year and at the discretion of the permittee, with authorized officer's prior approval. However, maximum seasons of use actually used are displayed in the table below. Other grazing permit terms and conditions indicate that utilization of key forage plants would not exceed 50 percent of annual production.

Table ALT-121: Alternative 1 permit summary for the West Maher FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	118 Cattle	4/1-12/31	100	120	0	120

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-121 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

2.4.18.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the West Maher FFR allotment in accordance with terms and conditions of the existing permit and as modified by the

applications received from Terry Warn. The number of livestock and season of use on the West Maher FFR allotment, an allotment that includes 61 percent of BLM land, would be as described in the tables below. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the West Maher FFR allotment would be unchanged from the existing permit with 120 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-122.

Table ALT-122: Alternative 2 permit summary for the West Maher FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	118 Cattle	4/1-10/15	61	120	0	120

Livestock Management
In accordance with the April 14, 2013 application, the grazing schedule for pastures (pasture 1 is all private) of the West Maher FFR allotment identified in Table ALT-123 would be authorized. Seasons of use may vary as long as total 120 AUMs are not exceeded; cattle number may vary up to maximum 118 head. Use every third year use Pasture 3 in fall 9/1-10/15 when water is available.

Table ALT-123: Alternative 2 grazing schedule for the West Maher FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 2	4/1-6/30	4/1-6/30	4/1-6/30
Pasture 3	4/1-6/30	4/1-6/30	9/1-10/15

2.4.18.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the West Maher FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. While the season of available grazing use authorized and total AUMs used from public lands would be defined, the number of livestock on the West Maher FFR allotment, an allotment that includes a 61 percent of BLM land, would be as described in the tables below.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 15; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years. .
4. Riparian: Pasture 2 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the West Maher FFR allotment would be unchanged from the existing permit with 120 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-124.

Table ALT-124: Alternative 3 permit summary for the West Maher FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	118 Cattle	4/1-10/30	61	120	0	120

Livestock grazing management
As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the West Maher FFR allotment schedule would be defined as listed in Table ALT-125 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 120 AUMs are not exceeded; cattle number may vary up to maximum 118 head.

Table ALT-125: Alternative 3 grazing schedule for the West Maher FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 2	4/1-6/30	4/1-6/30	10/1-10/30
Pasture 3	4/1-6/30	10/1-10/30	4/1-6/30

2.4.18.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the West Maher FFR allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from March 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
2. Red Band Trout: Pasture 2 use will be allowed from March 15 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
3. Columbia Spotted Frog: Use will be allowed from May 1 to June 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
4. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
5. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .
6. Riparian: Pasture 2 use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years. .

Permitted grazing use in the West Maher FFR allotment would be reduced from the existing permit with 102 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-126.

Table ALT-126: Alternative 4 permit summary for the West Maher FFR allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Terry Warn (1101462)	100 Cattle	4/1-10/30	61	102	0	102

Livestock grazing management
As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the West Maher FFR allotment schedule would be defined as listed in Table ALT-127 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

Table ALT-127: Alternative 4 grazing schedule for the West Maher FFR allotment

Pasture	Year 1	Year 2	Year 3
Pasture 2	4/1-6/30	10/1-10/30	Rest
Pasture 3	10/1-10/30	Rest	4/1-6/30

2.4.18.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the West Maher FFR allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 120 AUMs of permitted use in the West Maher FFR allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

2.4.19 Wroten Allotment

2.4.19.1 Alternative 1

Under Alternative 1, the BLM would renew the livestock grazing permit for use in the Wroten allotment with the same terms and conditions as those in the existing permit. Actual use reported during the ten-year period between 1997 and 2012 with an average of 458 AUMs, with a maximum of 874 AUMs in 2009 (see Appendix B actual use/utilization). Alternative 1 would authorize livestock grazing at a level equivalent to the permitted use, a level of use that has resulted in current resource conditions on public land within the allotment. As a result, Wroten Land and Cattle Company would be authorized to graze 135 head of cattle.

Permitted grazing use in the Wroten allotment would remain unchanged from the existing permit with 400 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-128. Permitted use would be authorized at maximum use level between 1997 through 2012.

Table ALT-128: Alternative 1 permit summary for the Wroten allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Wroten Land & Cattle Company (1101463)	135 Cattle	4/1-11/29	100	400	0	400

In addition to terms and conditions of the existing permit, terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would be included in terms and conditions of the offered permit. Mandatory and other terms and conditions of the offered permit would be defined as listed in Table ALT-128 and the following numbered bullets:

- Key herbaceous riparian vegetation, where stream bank stability is dependent upon it, will have a minimum stubble height of 4 inches on the stream bank, along the greenline, after the growing season;
- Key riparian browse vegetation will not be used more than 50 percent of the current annual twig growth that is within reach of the animals;
- Key herbaceous riparian vegetation on riparian areas, other than the stream banks, will not be grazed more than 50 percent during the growing season, or 60 percent during the dormant season; and
- Stream bank damage attributable to grazing livestock will be less than 10 percent on a stream segment.

Livestock Grazing Management

Table ALT-129 describes the grazing management on the allotment in accordance with the 1982 Decision. In addition to the grazing rotation identified in Table ALT-129, the following livestock grazing management flexibility and allotment management objectives include utilization of key forage plants may not exceed 50 percent of annual production.

Table ALT-129: Wroten allotment 1982 decision

Pasture	Year 1	Year 2	Year 3	Year 4
Pasture 1	4/1-5/10	4/15 to 50 percent use	After July 15	Repeat Cycle
Pasture 2	5 AUMs	5 AUMs		

The 40 acres of FFR included in pasture 2 will be utilized at the permittees discretion not to exceed 50% utilization of the key species

2.4.19.2 Alternative 2

Under Alternative 2, BLM would renew the livestock grazing permit for use in the Wroten allotment in accordance with terms and conditions of the existing permit and as modified by the applications received from Wroten Land and Cattle Company. Terms and conditions for stubble height, woody browse, utilization, and stream bank alteration imposed on the grazing permit by the United States District Court for the District of Idaho would not be included in terms and conditions of the offered permits. The complete application is located in Appendix D.

Permitted grazing use in the Wroten allotment would be unchanged from the existing permit with 400 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-130.

Table ALT-130: Alternative 2 permit summary for the Wroten allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Wroten Land & Cattle Company (1101463)	135 Cattle	4/1-2/28	100	400	0	400

Livestock Management
The permittee has applied for the use to remain the same as that described under Alternative 1. The grazing schedule the Wroten allotment identified in Table ALT-131 would be authorized. Three out of four years early spring, summer and fall use not to exceed maximum 200 cattle or 400 AUMs; but can use less cattle numbers. One out of four years use in fall or winter after seed ripe not to exceed maximum 200 cattle or 400 AUMs; if used in winter use after seed ripe the following season.

Table ALT-131: Alternative 2 grazing schedule for the Wroten allotment

Pasture	Year 1	Year 2	Year 3	Year 4
Pasture 1	4/1-11/30	4/1-11/30	4/1-11/30	7/1-2/28

2.4.19.3 Alternative 3

Under Alternative 3, BLM would renew the livestock grazing permit for use in the Wroten allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

5. Wildlife: Use will be allowed from April 1 to June 30; no more than 2 years in every three-year period and there will be deferment or rest 1 out of 3 years.
6. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
7. Soils: Use will be allowed from March 1 to May 15; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
8. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.

Permitted grazing use in the Wroten allotment would be reduced from the existing permit to 400 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-132.

Table ALT-132: Alternative 3 permit summary for the Wroten allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Wroten Land & Cattle Company (1101463)	135 Cattle	4/15-1/29	100	400	0	400

Livestock grazing management

As a result of the above Alternative 3 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Wroten allotment schedule would be defined as listed in Table ALT-133 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. A minimum of 6 inch stubble height, 30 percent browse (where applicable), and less than 10 percent bank alteration will be maintained in key riparian areas at the end of the grazing season.
2. Seasons of use may vary as long as total 400 AUMs are not exceeded; cattle number may vary up to maximum 135 head.

Table ALT-133: Alternative 3 grazing schedule for the Wroten allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-9/4	4/15-9/4	10/1-1/29

2.4.19.4 Alternative 4

Under Alternative 4, BLM would renew the livestock grazing permit for use in the Wroten allotment with terms and conditions that constrain seasons, intensities, duration, and frequency of grazing use to a degree necessary to make significant progress toward meeting, or maintain meeting all applicable standards and the ORMP objectives within pastures where identified resources are present (see resource constraints below). Such constraints have been developed and specifically applied to this allotment. Grazing would be managed more intensively by incorporating additional deferment or rest to limit adverse impacts from livestock grazing on resource values.

Resource Constraints:

1. Wildlife: Use will be allowed from April 1 to August 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
2. Vegetation: Use will be allowed from May 1 to June 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
3. Soils: Use will be allowed from March 1 to May 31; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.
4. Riparian: Use will be allowed from July 1 to September 30; no more than 1 year in every three-year period and there will be deferment or rest 2 out of 3 years.

Permitted grazing use in the Wroten allotment would be reduced from the existing permit to 398 AUMs active use authorized and no suspended AUMs as summarized in Table Alt-134.

Table ALT-134: Alternative 4 permit summary for the Wroten allotment

Operator Name & No.	Livestock Kind & No.	Season of Use	% PL	AUMs		
				Active	Suspended	Permitted
Wroten Land & Cattle Company (1101463)	131 Cattle	4/1-2/28	100	398	0	398

Livestock grazing management
As a result of the above Alternative 4 actions, mandatory and other terms and conditions of the offered permit for grazing use in the Wroten allotment schedule would be defined as listed in Table ALT-135 and the applicable Boise District terms and conditions (section 2.1.2) and other terms and conditions as follows:

1. Seasons of use may vary as long as total 398 AUMs are not exceeded; cattle number may vary up to maximum 131 head.

Table ALT-135: Alternative 4 grazing schedule for the Wroten allotment

Pasture	Year 1	Year 2	Year 3
Pasture 1	4/15-9/4	Rest	10/1-1/29

2.4.19.5 Alternative 5

Under Alternative 5, no grazing would be authorized on public lands within the Wroten allotment for a term of 10 years. The application for grazing permit renewal would be denied and no grazing permit would be offered. All 400 AUMs of permitted use in the Wroten allotment would be cancelled and unavailable for livestock grazing on public lands. Upon expiration of the 10-year term, livestock grazing on the allotment would be reevaluated, with retention of preference (priority for grazing authorization) for approval of application(s) for grazing permit(s) attached to the current base property.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Affected Environment Common to All Allotments

3.1.1 Vegetation, including. Noxious Weeds

Objectives, Desired Conditions, & Assessment/Monitoring Methods

Resource objectives specified on pages 12, 13, 23, and 24 in the ORMP (USDI BLM 1999b) for vegetation are:

- Improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas.
- Implement grazing practices that during and at the end of the grazing season provide adequate amounts of ground cover to support proper infiltration, maintain moisture, stabilize soils, and maintain site productivity.
- Implement grazing practices that improve or maintain native rangeland species to attain composition, density, foliar cover and vigor appropriate to site potential.
- Apply approved noxious weed control methods.
- Implement grazing practices designated to meet Idaho Standards for Rangeland Health and conform to the Guidelines for Livestock Grazing Management.

Objectives in the ORMP for Livestock Grazing Management include:

- Adjust forage allocation based upon monitoring and assessment. Evaluation of monitoring data will determine future stocking levels[27].
- Implement grazing systems to meet multiple use resource objectives.
- Limit upland forage utilization by livestock on key upland herbaceous forage species to 50 percent unless higher or lower level of use is appropriate to meet standards for healthy rangelands. Examples include heavier use levels of crested wheatgrass when grazed other than during the critical growth stage or light use (31–40 percent) on Idaho fescue, Thurber's needlegrass (*Achnatherum thurberianum*), bluebunch wheatgrass, or other key forage species when grazed during the critical growth stage every or nearly every year.
- Allotment boundaries may be adjusted or allotments may be combined to facilitate administration and/or meet resource objectives.

The Morgan Group allotments include 29,766 acres of BLM managed lands (51 percent) of the total 58,033 acres. ORMP objectives and Idaho Rangeland Health Standards for upland native plant communities are currently meeting Standard 4 on 10,876 acres out of 28,944 acres (38 percent); all of the 726 acres of rangeland seedings are meeting Standard 5 (100 percent); and 0 of the 97 acres of exotic plant communities are meeting Standard 6 (0 percent). Current livestock management in the Morgan Group allotments do not implement grazing practices that maintain native rangeland species to attain composition, density, basal cover, and vigor appropriate to site potential or multiple-use resource objectives on 2,823 BLM acres of upland vegetative communities (9 percent) of the BLM managed acres.

Monitoring and field assessments are used to determine the effects of management actions on the public land resources including native plant communities (Standard 4), seedings (Standard 5), and exotic plant communities other than seedings (Standard 6). These finding are summarized below by allotment, and in more detail in the vegetation specialist report in the project record. Monitoring includes collection of rangeland health assessment, utilization, trend, actual use, and other data by various methods. Monitoring methods and assumptions are available in Appendix F.

Ecological sites and vegetation condition class (Reference Community)

Ecological site include descriptions of the expected vegetation based on soils, climate (precipitation and temperature), and a natural disturbance regime. Table VEG-1 provides a list of ecological sites by total acreage for the analysis area (Map ECOL-1). Ecological sites are identified by soil type, available annual precipitation, and plant codes[28]. A crosswalk of plant codes is provided in Appendix I. Ecological site potential and succession, as well as an introduction to state-and-transition models for low sagebrush /bunchgrass and big sagebrush/bunchgrass ecological sites, is provided in Appendix I. In addition, descriptions of the ecological sites and seral conditions of each allotment are in Appendix F.

Table VEG-1: Primary ecological sites mapped for the analysis area (USDA NRCS 2010)

Ecological Site	BLM acres[1]	Private acres	State acres	Total	Percent of Analysis Area
SHALLOW CLAYPAN 12-16 ARAR8/FEID	3,678	7,668	19,592	30,938	53%
LOAMY 13-16 ARTRV/PSSPS-FEID	9,137	1,867	3,435	14,438	24%
Unknown/No Data	209	893	3,167	4,269	7%

[27] Stocking rates were developed for alternatives 3, 4 and 5 by allotment in Appendix C and used ESDs production data (USDA NRCS 2010) as a starting point and current average actual use to develop appropriate rates (Reed, Roath and Bradford 1999); using the method described in USDA technical reference Estimating Initial Stocking Rates method (USDA NRCS 2009).

[28] Plant codes are contractions of the first two letters of the genus and specific epithet of the scientific plant name. When two or more plants share a code, a number is added after the letters for further identification Appendix I.

Ecological Site	BLM acres[1]	Private acres	State acres	Total	Percent of Analysis Area
LOAMY 16+ ARTRV/FEID	555	851	543	1,949	3%
VERY SHALLOW STONY LOAM 10-14 ARAR8/POSE-PSSPS	535	32	1,191	1,758	3%
SHALLOW CLAYPAN 11-13 ARAR8/PSSPS	82	283	1,392	1,758	3%
LOAMY BOTTOM 12-16 ARTRT/LECI4	35	1,250	292	1,578	2%
DOUGLAS FIR SNOWBERRY 22+ PSMEG/SYOR2	123	338		460	<1%
ASPEN THICKET 16-22 POTR5	322	25	44	391	<1%
DRY MEADOW PONE3-PHAL2	179	72	32	283	<1%
MOUNTAIN RIDGE 14-18 ARAR8/FEID	6	29	72	108	<1%
MAHOGANY SAVANNA 16-22 CELE3-SYOR2/FEID-ACHNA	0	95	3	98	<1%
LOAMY 11-13 ARTRT/PSSPS	0	3	1	4	<1%
Grand Total	**14,861**	**13,407**	**29,766**	**58,033**	100%

[1]All acre calculations in this analysis are approximate projections for comparison and analytical purposes only.

Fire

Table VEG-2 shows the acres burned by allotment and decade. Fires have become more frequent than historic levels, and areas with big and low sagebrush (including bitterbrush (*Purshia tridentate*)) have been reduced in some upland vegetation communities. Early seral shrub species such as rabbitbrush (*Ericameria* spp.) have increased slightly, while more desirable understory species such as Idaho fescue and bluebunch wheatgrass have been reduced. These species have been replaced by Sandberg bluegrass (*Poa secunda*) and bulbous bluegrass (*Poa bulbosa*), along with a variety of annual and perennial forbs including noxious and invasive plants in some burned areas. Cheatgrass and medusahead (*Taeniatherum caput-medusae*) have invaded some sites. These fine fuels will continue to increase as the fire frequency increases due to the nature of fire disturbance and the ability of invasive annuals to out-compete natives in these sites. Eight out of the nineteen allotments have been affected by fire in the Morgan Group allotments. These fires have influenced the departures in reference community to include some early seral species of plants within the communities.

Table VEG-2: Allotment Acres burned by decade[1]

Allotment	1970-1979	1990-1999	2000-2009	2010-Present	Total
Bachelor Flat FFR	0	0	0	688	688
Berrett FFR	0	144	0	0	144
Big Field FFR	0	8	0	0	8
Combination Creek	0	85	0	0	85
Feltwell	0	64	19	0	83
Jim`s Peak FFR	0	62	0	0	62
Morgan	384	743	0	0	1,127
Rail Creek FFR	344	0	0	0	344
Total	728	1,106	19	688	2,541

[1]All calculations in this analysis are approximate projections for comparison and analytical purposes only. Acres may also include multiple burns.

Noxious Weeds

Noxious is a legal designation given by the Director of the Idaho State Department of Agriculture (ISDA) to any plant having the potential to cause injury to public health, crops, livestock, land or other property (Idaho Statute 22-2402). The ISDA is responsible for administering the State Noxious Weed Law in Idaho and maintains a list of noxious species.

The BLM works closely with the Idaho Department of Agriculture, Tribal governments, and county governments to manage noxious weeds. The Boise District BLM has entered into partnerships known as Cooperative Weed Management Areas (CWMAs) with federal, state, county, and private organizations to cooperatively combat noxious weeds across ownership boundaries. Cooperative weed management arrangements utilize local, state and federal resources to inventory and treat noxious weed infestations on both public and private lands. The Boise District BLM weed control program annually updates the locations of noxious weeds and treats known weed infestations utilizing chemical, mechanical, and biological control techniques. Infestations of noxious weeds are treated commensurate with annual budget, employee availability, and noxious weed priority.

Plants typically spread by dispersal of seeds or regenerative plant parts in a variety of ways. Wind, water, animals, machinery, and people carry seed and plant parts from one location to another. Weeds, in general, produce an abundance of seeds, some with attaching devices (e.g. hooks, barbs, sticky resins) that adhere to people, animals, or equipment and promote transport to un-infested areas. Weeds typically advance and become established along highways, roads, trails, and river corridors (ISDA 2005).

Aside from noxious weeds, there are a number of other invasive non-native plants in the OFO. Some can form large (greater than 10 acres) monoculture patches, such as cheatgrass and medusahead. Weed infestations are often localized, but may become dominant understory components of lower elevation shrub communities. Invasive plants include weedy annual grasses such as cheatgrass and other annual bromes, medusahead, and North Africa grass (*Ventenata dubia*), which are well established in some lower elevations in the affected allotment area, particularly in disturbed sites. These species are persistent and have replaced or reduced native vegetation in extensive areas within the affected allotment area. Also present are a number of annual weedy forbs, including Russian thistle (*Salsola tragus*), tumble mustard (*Sisymbrium altissimum*), flixweed (*Descurainia sophia*), halogeton (*Halogeton glomeratus*), and bur buttercup (*Ceratocephala testiculata*). These invasive plants are primarily found at low elevations in open, disturbed areas where there is little competition from other species.

Undiscovered noxious weeds may also exist. As populations are identified, they are recorded, treated, monitored, and re-treated, if necessary. Noxious weed species identified within the area of analysis are listed in Table VEG-3. Noxious weed occurrences are listed by allotment in Table VEG-4.

Noxious Weed Categories:

- Early Detection and Rapid Response (EDRR)—Plants in this category must be reported to the Idaho State Department of Agriculture within 10 days of being identified by an approved, qualified authority. Eradication must begin in the same season the species is found. No known species of EDRR are known within the analysis area.
- Control—In some areas of the state, control or eradication is possible, and a plan must be written that will reduce infestations within 5 years.
- Containment—New or small infestations can be reduced or eliminated, while established populations may be managed as determined by the weed control authority.

Table VEG-3: Noxious Weed Species within the Area of Analysis

Scientific Name	NRCS Common Name	Other Common Name	Category
Acroptilon repens	hardheads	Russian knapweed	control
Cardaria draba	whitetop	hoary cress	containment
Centaurea diffusa	diffuse knapweed	N/A	containment
Euphorbia esula	leafy spurge	N/A	containment
Onopordum acanthium	Scotch cotton thistle	Scotch thistle	containment

Table VEG-4: Noxious weed occurrences[1] by allotment and pasture (allotments/pastures with no known occurrences of noxious weeds are not listed)

Allotment	Diffuse Knapweed	Leafy Spurge	Russian Knapweed	Scotch Thistle	Whitetop	Grand Total
Bachelor Flat FFR	0	4	0	0	0	4
Big Field FFR	0	16	0	0	0	16
Boulder Flat	0	17	0	0	0	17
Glass Creek	0	0	0	3	1	4
Gluch FFR	0	0	0	4	0	4
Morgan	1	1	0	15	0	17
South Mtn Indv	0	0	0	1	0	1
Walt's Pond FFR	0	0	1	1	0	2
Grand Total	1	38	1	24	1	65

[1]Occurrence is identified as being a single plant or more variable sizes.

Although no allotments were identified as having noxious weed occurrences at levels that would fail to meet Rangeland Health Standards, three allotments were identified as having areas of concern for noxious weed populations. The Big Field FFR, Boulder Flat, and Morgan allotments have relatively high occurrences (more than 15) and richness of noxious weeds (more than three species). Species of relatively high occurrence within the analysis area include Scotch thistle and leafy spurge. Additionally, Canada thistle (*Cirsium arvense*) and diffuse knapweed have relatively high occurrence within the allotments.

Livestock Trailing/Crossing

Four existing trailing routes are authorized in the Owyhee Field Office Livestock Trailing Environmental Assessment # DOI-BLM-ID-B030-2012-0011-EA (USDI BLM 2012b) that affects 7 of the 19 Morgan Group allotments—Berrett FFR, Boulder, Boulder Flat, Glass Creek, Morgan, South Mountain Individual, and Walt's Pond FFR allotments. A total of 99 AUMs are authorized annually to trail cattle to and from allotments in the spring and fall (map RNGE-2). In addition, the Chipmunk Group 2 EIS # DOI-BLM-ID-B030-2012-0014-EIS analyzed a total of 120 AUMs for sheep trailing in the Morgan and Boulder Flat allotments.

Most of the trailing would occur along established roads and the borrow ditches along the roads, and most of the livestock would walk on the roadbed because there are fewer obstacles there. However, animals may spread out up to 0.125 miles on each side of the trailing route and impact vegetated areas.

Because of the short duration of annual trailing, grazing effects from cattle trailing are expected to be minimal over a ten-year period. Direct grazing from sheep trailing would occur where sheep are trailed off existing roadbeds. However, because both sheep and cattle trailing would occur on such a small proportion of the landscape and for a limited duration, grazing effects from grazing during trailing is expected to be insignificant. Cumulative effects of trailing, occurring over a ten year period, is also expected to be insignificant given the nature of trailing occurring on existing roads.

Existing Condition

Assessment Tools

This section is a summary of the available monitoring data to determine whether the allotments are meeting Standard 4 (Native Plant Communities), Standard 5 (Seedings), and Standard 6 (Exotic Plant Communities). Livestock grazing management, including numbers, timing, intensity (actual use) and duration, is described in detail under Section 2.2.1 Alternative 1 Current Management and Section 3.3 Allotment-specific Affected Environment.

The BLM has primarily utilized rangeland health field assessments (RHFAs), which are a qualitative assessment, and upland trend data (nested plot frequency), which is a quantitative assessment. The noxious weed geodatabase, actual use and utilization data, photographs, and Flint and Horse Creek fire Emergency Stabilization and Rehabilitation (ESR) plans were also used to determine whether vegetation resource standards and ORMP objectives are being met. Monitoring methods, including actual use and utilization, are available in Appendix B.

Recorded upland utilization levels at stocking rates under existing permits generally have been within the light (21 to 40 percent) and moderate (41 to 60 percent) categories, with limited exceptions (see Appendix B). These levels are at a rate to meet ORMP objectives, except in the Boulder, Glass Creek, and Gluch FFR allotments, where utilization was recorded as moderate to heavy utilization in limited years (Appendix B). Utilization methods are generalized into classes as described in Table VEG-5 below. Key species are usually bluebunch wheatgrass, Idaho fescue, or other desirable species expected to occur in the reference community.

Table VEG-5: Herbaceous utilization classes Key Species (TR 4400-3 Utilization Studies and Residual Measurements)

Utilization Class %	Description
0–5% No Use	The key species show no evidence of grazing use or negligible use.
6–20% Slight	The key species has the appearance of very light grazing. Plants may be topped or slightly used. Current seedstalks and young plants are little disturbed.
21–40% Light	The key species may be topped, skimmed, or grazed in patches. Between 60 and 80 percent of current seedstalks remain intact. Most young plants are undamaged.
41–60% Moderate	Half of the available forage (by weight) on key species appears to have been utilized. Fifteen to 25 percent of current seedstalks remain intact.
61–80% Heavy	More than half of the available forage on key species appears to have been utilized. Less than 10 percent of the current seedstalks remain. Shoots of rhizomatous grasses are missing.
81–94% Severe	The key species appears to have been heavily utilized and there are indications of repeated use. There is no evidence of reproduction or current seedstalks.
95–100% Extreme	The key species appears to have been completely utilized. The remaining stubble is utilized to the soil surface.

Idaho Rangeland Health Standards 4, 5 and 6

The BLM primarily utilizes rangeland health field assessments, upland trend data, and utilization data associated with key areas that represent the entire pasture, to determine whether vegetation resource standards are being met (see Appendix F for methodologies). Determinations of rangeland conditions by allotment are summarized in Table ALLOT-2 in Section 1.3 and a full description is available in Appendix A. Table VEG-6 below describes the acres meeting or not meeting Idaho Rangeland Health

Standards 4, 5 and 6. Each allotment was categorized down to the pasture level into Standard 4 Native Plant communities, Standard 5 Rangeland Seedings, or Standard 6 Exotic Plant Communities, other than Seedings. Acres described in Standards 4, 5 and 6 only reflect the BLM acres in those pastures. Some allotments have state and private acres associated with them; however, the BLM only manages the public acres on those allotments and are reflected in the table below by standard.

Table VEG-6: BLM acres by allotment and pasture meeting or not meeting Standards 4, 5 and 6

	GIS Acreage Calculations				Standard 4 Native Plant Communities		Standard 5 Seedings		Standard 6 Exotic Plant Communities	
Allotment and Pasture	**BLM**	**Private**	**State**	**Total**	**Meeting**	**Not Meeting**	**Meeting**	**Not Meeting**	**Meeting**	**Not Meeting**
Bachelor Flat FFR	**915**	**1,076**	**198**	**2,189**	0	0	0	0	0	0
01	694	421	198	1,313	694	0	0	0	0	0
02	221	655	0	876	0	221	0	0	0	0
Berrett FFR	**886**	**2,065**	**2,077**	**5,028**	0	0	0	0	0	0
01	407	639	1,082	2,128	407	0	0	0	0	0
02	0	246	81	327	0	0	0	0	0	0
03	213	760	911	1,883	213	0	0	0	0	0
04	265	421	3	689	0	265	0	0	0	0
Big Field FFR	**1,044**	**1,712**	**0**	**2,756**	0	0	0	0	0	0
01	1,044	1,712	0	2,756	0	1,044	0	0	0	0
Bogus Creek FFR	**421**	**19**	**6,909**	**7,349**	0	0	0	0	0	0
01	421	19	6,909	7,349	0	421	0	0	0	0
Boulder	**1,825**	**160**	**7**	**1,993**	0	0	0	0	0	0
01	721		2	722	0	721	0	0	0	0
02	687		4	691	0	687	0	0	0	0
03	418	160	2	580	0	418	0	0	0	0
Boulder Flat	**3,950**	**35**	**440**	**4,425**	0	0	0	0	0	0
01	1,773	20	428	2,221	0	1,773	0	0	0	0
02	2,177	14	12	2,204	2,177	0	0	0	0	0
Combination Creek	**3,142**	**43**	**1,019**	**4,204**	0	0	0	0	0	0
01	3,142	43	1,019	4,204	3,142	0	0	0	0	0
Feltwell	**1,033**	**740**	**47**	**1,820**	0	0	0	0	0	0
01	153	0	0	153	153	0	0	0	0	0
02	22	187	0	209	22	0	0	0	0	0
03	708	8	47	764	708	0	0	0	0	0
04	150	380	0	529	0	150	0	0	0	0
05	0	136	0	137	0	0	0	0	0	0
06	0	29	0	29	0	0	0	0	0	0
Glass Creek	**1,627**	**130**	**0**	**1,756**	0	0	0	0	0	0
01	726	109	0	834	0	0	726	0	0	0
02	901	21	0	922	0	901	0	0	0	0
Gluch	**243**	**18**	**0**	**261**	0	0	0	0	0	0
01	243	18	0	261	243	0	0	0	0	0

	GIS Acreage Calculations				Standard 4 Native Plant Communities		Standard 5 Seedings		Standard 6 Exotic Plant Communities	
Allotment and Pasture	**BLM**	**Private**	**State**	**Total**	**Meeting**	**Not Meeting**	**Meeting**	**Not Meeting**	**Meeting**	**Not Meeting**
Gluch FFR	**751**	**726**	**1,722**	**3,200**	0	0	0	0	0	0
01	97	47	0	144	0	0	0	0	0	97
02	197	8	113	318	0	197	0	0	0	0
03	269	11	0	280	0	269	0	0	0	0
04	77	657	0	734	77	0	0	0	0	0
05	111	4	1,609	1,724	111	0	0	0	0	0
Jim`s Peak FFR	**1,042**	**1,508**	**45**	**2,595**	0	0	0	0	0	0
01	1,042	1,508	45	2,595	0	1,042	0	0	0	0
Morgan	**4,733**	**218**	**510**	**5,462**	0	0	0	0	0	0
01	2,389	9	510	2,908	0	2,389	0	0	0	0
02	825	42	0	867	0	825	0	0	0	0
03	976	161	0	1,137	0	976	0	0	0	0
04	544	7	0	551	0	544	0	0	0	0
Rail Creek FFR	**124**	**1,857**	**1,033**	**3,015**	0	0	0	0	0	0
01	52	1,040	1,033	2,126	52	0	0	0	0	0
02	73	816	0	889	0	73	0	0	0	0
South Mtn Indv	**3,517**	**158**	**842**	**4,517**	0	0	0	0	0	0
01	1,117	12	816	1,945	0	1,117	0	0	0	0
02	2,400	146	26	2,572	0	2,400				
W. Maher FFR	**808**	**633**	**0**	**1,442**	0	0	0	0	0	0
01	0	551	0	552	0	0	0	0	0	0
02	493	82	0	575	493	0	0	0	0	0
03	315	0	0	315	0	315	0	0	0	0
Walt's Pond FFR	**1,320**	**2,174**	**11**	**3,505**	0	0	0	0	0	0
01	879	537	0	1,416	0	879				
02	441	1,637	11	2,089	0	441	0	0	0	0
Warn	**674**	**0**	**0**	**674**	0	0	0	0	0	0
01	674	0	0	674	674	0	0	0	0	0
Wroten	**1,710**	**135**	**0**	**1,845**	0	0	0	0	0	0
01	1,710	135	0	1,845	1,710	0				
Grand Total	**29,766**	**13,407**	**14,861**	**58,033**	**10,876**	**18,068**	**726**	**0**	**0**	**97**

Allotments Meeting Standard 4
The allotments that are currently meeting Standard 4 (native vegetation) are Combination Creek, Gluch, Warn, and Wroten allotments. Native plant communities meeting Standard 4 display healthy, productive, and diverse vegetation as appropriate to soil type, climate and land form to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Allotments Meeting Standard 5
The allotment that is currently meeting Standard 5 (seeding treatments) is Glass Creek pasture 1. This allotment is functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle to maintain these rangelands.

Allotments Not Meeting Standard 4 (livestock are a causal factor)
Current livestock grazing contributed to the failure to meet Standard 4 in the Boulder and Glass Creek (pasture 2) allotments by failing to conform to guidelines for proper rest or deferment from grazing. Exotic species encroachment into native communities and historic grazing also contributed to the failure to meet Standard 4.

Allotments Not Meeting Standard 6 (livestock are a causal factor)
Current livestock grazing contributed to the failure to meet Standard 6 in pasture 1 of Gluch FFR allotment. Current livestock grazing has resulted in soil stability that does not meet the minimum requirements to maintain these communities.

Allotments Not Meeting Standard 4 (livestock are not a causal factor)
Wildfire frequency altered from the natural disturbance regime, exotic species encroachment into native communities, and historic livestock grazing all contributed to the failure to meet Standard 4 in the Bachelor Flat FFR, Berrett FFR, Big Field FFR, Bogus Creek FFR, Boulder Flat, Feltwell, Gluch FFR, Jim's Peak FFR, Morgan, Rail Creek FFR, South Mountain Individual, West Maher FFR, and Walt's Pond FFR allotments.

3.1.2 Soils

Introduction

A compilation of quantitative and qualitative data, along with aerial photography, GIS data, soil survey information, and site visits contributed to the evaluation of conditions for the upland soil and watershed resource[29]. Findings were gathered and evaluated in the Rangeland Health Assessment (RHA) and Determinations (Appendix E) and serve as integral supplemental documents that are hereby included by reference to provide the basis on which upland soil watershed conditions are based. These documents disclose whether the Idaho Standards for Rangeland Health are met, provide rationales and causes for meeting or not meeting the Standards, and supply the background for alternative development.

Due to the limited amount of quantitative monitoring data and the variable nature of soil impacts associated with grazing management, it is difficult to allocate concrete disturbance acres with each alternative, especially since no range improvements or other projects are proposed that would offer an additional comparison of impacts. The following soils analysis therefore focuses on a qualitative rather than quantitative approach of analyzing the environmental effects of proposed grazing activities on the existing conditions of soil and upland resources for the Morgan Group allotments (Map GEN-1).

[29] All relevant data and reports available in Soils Project File

Existing Condition

Geology, Parent Material, and Soils[30]

The 19 Morgan Group allotments are situated within the Jordan, Middle Owyhee, and Upper Owyhee sub-basins and encompass approximately 58,033 acres. There are 45 different soil map units that represent a wide variety of inherent characteristics that influence vegetative growth, erosion potential, site productivity, drainage class, and available water supply. Soils within the analysis area have been mapped and are described in the Owyhee County Soil Survey (USDA NRCS 2003). They delineate soil map units, landforms, and vegetation components, and provide interpretive information on soil use and management. These soils are associated with ecological sites (Map ECOL-1) that are developed based on environmental factors such as vegetation, soils, and hydrology (Section 3.1 and Appendix F—Rangeland Ecology and Vegetation; Caudle et al. 2013).

Volcanic rocks, including primarily rhyolite and basalt, make up the majority of the source materials for the soils. Some granodiorites, till, gabbro, schist, and alluvial deposits are also represented and contribute, along with climate and other natural agents like fire, to an array of vegetative composition. Soil and hydrologic function are critical parameters for functioning upland areas. Morgan Group allotment soils are very shallow to moderately deep (with deeper inclusions) and generally have a xeric (dry) soil moisture regime and a mesic (moist) to frigid (cold) soil temperature regime (USDA NRCS 2003).

Most soils (88 percent) are well drained (USDA NRCS 2003). Hydrologic soil groups are dominated by slow infiltration rates around the Combination Ridge area and some of the foothills of South Mountain, increasing to moderate infiltration rates at the highest elevations. The remaining low and mid-elevation north of South Mountain can have very slow infiltration rates when thoroughly wet, especially if they have a high clay content and shrink-swell potential. As a result, high runoff is possible.

Dominant soil surface textural classes in the Morgan Group allotment area are gravelly loams, very gravelly loams, and loams. Unweathered bedrock is limited to side slopes of main drainages and smaller outcrops and cliffs around abrupt elevation changes that expose rhyolite and basaltic parent material. Shallow soils are common across much of the Morgan Group allotments, especially along the undulating structural benches south of Jordan and Boulder Creek, portions of the Combination Ridge area, and across the mostly convex hills and ridges to the west.

Clay content is mostly low (10 to 20 percent) in the moderate to higher elevations of allotments around the South Mountain and the Combination Ridge area. Allotments located in the lower elevations north of South Mountain contain primarily moderate (20 to 30 percent) clay content.

Based on inherent soil characteristics, the potential erosion hazard from water in the Morgan Group allotments is rated as 41 percent slight and 42 percent moderate. Soils rated at moderate erosion potential levels are found along steeper mountainous terrain that ranges between 15 to 50 percent slope on average though some areas can exceed slope gradients above 50 percent. Increased erosion potential, especially from disturbed ground, can lead to movement of sediments and deplete soil productivity due to the removal or degradation of the surface horizon.

Moderate to severe erosion hazards are present in 7 percent of Morgan Group allotment soils and are mainly associated with tributaries and streams that contain slopes between 30 to 60+ percent. These include Jordan, Boulder Creek, and North Boulder Creek and their tributaries.

[30] Detailed compilations of soil survey information are summarized by allotment and pasture and are available in the project record.

Severe erosion hazards are present on 4 percent of the Morgan Group allotments and are associated with some areas containing shallow rocky soils covering underlying protruding bedrock with low infiltration capacity, some soils of granitic origin, and several wooded north-facing side slopes that contain increased seepage. They are found in portions of pasture 1 of Morgan allotment, pasture 2 of Walt's Pond, Rail Creek FFR, and along the north-facing slopes of South Boulder Creek in pasture 3 of the Berrett FFR allotment.

Naturally, erosion hazard potential on any slope greater than 30 percent increases and is closely tied to inherent soil characteristics and ground cover for protection in the form of litter, vegetation, biological soil crusts, and rock fragments. Wind erosion hazard is rated mostly low to moderately low, with the exception of moderate to moderately high rates in mountainous terrain and the well incised main drainages of Jordan and Boulder Creek and some of their tributaries.

Idaho Rangeland Health Standard 1

Existing conditions in the Morgan Group allotments are a reflection of past and present management activities and natural processes. Detailed information and summaries for each allotment, its general setting, individual data compilation by pasture, and more detailed rationales are available in the Rangeland Health Assessments (RHAs) and Determinations and reflect current conditions for Standard 1 (Appendix E). The following section groups the 19 allotments by identifying whether they are meeting Standard 1 and if current livestock grazing is a causal factor.

The compilation and analysis of all data and information available for an allotment describes the current rangeland health conditions and identifies changes or trends in rangeland health over time. Twelve of the 17 indicators utilized in the rangeland health field assessments (RHFAs) are related to Standard 1—Watershed Health (USDI BLM 2000, USDI BLM 2005). The analysis of watershed condition considers both soil stability and hydrologic indicators and displays a natural range of physical and vegetative characteristics.

Tables SOIL-2, -4, and -6 at the beginning of the following sections summarize all indicator ratings and corresponding percentages related to Standard 1 by allotment. Detailed breakouts by pasture are available in the RHAs and determinations (Appendix E) and for individual allotments in Section 3.3. The ratings for the indicators express the degree of departure from the expected natural range of physical and vegetative characteristics of the applicable ecological site (USDI BLM 2000, USDI BLM 2005). Because overall watershed conditions are closely tied to the health of the biotic community, the current imbalance of vegetative composition in some allotments/pastures is a concern where junipers encroach and dominate and where their occurrence is not a portion of site potential as identified in ecological site descriptions (USDA NRCS 2010).

Ground cover trend from nested frequency plots provided additional quantitative short- and long-term information and also played a vital part in evaluating Standard 1. Due to the difficulty in displaying these data in a summarized fashion, they can be reviewed in the project file.

The term *at risk* has been applied to several pastures that are meeting Standard 1, meaning that watershed health is satisfactory but that it is near a point where soil and hydrologic function are susceptible to degradation. This takes into consideration a lag in response time, specifically between soils and vegetation, where soils may be resilient enough to withstand resulting adverse effects of declining vegetation conditions over a longer time before showing a measurable divergence from reference conditions. Similarly, soils may be the first to show declining conditions while the vegetation community is still relatively robust.

At risk pastures are more susceptible to unpredictable stressors such as drought, wildfire, weed invasion, and climate change. These already compromised pastures have lower resilience to livestock grazing when coupled with unpredictable stressors and the subsequent potential to move toward failing to meet Standards.

The intention of such a label is to identify those pastures that deserve increased attention, with the idea of altering management when needed to avoid moving toward not meeting in the future. While being labeled at risk for Standard 1 was not a main driver for developing the alternatives, the majority of the identified at-risk allotments/pastures are failing other Standards and thus are captured in Alternatives 3 and 4, which require improvement of resource conditions. As a result, the benefits that come with the grazing management changes proposed under Alternatives 3 and 4 will be beneficial to upland soil and watershed function.

Allotments Meeting Standard 1

Available data were reviewed (see Appendix E) and show that 2 allotments are meeting Rangeland Health Standard 1 for upland watershed soils. These include Gluch and Wroten allotments (Table SOIL-1).

Table SOIL-1: Summary of allotments meeting ORMP objectives and Standard 1

Allotment Name	Allotment Meeting but Considered to be at Risk for Invasive Annuals
Gluch	x
Wroten	x

Table SOIL-2 provides a summary of watershed-related ratings of soil/site stability and hydrologic function indicators for RHFAs. The ratings for the indicators express the degree of departure from the expected natural range of physical and vegetative characteristics of the applicable ecological site.

Table SOIL-2: Summary of departure from reference conditions for watershed-related soil/site stability and hydrologic function indicators for RHFAs (Appendix E)

Allotment Name	Departure of Watershed Function Indicators from Reference Condition (%)				
	none-to-slight	slight-to-moderate	moderate	moderate-to-extreme	extreme
Gluch	50	42	8	0	0
Wroten	69	25	4	2	0

Gluch and Wroten Allotments

In the Gluch and Wroten allotments, soils are meeting Standard 1 but are considered to be at risk due to invasive species, especially annual grasses, which have a tendency to alter soil infiltration and water holding capacity over time. Although these allotments are identified to be at risk, soil and hydrologic indicators still show adequate watershed function and site stability and suggest that proper nutrient, hydrologic, and energy cycling are maintained. However, the two allotments are identified as failing other standards and thus are captured in Alternatives 3 and 4, which require management changes intended to enable improvement of resource conditions. As a result, the benefits that come with the grazing management changes proposed under Alternatives 3 and 4 will be beneficial to upland soil and watershed function.

Allotments not Meeting Standard 1—Current Livestock is Not a Casual Factor

Available data were reviewed (see Appendix E) and show that the upland watershed Standard is not being met due to reasons other than current livestock grazing management practices in the Combination Creek and Rail Creek FFR allotments (Table SOIL-3).

Table SOIL-3: Summary of allotments not meeting ORMP objectives and Standard 1 with current livestock grazing management practices not being a factor

Allotment Name	Causes for Not Meeting Standard 1		Pastures Meeting
	Historic Grazing Practices	Juniper Encroachment	
Combination Creek*	x	x	
Rail Creek FFR	P2		P1

*single pasture allotment ; P = Pasture

Table SOIL-4 provides a summary of watershed-related ratings of soil/site stability and hydrologic function indicators for RHFAs. The ratings for the indicators express the degree of departure from the expected natural range of physical and vegetative characteristics of the applicable ecological site.

Table SOIL-4: Summary of departure from reference conditions for watershed-related soil/site stability and hydrologic function indicators for RHFAs (Appendix E)

Allotment Name	Departure of Watershed Function Indicators from Reference Condition (%)				
	none-to-slight	slight-to-moderate	moderate	moderate-to-extreme	extreme
Combination Creek	53	22	25	0	0
Rail Creek FFR	67	21	13	0	0

Combination Creek and Rail Creek FFR Allotment

In the Combination Creek allotment, Standard 1 is not being met because hydrologic function and soil/site stability attributes are not properly functioning. A transition of native deep-rooted vegetation to more shallow-rooted bunchgrasses caused by historic grazing practices reduces infiltration which leads to surface runoff, soil surface sealing, and erosion. In the Combination Creek allotment, biotic conditions are further degraded due to the encroachment of western juniper that places the allotment at risk for potential deteriorating watershed function.

Allotments Not Meeting Standard 1—Current Livestock is a Causal Factor

Available data were reviewed (see Appendix E) and show that watershed standards are not being met in 15 allotments with livestock being the causal factor. These include Bachelor Flat, Berrett FFR, Big Field FFR, Bogus Creek FFR, Boulder, Boulder Flat, Feltwell, Glass Creek, Gluch FFR, Jim's Peak, Morgan, South Mountain Individual, Walt's Pond FFR, Warn, and West Maher allotments (Table SOIL-5).

Table SOIL-5: Summary of allotments (by pasture) not meeting ORMP objectives and Standard 1, with livestock grazing management practices being a significant contributing factor

Allotment Name	Causes for Not Meeting		Pastures Meeting but at Risk for Invasives[+]	Pastures Meeting
	Current and Past Grazing Practices	Fire (F), Juniper (J), or Other (O)[#]		
Bachelor Flat FFR	P2	P1 (F)	P1 (A)	
Berrett FFR	P1, 4			P3
Big Field FFR*	x	x (J)		
Bogus Creek FFR*	x	x (J)		

Allotment Name	Causes for Not Meeting		Pastures Meeting but at Risk for Invasives+	Pastures Meeting
	Current and Past Grazing Practices	Fire (F), Juniper (J), or Other (O)#		
Boulder	P1, 2, 3			
Boulder Flat	P1, 2			
Feltwell	P1, 4			P3
Glass Creek	P1, 2	P1 (F)		
Gluch FFR	P1, 2, 3	P5 (O)		P4
Jim's Peak FFR*	x			
Morgan	P1, 2, 3	P2 (F)	P4 (A)	
Rail Creek FFR	P2			P1
South Mountain Individual	P1, 2			
Walt's Pond FFR	P1, 2			
Warn*	x			
West Maher	P2, 3			

*single pasture allotment; P = Pasture
#Other pertains to mechanical impacts from dredging (Gluch FFR only)
+A=Annual grasses; J=Juniper

Table SOIL-6 provides a summary of watershed-related ratings of soil/site stability and hydrologic function indicators for RHFAs. The ratings for the indicators express the degree of departure from the expected natural range of physical and vegetative characteristics of the applicable ecological site.

Table SOIL-6: Summary of departure from reference conditions for watershed-related soil/site stability and hydrologic function indicators for RHFAs (Appendix E)

Allotment Name	Departure of Watershed Function Indicators from Reference Condition (%)				
	none-to-slight	slight-to-moderate	moderate	moderate-to-extreme	extreme
Bachelor Flat FFR	50	29	17	0	0
Berrett FFR	69	19	11	0	0
Big Field FFR	63	13	21	4	0
Bogus Creek FFR	67	25	8	0	0
Boulder Creek	60	28	9	2	0
Boulder Flat	65	23	10	2	0
Feltwell	67	27	6	2	0
Glass Creek	50	42	8	0	0
Gluch FFR	38	17	33	13	0
Jim's Peak FFR	33	33	25	8	0
Morgan	63	21	14	2	0
South Mountain Individual	38	37	8	17	0
Walt's Pond FFR	38	13	42	8	0
Warn	33	33	25	8	0
West Maher	58	25	8	8	0

Bachelor Flat, Berrett FFR, Big Field FFR, Bogus Creek FFR, Boulder, Boulder Flat, Feltwell, Glass Creek, Gluch FFR, Jim's Peak, Morgan, South Mountain Individual, Walt's Pond FFR, Warn, and West Maher Allotments

The above allotments are not meeting Standard 1 due to signs of impaired watershed function (Table SOIL-6) indicative of soil surface erosion, water runoff, and litter movement. Increased pedestaling of plants, and in some cases rocks, along with mechanical damage to soils by livestock hoof action, have affected soil structure, while localized compaction in a number of allotments inhibits plant growth and has

led to a loss in infiltration capacity. As a result, soil surface loss and degradation has occurred, as evidenced in increased historical and active erosional patterns and localized bare ground.

Biological soil crusts are variable from being present to being greatly reduced or absent. Since biological soil crusts are a primary contributor of site stability and nitrogen, their loss has contributed to increased erosion and a potential loss of soil fertility.

While not all pastures within the allotments are failing (Table SOIL-5), some are functioning with reduced resilience and indicate increased susceptibility to soil and hydrologic disturbance events. As shown by the reduced frequency in deep-rooted native bunchgrasses and adverse changes in plant communities (Section 3.3), the impending soil degradation could worsen over time and are a concern.

The invasion of annual grasses and the resulting departure from expected vegetative conditions (Section 3.3) contribute to an ongoing competition with native bunchgrasses and herbaceous vegetation. It is difficult to display the hidden risk factors to soils associated with sites that are dominated by a monoculture of annual invasives, such as cheatgrass and medusahead. On the positive side, invasive annuals provide short-lived spring forage for livestock, offer cover for watershed protection by reducing raindrop energy, and protect from wind erosion. On the negative side, the presence of annuals negatively affects soil hydrology and deep percolation due to a lack of root diversity and root depth.

Soil protection can differ due the short growing period variability of annual production and lack of above-ground shrub structure for capturing snow and ameliorating wind effects at the soil surface. The biological and chemical changes and competitive advantages of invasive over native species can therefore have long-lasting effects on soil watershed health. These are often difficult to assess because they are not readily observable, like mechanical damage, or are only measurable with additional equipment or laboratory analysis.

Much of the decline in soil stability and hydrologic function, however, can be associated with a change in deep-rooted bunchgrasses to more shallow-rooted species. Historic and current livestock grazing practices, including spring and critical growing season use, often with little or no rest, contribute to reduced watershed function that is amplified by a lack of species diversity. The localized invasion of annuals often worsens already compromised replenishment of soil nutrients along with physical hoof impacts that provide for favorable sites where invasive plants are able to establish.

This decreased ecological function leads to a lack of capability for proper nutrient cycling, hydrologic cycling, and energy flow and indicates that soil and hydrologic function are compromised, and conclude that the 15 allotments (Table SOIL-5) are not meeting Standard 1 and that current livestock grazing is a significant contributing factor.

Juniper Encroachment—Big Field FFR and Bogus Creek FFR

The encroachment of western juniper in the Big Field FFR and Bogus Creek FFR allotments contributes to altered hydrologic function and to the deviation in functional structural groups expected within the sagebrush communities. Juniper aggressively competes for water and nutrients in intercanopy zones. In many cases, especially in xeric sites (i.e. south facing slopes, shallow soils), interspatial vegetation cover is greatly reduced. When this happens, nutrients are concentrated in canopy areas, soil moisture regimes vary, microclimates of interspatial areas are extreme and unfavorable for plant germination, infiltration capacities are shifted, and erodibility is increased. The subsequent runoff can result in sheet erosion, rilling, pedestaling, and sediment redistribution and adversely affect watershed function of upland soils.

Post-fire Impacts—Glass Creek Allotment

In addition to physical impacts from livestock grazing, impaired upland watershed integrity in the Glass Creek allotment is associated with post-fire recovery and past drill seeding from a 1981 prescribed fire. As a result, reduced ground cover has elevated bare ground and increased flow paths and pedestaling. Where mechanical seeding occurred, soils are hardened and compacted in localized areas, and the lack of plant diversity shows reduced capture, storage, and management of moisture as compared to reference communities. The reduction in soil and hydrologic function is associated with post-fire altered plant community composition and distribution due to decreased relative abundance of large, deep-rooted native perennial bunchgrasses and an increase in invasive species. Sagebrush has established after the seeding but has a relatively low presence in this prescribed burned area. Cheatgrass has been on a significant increase and contributes to an ongoing decline in hydrologic function and nutrient availability.

Dredging—Gluch FFR

The ORMP management objectives are not met in pasture 5, where disturbance from heavy equipment has caused localized impacts to soils from dredging at a reservoir. The impacts caused by the mechanized equipment along a small portion of reservoir shore have left soils bare, locally compacted, and susceptible to erosion and invasion of exotic annuals.

3.1.3 Riparian/Water Quality

Desired Condition, Resource Objectives, & Assessment/Monitoring Methods

The resource objective specified in the ORMP for both riparian-wetland areas and stream channels is to maintain or improve riparian-wetland areas to attain proper functioning and satisfactory conditions. Riparian-wetland areas include streams, springs, seeps, and wetlands. The BLM has primarily utilized the lotic and lentic[31] proper functioning condition (PFC)[32] protocol to determine whether the objective is being met. The PFC assessment is a qualitative determination that refers to a consistent approach for considering hydrology, vegetation, and erosion/deposition (soils) attributes and processes to assess the condition of riparian-wetland areas. Essentially, a PFC determination rates the state of resiliency that will allow a riparian area to maintain integrity during a high-flow event, which then allows the area to provide desired values.

Leonard and Karl (1995) state, "Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bed load, and aid floodplain development; improve flood-water retention and ground-water recharge; develop root masses that stabilize stream banks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. Even though this definition emphasizes lotic areas, it can be applied to lentic areas with minor modification. For example, instead of 'adequate vegetation...present to dissipate stream energies...' an assessment would determine whether adequate vegetation, etc., is present to dissipate wind and wave energies."

The BLM employs several additional assessment methods that aid in interpreting the condition of the water and riparian resources and thus determine whether the ORMP objective is being met. In 2011, the

[31] Lotic = flowing water. Lentic = standing water, e.g. a seep or pond.
[32] PFC Assessments are based on Interagency Technical Reference 1737-15, *A User Guide to Assessing Proper Functioning Condition and Supporting Science for Lotic Areas* and 1737-16, *A User Guide to Assessing Proper Functioning Condition and Supporting Science for Lentic Areas*

multiple indicators monitoring method (MIM)[33] was finalized. MIM is a quantitative monitoring and analysis method used to assess the long-term trend of a designated stream reach. MIM can be used to help evaluate livestock grazing management (i.e., timing, duration, and frequency of grazing) by determining how the vegetation and stream channels are impacted by herbivore use. Monitoring data is gathered for ten indicators to assess the existing condition and trend of the stream banks, channel, and vegetation. From the gathered data, an evaluation is made for the stream reach in relation to the following three capability groups: 1) ecological status, 2) vegetation-erosion resistance (i.e., stream bank stability), and 3) site wetland status. Depending on the objectives for an area or stream, the MIM method can also be modified (MMIM) allowing the observers to collect either the three short-term indicators (stubble height, woody browse, and bank alteration) or any of the indictors of interest.

The ORMP objective for water quality is to meet or exceed State of Idaho water quality standards on all Federally administered waters. To assess and interpret whether this objective is met for an area, a stream, and/or a stream segment, the BLM utilizes watershed information collected by IDEQ and collects water temperature and bacteria information internally.

Watersheds

The Morgan Group 5 allotments fall within the Jordan subbasin (Tables RIPN 1, 2, and 3; Map CMLV-1). The Jordan subbasin encompasses a large area in southwest Idaho and southeast Oregon. The headwaters of Jordan Creek originate in the western section of the Owyhee Mountains, in southwest Idaho, then flow mostly west into Oregon, entering near the community of Jordan Valley. The general flow characteristics of the Jordan Creek watershed are from east to west, with most of the headwaters within Idaho. The major topographic features include the Silver City Mountain Range to the north, South Mountain to the south and Combination/Antelope Ridges to the east.

IDEQ designates basins, sub-basins, and assessment units in order to manage the state's waterways. The 2010 Integrated Report (303(d)/305(b)) uses assessment units (AUs) within the sub-basin. Assessment units are groups of similar streams within a sub-basin that have similar land use practices, ownership, or land management. Assessment units are assessed for pollutants and assigned beneficial uses with associated Water Quality Standards. The Beneficial Use Reconnaissance Program (BURP) is a field assessment of stream segments. Within the Jordan subbasin and the Group 5 allotments, there are 20 AUs that include 20.8 miles of stream that are not meeting one or more of the watershed's beneficial uses, 36.4 miles that have not been assessed, and 8.0 miles that are fully supporting the beneficial uses (Idaho Department of Environmental Quality Final 2010 Integrated Report 2011).

Table RIPN-1: IDEQ subbasins, assessment units, and 303(d streams for the Group 5 allotments

Subbasin (4th Field HUC)	**Assessment Unit (AU)**	**Allotment**	**303(d Streams on BLM lands[34]**	**Cause for 303(d) listing**
Jordan	ID17050108SW004_02 ID17050108SW005_02 ID17050108SW005_05	Bachelor Flat FFR	Rail Creek	mercury
	ID17050108SW002_02 ID17050108SW003_02 ID17050108SW006_02	Berrett FFR	none	
	ID17050108SW007_02 ID17050108SW007_03	Big Field FFR	none	

[33] MIM: Interagency Technical Reference 1737-23, *Multiple Indicator Monitoring of Stream Channels and Streamside Vegetation*
[34] 303(d) streams are water quality impaired and are in Category 5

Subbasin (4th Field HUC)	Assessment Unit (AU)	Allotment	303(d Streams on BLM lands[34]	Cause for 303(d) listing
	ID17050108SW007_05 ID17050108SW009_02			
	ID17050104SW026_02a ID17050108SW006_02	Bogus Creek FFR	none	
	ID17050108SW004_02	Boulder	Rail Creek	mercury
	ID17050108SW004_02 ID17050108SW004_05 ID17050108SW005_02 ID17050108SW005_03 ID17050108SW005_05 ID17050108SW006_04	Boulder Flat	Jordan Creek Rail Creek Unnamed Creek	mercury
	ID17050108SW006_02 ID17050108SW006_04 ID17050108SW007_05 ID17050108SW009_02	Combination Creek	none	
	ID17050108SW002_02	Feltwell	Lone Tree Creek Minear Creek Owl Creek Unnamed Creek	combined biota/ habitat bioassessments E.Coli (livestock)
	ID17050108SW001_02 ID17050108SW002_02	Glass Creek	Cattle Creek	combined biota/ habitat bioassessments E.Coli (livestock)
	ID17050108SW002_02	Gluch	Unnamed Creek	combined biota/ habitat bioassessments E.Coli (livestock)
	ID17050108SW001_02 ID17050108SW002_02 ID17050108SW002_03	Gluch FFR	Unnamed Creek	combined biota/ habitat bioassessments E.Coli (livestock)
	ID17050108SW002_02 ID17050108SW003_02	Jim`s Peak FFR	Minear Creek Owl Creek	combined biota/ habitat bioassessments E.Coli (livestock)
	ID17050108SW001_02 ID17050108SW001_05 ID17050108SW003_03 ID17050108SW004_02 ID17050108SW004_05	Morgan	Goose Creek Jordan Creek	mercury flow alteration
	ID17050108SW004_02 ID17050108SW005_03	Rail Creek FFR	Rail Creek Unnamed Creek	mercury
	ID17050108SW004_02 ID17050108SW005_02 ID17050108SW005_03 ID17050108SW006_03 ID17050108SW006_04	South Mountain Individual	Rail Creek Unnamed Creek	mercury
	ID17050108SW002_02	West Maher	Lone Tree Creek	combined biota/

Subbasin (4th Field HUC)	Assessment Unit (AU)	Allotment	303(d Streams on BLM lands[34]	Cause for 303(d) listing
		FFR		habitat bioassessments E.Coli (livestock)
	ID17050108SW001_02 ID17050108SW001_05 ID17050108SW003_02 ID17050108SW003_03	Walt's Pond FFR	Jordan Creek Unnamed Ditch	flow alteration
	ID17050107SW014_02 ID17050108SW002_02	Warn	Lone Tree Creek	combined biota/ habitat bioassessments E.Coli (livestock)
	ID17050108SW002_02	Wroten	Cattle Creek Minear Creek	combined biota/ habitat bioassessments E.Coli (livestock)

Table RIPN-2: Jordan Sub-basin Summary per IDEQ

Hydrologic Unit Code	**17050108**
Size	Approximately 385,000 acres in Idaho (approximately 740,000 acres total)
§303(d Listed Stream Segments	Jordan Creek (2 Segments), Cow Creek, Soda Creek, Rock Creek, Spring Creek, Louisa Creek, Louse Creek
Beneficial Uses Affected	Cold water aquatic life, primary contact recreation, salmonid spawning, special resource water
Pollutants of Concern	Sediment, bacteria, flow alteration, oil and grease, pesticides, metals, pH, mercury, temperature
Major Land Uses	Irrigated agriculture, rangeland, forest, mining, riparian

Streams and Springs & Riparian-Wetland Areas

The NHD was produced between 1996 and 2000 via a collaborative effort among the EPA, the U.S. Geological Survey (USGS), and other federal, state and local agencies. The NHD is a comprehensive set of digital geospatial data about surface water features such as streams, rivers, lakes and springs/seeps and is maintained by the USGS. Additionally, the NHD is the BLM standard for assessing stream mileage and flow type (USDI USGS 2011).

According to the NHD, the Morgan Group 5 allotments contain approximately 49 miles of perennial and 102 miles of intermittent streams[35] (Table RIPN-3). The NHD does not differentiate between intermittent and ephemeral streams; thus, many of the intermittent streams are ephemeral drainages that do not support riparian vegetation (USDA FSA 2011). Major perennial streams located all or in part within the allotments include Big Boulder, Bogus, Cattle, Combination, Jordan, Lone Tree, North Boulder, Owl, Pole Bridge, Rail, South Boulder, and Williams Creeks. Additionally, the NHD identifies 7 springs/seeps that occur on BLM lands within the allotments (Table RIPN-3).

Table RIPN-3: Total miles of perennial and intermittent stream, and number of springs (derived from the NHD) within the group 5 allotments that contain riparian-wetland resources

[35] Perennial: Contains water throughout the year, except for infrequent periods of severe drought
Intermittent: Contains water for only part of the year, but more than just after rainstorms and at snowmelt
Ephemeral: Flows in normal water years only in direct response to precipitation and channel is above the water table at all times

Allotment/Pasture/Stream	Intermittent/ Ephemeral Miles	Perennial Miles	Number of Springs
Bachelor Flat FFR Total	**9.7**	**2.2**	**0**
01	**2.8**	**2.2**	
Rail Creek		2.2	
Unnamed Creek	2.8		
02	**6.9**	**0**	
Old Man Creek	3.1		
Unnamed Creek	3.8		
Berrett FFR Total	**2.4**	**2.2**	**1**
01	2.1	2.1	**1**
Minear Creek	2.1		
Pole Bridge Creek		1.1	
Williams Creek		1.0	
Unnamed Creek		0.1	
03	**0.3**	**0**	
South Boulder Creek	0.1		
Unnamed Creek	0.2		
Big Field FFR 01 Total	**1.7**	**3.9**	**0**
Combination Creek		1.5	
North Boulder Creek		2.3	
Unnamed Creek	1.7		
Bogus Creek FFR 01 Total	**3.3**	**0**	**1**
Indian Creek	0.8		
Nip and Tuck Creek	1.3		
Unnamed Creek	1.2		
Boulder Total	**4.2**	**5.3**	**1**
01	**3.6**	**0**	
Unnamed Creek	3.6		
02	**0.6**	**2.9**	
Rail Creek		2.9	
Unnamed Creek	0.6		
03	0	2.4	
Cattle Creek		2.4	**1**
Boulder Flat Total	**15.4**	**3.4**	**0**
01	**6.8**	**2.2**	
Old Man Creek	0.6		
Rail Creek		2.2	
Unnamed Creek	6.2		
02	**8.6**	**1.2**	
Big Boulder Creek		1.2	
South Mountain Creek	3.1		
Unnamed Creek	5.5		

Allotment/Pasture/Stream	Intermittent/ Ephemeral Miles	Perennial Miles	Number of Springs
Combination Creek 01 Total	**5.3**	**7.1**	**0**
Bogus Creek		1.6	
Combination Creek		2.1	
North Boulder Creek		1.1	
South Boulder Creek		2.0	
Unnamed Creek	5.3	0.2	
Feltwell Total	**3.9**	**1.1**	**0**
01	**0.2**	**0**	
Minear Creek	0.2		
02	**0**	**0.2**	
03	**1.7**	**1.1**	
Owl Creek		1.1	
Unnamed Creek	1.7		
04	0	0.2	
Glass Creek Total	**4.9**	**0.9**	**0**
01	**0.7**	**0**	
Unnamed Creek	0.7		
02	**4.2**	**0.9**	
Cattle Creek		0.9	
Unnamed Creek	4.2		
Jim`s Peak FFR 01 Total	**2.1**	**1.2**	**1**
Minear Creek	2.1		
Owl Creek		0.9	
Pole Bridge Creek		0.3	
Morgan Total	**16.6**	**4.6**	**1**
01	6.3	1.2	
Unnamed Creek	6.3	1.2	
02	**0.7**	**0.6**	
Unnamed Creek	0.7	0.6	
03	**5.4**	**1.2**	**1**
Goose Creek	1.9		
Williams Creek		1.2	
Unnamed Creek	3.4		
04	**4.2**	**1.5**	
Goose Creek	1.9		
Jordan Creek		0.4	
Williams Creek		1.2	
Unnamed Creek	2.3		
Rail Creek FFR Total	**4.4**	**0.3**	**0**
01	**0.9**	**0.3**	
Rail Creek		0.3	

Allotment/Pasture/Stream	Intermittent/ Ephemeral Miles	Perennial Miles	Number of Springs
Unnamed Creek	0.9		
02	**3.4**	**0**	
South Mountain Creek	3.1		
Unnamed Creek	0.3		
South Mountain Individual Total	**15.7**	**2.6**	**0**
01	**5.5**	**1.0**	
Old Man Creek	2.4		
Rail Creek		1.0	
Unnamed Creek	3.2		
02	**10.2**	**1.6**	
South Boulder Creek		1.6	
South Mountain Creek	3.1		
Unnamed Creek	7.1		
West Maher FFR Total	**1.0**	**3.1**	**0**
01	**0.3**	**0.3**	
Lone Tree Creek		0.3	
Unnamed Creek	0.3		
02	**0.8**	**0**	
Unnamed Creek	0.8		
03	**0**	**2.8**	
Lone Tree Creek		2.8	
Walt's Pond FFR Total	**4.6**	**4.8**	**2**
01	**4.0**	**0.8**	
Unnamed Creek	4.0	0.8	
02	**0.5**	**4.0**	
Pole Bridge Creek		1.1	
Williams Creek		2.0	
Unnamed Creek	0.5	0.9	
Warn 01 Total	**3.3**	**2.8**	**0**
Lone Tree Creek		2.8	
Toppin Creek	2.4		
Unnamed Creek	0.9		
Wroten 01 Total	**2.7**	**3.8**	**0**
Cattle Creek		3.3	
Minear Creek	2.1		
Unnamed Creek	0.6	0.5	
Grand Total	**102.4**	**49.2**	**7**

Existing Conditions

All Allotments

Owyhee Resource Management Plan
The ORMP identified perennial and fish-bearing streams that occur on public lands and included an assessment of the mileage present and the condition at the time (1999; Table RIPN-4). The ORMP refers to streams and riparian-wetland areas in unsatisfactory condition as those that were either functional-at-risk or non-functional.

Table RIPN-4: Morgan Group 5 allotments with ORMP-identified perennial stream condition

Allotment	Stream Name	Condition	Perennial Miles
Bachelor Flat FFR	Big Boulder Creek	Unsatisfactory	1.25
Big Field FFR	North Boulder Creek	Unsatisfactory	1.3
Boulder Flat	Big Boulder Creek	Unsatisfactory	3.0
	Jordan Creek	Unsatisfactory	0.4
	South Boulder Creek	Unsatisfactory	0.3
Combination Creek	North Boulder Creek	Unsatisfactory	1.3
	South Boulder Creek	Unsatisfactory	0.3
Morgan	Jordan Creek	Unsatisfactory	2.0
	Williams Creek	Unsatisfactory	1.5
Walt's Pond FFR	Jordan Creek	Unsatisfactory	0.4
	Williams Creek	Unsatisfactory	0.1

Idaho Rangeland Health Standards 2, 3, and 7 & Rangeland Health Assessments[36]

Specific allotment existing condition information related to riparian areas and water resources can be found in the Riparian/ Water Quality sections under 3.3 below. If an allotment is not specified below, Standards 2, 3 and 7 do not apply because there are no riparian or water resources present on the BLM portion of the allotment.

The RHAs and Initial Allotment Reviews contain additional detail related to the condition of the allotments, as originally compiled in 2006, and supplemented in 2013. Additional details regarding the information presented in the current EA can be found in the assessment documents. The BLM used this information to assess and evaluate current rangeland health conditions, and the 'Allotment Specific Affected Environment' sections below detail the information as it relates to Standard 2 (Riparian Areas and Wetlands), Standard 3 (Stream Channels and Floodplains), and Standard 7 (Water Quality; also see Table RIPN-5).

[36] For additional, detailed information regarding the condition of the streams and springs, the associated riparian-wetland areas, and the water quality, see the Rangeland Health Assessments available in the project record and by request at the Owyhee Field Office.

Table RIPN-5: Standards 2, 3, and 7 determinations for the Morgan Group 5 allotments

	DETERMINATIONS FOR STANDARDS 2, 3, & 7				
Allotment Name	**Meeting**	**Not Meeting, But Making Significant Progress**	**Not Being Met**	**Not Being Met *and* Current Livestock Grazing Significant Causal Factor**	**Standards Not Applicable**
Bachelor Flat FFR	2, 3		7		
Berrett FFR	7			2, 3	
Big Field FFR				2, 3	7
Bogus Creek FFR				2, 3	7
Boulder			7	2, 3	
Boulder Flat			7	2, 3	
Combination Creek				2, 3	7
Feltwell				2, 3, 7	
Glass Creek	2, 3			7	
Gluch				7	2, 3
Gluch FFR				7	2, 3
Jim`s Peak FFR				2, 3, 7	
Morgan	2, 3		7		
Rail Creek FFR			7	2, 3	
South Mtn Indv			7	2, 3	
W. Maher FFR				2, 3, 7	
Walt's Pond FFR			7	2, 3	
Warn				2,3,7	
Wroten				2,3,7	

3.1.4 Special Status Plants

Introduction

Special status species are defined as species listed or proposed for listing under the ESA and species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA. The BLM State Director designates BLM sensitive plants. BLM

special status plants (SSPs) are assigned a status (from Type 1 to 4) based on risk of extinction, population size, distribution, and trend, using the following definitions (USDI-BLM 2012).

The ORMP resource objective for special status species is to manage special status species and habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended. In addition, BLM Manual 6840 directs the BLM to ensure that any activities authorized, funded or carried out do not contribute to the need to federally list any species as threatened or endangered, all while managing for multiple uses. Standard 8 of the Idaho Standards for Rangeland Health is used to ensure whether this objective is achieved. GIS data, aerial photography, site visits, plant observation records, and the IDFG Idaho Fish and Wildlife Information System (IFWIS) were used to evaluate the current conditions of special status plants. In addition, a file search at the OFO was conducted to obtain observation records not yet entered into the IFWIS database. The report discloses if Standard 8 (Threatened and Endangered Plants and Animals) is being met, provides rationales and causes for meeting or not meeting the Standard, and supplies background on the analysis methods for special status plant species. The following analysis focuses on existing conditions and environmental effects of the proposed grazing activities on SSPs and their habitats in the Morgan Group allotments.

In general, SSPs and their habitats are threatened by invasive and noxious weeds, an altered fire regime (more frequent or infrequent than what the plant or community is adapted to), off highway vehicle traffic, lack of pollinators, trampling, and herbivory. Habitat for these special status plants is generally open microsites or areas, and they are easily outcompeted for water, light, and nutrients by invasive weeds such as cheatgrass. Livestock management effects on SSPs depend on the season, intensity, and duration of use in occupied habitat. There are no federally listed plant species within the allotments however, due to the vast and rugged nature of the land, unknown occurrences of SSPs are likely to be present but not reported or reported nearby one of the 19 allotments. An example of this is an occurrence of Short-lobed beardtongue (*Penstemon seorsus*) a forb that has been observed in Berrett FFR allotment. There is no associated IDFG EO and it is not on the BLM SSP list for these reasons this plant will not be discussed beyond this section. Short-lobed Beardtongue is recorded on the Idaho State Special Status list with a ranking of S2[37]. The occurrence of Short-lobed beardtongue was observed in 2011 monitoring by OFO botanist. Short-lobed beardtongue grows on rolling hills and slightly north-facing Wyoming and low sagebrush habitats.

Allotments Meeting Standard 8

All allotments in the Morgan Group 5 Grazing Permit Renewal EA project area are meeting Standard 8 for SSPs due to the absence of federally listed plant species and current plant status documentation for the BLM SSPs in the BLM portion of the allotments. There is no allotment specific information in the SSPs section under 3.3 of this EA document below because Standard 8 does not apply.

[37] 1. State Ranks for ID :
1. Critically imperiled because of extreme rarity or because it is somehow especially vulnerable to extinction or extirpation, typically with 5 or fewer occurrences.
2. Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences.
3. Rare, uncommon or threatened, but not immediately imperiled, typically with 21-100 occurrences.
4. Not rare and apparently secure, but with cause for long-term concern, usually with more than 100 occurrences.
5. Demonstrably widespread, abundant, and secure.
SNR identifies that a species is not ranked within that state.

3.1.5 Wildlife and Special Status Animals

Wildlife Species

Many wildlife species utilize a variety of habitats in the Morgan Group allotments. These habitats provide forage, nesting substrate, and cover for a variety of bird, mammal, amphibian, reptile, and fish species common to southwestern Idaho and the Northern Great Basin region. Although all of these species are important members of native communities and ecosystems, most are common and have wide distributions within the allotments, state, and region. Consequently, the relationship of most of these species to the permit renewal process is not discussed here in the same depth as species upon which the BLM places management emphasis.

There are no threatened and endangered species listed under the Endangered Species Act (ESA) or critical habitat known to occur within or reasonably close to the Morgan Group allotments; however, the greater sage-grouse and the Columbia spotted frog are candidate species that occur within the analysis area and are warranted for potential listing under the Endangered Species Act by the U.S. Fish and Wildlife Service (USFWS).

The BLM, USFWS, and Idaho Department of Fish and Game (IDFG) maintain an active interest in other special status species that have no legal protection under the ESA. BLM special status species are: 1) species listed or proposed for listing under the ESA, and 2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA (USDI BLM 2008a), which are designated as sensitive by the BLM State Director(s). Special status wildlife species discussed in this document include those listed on the Idaho BLM State Sensitive Species List (USDI BLM 2003) and those afforded protection under the Bald and Golden Eagle Protection Act (BGEPA; USDI USFWS 1940) and the Migratory Bird Treaty Act (MBTA; USDI USFWS 1918) with potential to occur within the Morgan Group allotments and whose habitat may be affected by grazing activities.

One bird and one amphibian species are listed as candidates under the ESA. Eight mammals, 11 birds, four reptiles, one amphibian, and one fish with special status potentially occur within these allotments and may be affected by grazing activities. Common and scientific names of special status wildlife species, their status, and occurrence potential within each Morgan Group allotments are summarized in Appendix G, Table G-1.

With the exception of a few well-studied species, current occurrence and population data for most special status animal species within the Morgan Group allotments are limited due to a deficiency of surveys and directed research. Therefore, only a few focal special status animal species will be discussed in detail individually. These species include the greater sage-grouse, Columbia spotted frog, Columbia River redband trout. Other special status animal species, migratory birds, raptors, and species of socio-economic importance (e.g., big game) will be included in a general discussion by taxonomic grouping.

Wildlife Habitat

The dominant upland wildlife habitats in these allotments include sagebrush steppe, native grasslands, annual grasslands, juniper woodlands, mountain shrublands, and sparsely vegetated rocky outcrops and canyons (Map Gen-1 and 2). Juniper encroachment is occurring within mid-elevation sagebrush-steppe communities in allotments to the south. Riparian/wetland wildlife habitats include wet meadow complexes and woody/herbaceous riparian areas along perennial and intermittent streams and around springs, seeps, and reservoirs. Annual grasslands dominated by exotic species such as cheatgrass and medusahead are prevalent at low to mid-elevations. See Sections 3.1.1 (Vegetation, Including Noxious

Weeds), Section 3.1.2 (Soils), and Section 3.1.3 (Riparian/Water Quality) for additional ecological information regarding upland and riparian communities, soils, geology and topography.

Changes in vegetation communities occurring over the past 150 years have resulted in modified wildlife habitats within many of these allotments. The introduction of Eurasian annual grasses (cheatgrass and medusahead) into the western United States in the later part of the 1800s has greatly modified wildlife habitats, and these invasive species continue to expand to this day. This has resulted in a significant increase in fire fuels and frequency of wildfires, leading to reductions of sagebrush cover on the landscape on the lower-elevation drier habitats (Miller, Knick, et al. 2011). At higher elevations, there has been an increased encroachment of western juniper into sagebrush communities following post-European settlement. This increase coincided with the introduction of large numbers of livestock in the 1800s (Miller and Rose 1999, Heyerdahl et al. 2006). Juniper woodlands encroach into sagebrush communities when the intervals between fires become long enough for juniper to become established and mature. The probability of western juniper being killed by fire decreases with age of trees (Burkhardt and Tisdale 1976, Bunting et al. 1987, Miller and Rose 1999).

Desired Conditions for Wildlife and Special Status Animal Species Habitat
Special status species and their habitats should be managed to increase or maintain populations at levels where their existence is no longer threatened and listing under the ESA is unnecessary (USDI BLM 2008a). Grazing management practices should provide sufficient residual vegetation to improve, restore, or maintain the physical and biological conditions (e.g., hydrologic cycle, nutrient cycle, and energy flow) necessary to sustain wildlife habitats in properly functioning, structurally appropriate, and diverse native upland and riparian plant communities. Guiding land management objectives are set by the Owyhee Resource Management Plan (USDI BLM 1999a) that states:

- **Wildlife habitats:** Maintain or enhance the composition, structure, extent/juxtaposition, and connectivity of plant communities to support local wildlife populations. In addition, perennial/intermittent stream and riparian areas should be improved or maintained to provide satisfactory conditions to support native fish and amphibians.

- **Special Status Species:** Manage special status species and their habitats to increase or maintain populations at levels where their existence is no longer threatened and there is no need for listing under the Endangered Species Act of 1973, as amended.

- **Fishery Habitat:** Improve and maintain perennial stream/riparian areas to attain satisfactory conditions to support native fish.

Idaho Standards for Rangeland Health and the Guides for Livestock Grazing Management (Appendix A) were approved in 1997. The eight standards and 20 guidelines identified with the standards and guides are the primary tools for determining if rangeland health, condition, and trend are being met or making progress. Standard 8 (Threatened and Endangered Plants and Animals) of the Idaho Standards for Rangeland Health and the Guides for Livestock Grazing Management identifies:

- Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Focal Special Status Animal Species

Greater sage-grouse

On March 5, 2010, the USFWS (2010) published a finding in the Federal Register that found that listing the greater sage-grouse was warranted but precluded by the need to take action on other species facing more immediate and severe extinction threats. The finding has changed the status of sage-grouse from a BLM Type 2 sensitive species to a candidate species under the ESA.

The greater sage-grouse is a sagebrush-obligate species that requires large areas of relatively undisturbed sagebrush steppe habitat. Sage-grouse were once abundant and concomitant with sagebrush steppe ecosystems across western North America (Schroeder, Young and Braun 1999). Currently, their distribution has been reduced to nearly half of what it was historically (Schroeder, Aldridge, et al. 2004). Despite long-term population declines, sage-grouse persist across more than 250,000 square miles of the sagebrush ecosystem in the western United States (Schroeder, Aldridge, et al. 2004). Within this requisite sagebrush landscape, important seasonal habitats (e.g., wet meadows, higher elevation mesic shrublands) are also necessary (Connelly et al. 2000).

Sage-grouse traditionally congregate on communal strutting grounds (i.e., leks) from April to early May. The nesting season occurs soon after, extending from May to early June. Broods remain with females for several more months, and as seasonal changes occur, they move from early brood-rearing areas (e.g., forb- and insect-rich upland areas surrounding nest sites) to late brood-rearing and summer habitats (e.g., wet meadows and riparian areas) from June to August. Based on information about locations acquired through lek surveys, telemetry studies, and incidental observations, sage-grouse seasonal ranges associated with breeding (i.e., lekking, nesting, and early brood-rearing), late brood-rearing/summer, and winter habitats occur within the Morgan Group allotments to varying degrees.

Sage-grouse are expected to be vulnerable to changes to the sagebrush ecosystem because they are a broadly distributed species, dependent on a diversity of heterogeneous seasonal habitats, and some populations are wide-ranging. Due to these factors, the focal species concept (Mills 2007) is applicable because sage-grouse can serve as an umbrella species for broader conservation of sagebrush habitats across the West (Hanser and Knick 2011). It is expected that this concept will benefit other sagebrush-dependent species such as pygmy rabbit, sage sparrows, and sage thrashers, as well as generalist species such as mule deer and pronghorn antelope.

The Morgan Group allotments are located in the Western Association of Fish and Wildlife Management Agencies (WAFWA) Snake River Plain Management Zone (MZ; (Stiver et al. 2006)). The Northern Great Basin population within the Snake River Plain MZ (Garton et al. 2011) is a large population in Nevada, southeastern Oregon, southwestern Idaho, and northwestern Utah (Map CMLV-2). Of the three subpopulations identified by Connelly et al. (2004) within the Northern Great Basin population, the north-central Nevada/southeast Oregon/southwest Idaho (hereafter Owyhee) subpopulation overlaps the Morgan Group allotments (Map CMLV-2).

Habitat conditions have deteriorated or been altered to some degree throughout the entire distribution of sage-grouse by a combination of man-made and natural forces (e.g., livestock management, wildfire, fire suppression, and natural progression) on the plant community over time. This has resulted in the loss of native bunchgrasses and the increased dominance of short-statured species such as Sandberg bluegrass and exotic species such as cheatgrass and medusahead (Section 3.3). These forces have further contributed to a shortened fire interval that removes sagebrush, impedes its regeneration, and promotes invasive species, as well as facilitates the encroachment of juniper in sagebrush habitat. This has caused local extirpations or declines in sage-grouse populations throughout their historical range and in the Morgan Group allotments and surrounding area. An Idaho population analysis conducted by Connelly et al. (2004) suggests a long-term decline for sage-grouse within the state. More recently, Garton et al. (2011) conducted a population analysis of the Northern Great Basin population based on data from 1965

to 2007. During the assessment period, the proportion of active leks decreased and average number of males per active lek declined by 17 percent (Garton et al. 2011).

Idaho BLM initiated a modeling effort to identify sage-grouse preliminary priority habitat (PPH) and general priority habitat (GPH) within the Snake River Plain MZ (Makela and Major 2012). Preliminary priority habitat includes breeding, late brood-rearing, and winter-concentration areas. General priority habitat are lands that may serve as important corridors between PPH and habitat islands within corridors, or occupied habitats characterized by low lek densities (Makela and Major 2012). The BLM collaborated with respective state wildlife agencies to identify these areas. Modeling results indicate that the Morgan Group allotments encompass large and contiguous areas of PPH (Table WDLF-1 and Map WDLF-1).

Table WDLF-1: Acres[1] and Portions of Preliminary Priority and General Priority Habitat within each allotment (Map WDLF-3).

Allotment Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Bachelor Flat FFR	1,100	84	1,005	0	100%
Berrett FFR	729	0	1,990	1,087	76%
Big Field FFR	0	0	523	1,107	59%
Bogus Creek FFR	0	0	0	0	0%
Boulder	1,993	0	0	0	100%
Boulder Flat FFR	3,044	0	1,276	97	98%
Combination Creek FFR	0	0	0	949	23%
Feltwell	1,604	0	216	0	100%
Glass Creek	1,755	0	0	1	100%
Gluch	261	0	0	0	100%
Gluch FFR	1453	0	0	0	100%
Jim's Peak	407	0	1,557	632	100%
Morgan	5,441	0	0	0	100%
Rail Creek FFR	446	0	2,569	0	100%
South Mountain Ind.	2,844	0	1,281	106	93%
West Maher FFR	1,388	0	53	0	100%
Walt's Pond FFR	3,331	0	174	0	100%
Warn	1,845	0	0	0	100%
Wroten	1,845	0	0	0	100%
TOTAL ACRES	29,486	84	10,644	3,979	44,193

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Spotted Frog

The Great Basin DPS of the Columbia spotted frog occurs in eastern Oregon, southwestern Idaho, and northern Nevada. The species is highly aquatic and is seldom found far from water. They are most often found in herbaceous wetland plant communities comprised of sedges, rushes, and grasses, and use thick floating algae and riparian vegetation for cover (Tait and Vetter 2008). Frogs require well-oxygenated water for hibernation, and springs or saturated burrows are used as over-wintering sites. For Great Basin

populations, breeding occurs in March and April in lower elevations and from April through mid-May at higher elevations. Columbia spotted frogs lay their eggs in the shallows of permanent water associated with pond edges, stream margins, and inundated floodplain areas. The eggs are deposited in spherical clusters of up to 1,300 eggs that are allowed to float freely. In very shallow waters, the egg clusters protrude above the water, which can result in egg mortality due to freezing and desiccation (Tait and Vetter 2008).

Spotted frog population declines are attributed to habitat loss through conversion of wetlands to irrigated pastures, de-watering of rivers for irrigation uses, drying of ponds due to drought or overuse, and reduction of riparian habitat quality due to overgrazing (IDFG 2009). Improper grazing of the wetlands results in severely hummocked surfaced soils, the breaking up of dense sod, exposing mineral soil, and leading to erosion potential and weed invasion. These disturbances lead to soil compaction, streambank sloughing, damage to vegetation, and pre-mature drying of the soil surface (Engle and Munger 2003).

Known locations and potential habitat of Columbia spotted frogs occur within the Morgan Group allotments (Map WDLF-2). Implementing the focal species concept, assessing grazing impacts to riparian/wetland habitat associated with seeps, springs, and streams will benefit a variety of aquatic and riparian dependent species. Conclusions on whether riparian habitat conditions or water quality parameters along streams, wetlands, and springs are providing for sustainable Columbia spotted frog populations will be dependent upon proper functioning condition (PFC) assessments and water-quality parameters provided in discussions of Standards 2, 3, and 7.

Columbia River Redband Trout

Redband trout of the Columbia River Basin are a BLM Type 2 sensitive species. BLM manages the habitats that support the species to prevent future ESA listing as threatened or endangered.

Columbia River Basin redband trout are a subspecies of rainbow trout and are the resident life form of steelhead trout. They are found in a wide range of stream habitats from desert areas in southwest Idaho to forested mountain streams in central Idaho. Spawning occurs in the spring from February to June, depending on temperature and location (IDFG 2005). They eat mainly streamside and benthic (bottom-dwelling) macroinvertebrates (USDI USFWS 2013).

Similar to other species of trout, redband trout abundance is strongly correlated with riparian cover components, including undercut banks, large woody debris, and overhanging vegetation. Productive redband trout habitat is associated with higher gradient channels, often in riffles, or with substrates dominated by boulders, cobbles, and pocket water. Redband trout also occupy pools in lower gradient streams that provide important holding and rearing habitat, resting places, over-wintering areas, and refuges from floods, drought, and extreme temperatures. Spawning habitat includes loose gravelly substrates to provide for oxygenation of eggs and embryos in redds in streams (USDI USFWS 2013).

Redband trout have been documented in various rivers and streams in and around the Morgan Group allotments (Map WDLF-2). In the Owyhee Uplands, redband trout prefer cool streams with temperatures below 70° F (21° C). However, they can survive daily cyclic temperatures up to 80° F (27° C) for a short period of time (IDFG 2006). Habitat loss and fragmentation are the major threats to population viability. Functional stream habitat conditions includes a vigorous and diverse riparian habitat that includes overhanging vegetation with deep root systems that secures banks, filters sedimentation, and provides woody debris for stream structure and flow control.

Under the focal species concept, assessing grazing impacts to Columbia River redband streams and near-stream habitat conditions will benefit a variety of aquatic- and riparian-dependent species. Conclusions on

whether stream or near-stream habitat conditions are providing for sustainable populations of Columbia River redband trout are dependent upon proper functioning condition assessment and water quality findings provided in discussions of Standard 2, 3, and 7.

Migratory Birds, Raptors, and other Birds (including Special Status Species)

A variety of special status bird species occur or are likely to occur within the Morgan Group allotments (Appendix G, Table G-1). The majority of these species are associated with shrub steppe, grassland, or riparian habitats. Brewer's sparrow, sage sparrow, and sage thrasher are heavily reliant on sagebrush steppe for nesting and foraging. Loggerhead shrike, black-throated sparrow, and green-tailed towhee are less reliant on sagebrush but are dependent on shrubland habitat. Grassland species include long-billed curlew and grasshopper sparrow. Brewer's blackbird, calliope hummingbird, and willow flycatcher typically are associated with riparian areas, and black tern, white-faced ibis, and Wilson's phalarope are associated with ponds and wetlands. Cassin's finch, Lewis's woodpecker, and red-naped sapsucker prefer forest habitat. As per the Migratory Bird Treaty Act (MBTA), and under a signed Memorandum of Understanding with the USFWS (USDI 2010), the BLM has a responsibility to "as practical, protect, restore, and conserve habitat of migratory birds, addressing the responsibilities in Executive Order 13186" (USDI 2010).

The North American Bird Conservation Initiative (NABCI) is a comprehensive instrument by which government agencies, such as the BLM, and private partners can promote and achieve integrated continental bird conservation as specified by Executive Order 13186 and the BLM-USFWS MOU. One product of the NABCI is the designation of Bird Conservation Regions (BCR) across North America. BCRs are ecologically distinct regions with similar avian communities, habitats, and management concerns developed as the primary unit within which issues are resolved, sustainable habitats are designed, and priority projects are initiated (NABCI-US 2012). On a regional scale, the Morgan Group allotments fall within the Great Basin BCR and the more localized Owyhee Bird Habitat Conservation Area (BHCA). The Owyhee BHCA has been identified by the Intermountain West Joint Venture as an area of statewide importance for priority bird species where the opportunity for effective conservation activities exists. Within the Great Basin BCR and the Owyhee BHCA, partner agencies and organizations have compiled a list of continentally important bird species, based on a variety of bird initiatives and plans. Among birds, grassland and shrubland species are declining faster than any other group of species in North America (Dobkin and Sauder 2004).

Riparian habitats support the most diverse migratory bird communities in the arid and semiarid portions of the Intermountain West (Knopf et al. 1988, Dobkin 1994, Dobkin 1998). In addition, healthy riparian areas sustain high densities of breeding migratory birds (Mosconi and Hutto 1982). In Idaho, 60 percent of migratory landbirds are associated with riparian habitats (IDFG 1992), and one of the main reasons for the decline of migratory landbirds is the loss of riparian habitat (DeSante and George 1994).

An assortment of raptor species occur or potentially occur within the Morgan Group allotments. The juniper woodlands, rock outcrops, and shrub steppe located within the Morgan Group allotments provide nesting and foraging substrate for many of these species. Generally, raptors return to areas in which they have nested in the past, often using the same nesting territories. Nesting activities may be initiated in mid-February to late April, depending upon species. Nest occupation continues until chicks are fledged, which usually occurs from early June to mid-August. Raptor nesting is expected to occur in suitable habitats within these allotments.

Eagle species are afforded additional protection under the Bald and Golden Eagle Protection Act. Although bald eagles have been documented near the allotments during winter months, their use of the

area is not well known. It is doubtful that bald eagles nest within any of the Morgan Group allotments; however, winter migrants foraging on carrion are probable.

Golden eagles, prairie falcons, ferruginous hawks, and Swainson's hawks prefer open shrub steppe, sagebrush, and grassland habitats. Golden eagles, ferruginous hawks, and prairie falcons nest on cliffs and rocky outcrops throughout southwest Idaho. All three species breed and forage in and/or around the Morgan Group allotments. Documented nest sites and potential nesting habitat for these species is abundant in the uplands and nearby deep canyons. Prairie falcons prey on small mammals, especially ground squirrels, but a large portion of their diet also can be comprised of birds. Eagles and hawks will prey upon small mammals, reptiles, and birds.

The *Accipiter* species (northern goshawk, Cooper's hawk, and sharp-shinned hawk) and most owls prefer mixed open forest to more dense forest. In semiarid areas, these species often focus hunting efforts in riparian areas due to the abundance of prey found in these habitat types. At higher elevations, juniper woodlands provide suitable *Accipiter* foraging habitat for other birds and small mammals.

Several species of owls that potentially occur within these allotments include great horned owl, long-eared owl, northern saw-whet owl, and western screech owl. These species generally are associated with greater tree cover found in woodlands, forests, and riparian areas. Flammulated owls prefer dense forests and probably have occupied the area recently as juniper has expanded and become thicker.

A number of raptor species prefer open woodland or shrub steppe to dense forest. American kestrel, northern harrier, red-tailed hawk, short-eared owl, and western burrowing owl usually are found in more open areas such as sagebrush steppe, grasslands, meadows, or open riparian areas and prey on a wide variety of small mammals, reptiles, birds, and insects. Northern harriers and short-eared owls are ground nesters and need adequate cover for suitable nest sites. Burrowing owls nest in burrows dug by other animals, usually badgers, and they hunt in grasslands and sagebrush steppe areas. Expansion of juniper woodlands probably has restricted the distribution of these open habitat species within parts of the Morgan Group allotments.

Big Game and other Mammals (including Special Status Species)

Several special status mammal species have been documented or have the potential to occur within the Morgan Group allotments (Appendix G, Table G-1). Special status bat species occurring or potentially occurring within these allotments include fringed myotis, spotted bat, and Townsend's big-eared bat. Although these species have been detected in the general area, research conducted in the juniper woodlands in the Owyhee Uplands suggests that bat populations are not numerous and species diversity is low (Perkins and Peterson 1997). Quality day-roosting habitat (particularly caves and large, mature, live cottonwoods and snags) appears to be a limiting factor for bats in the area. Although abundant, the cliffs, rock outcrops, and seral junipers found in the portions of the allotments only provide marginal roosting habitat (Perkins and Peterson 1997). Because the effects of livestock grazing on bats are not well-known, and old growth junipers would remain the most abundant day roost substrates in the area, effects of grazing to bats are expected to be negligible to none. However, bats do require open water and will utilize livestock developments with limited risk if designed and maintained properly with minimal flight path obstructions.

Kit fox and various special status small mammal species including the Piute ground squirrel, dark kangaroo mouse, and Wyoming ground squirrel have the potential to occur within the Morgan Group allotments. These species prefer open habitats including sagebrush steppe, salt desert scrub, grasslands, meadows, and other productive bottomlands. As well as being major constituents to biodiversity, small mammals serve as predators, prey, seed dispersers, and grazers. An abundant and diverse small mammal

community can be an indicator of a healthy and functioning ecosystem (Fricke, Kempema and Powell 2009).

The Morgan Group allotments have long supported populations of a wide variety of big game species. Rocky Mountain elk, mule deer, and pronghorn use portions of the area yearlong. However, some areas are used specifically as seasonal ranges (i.e., spring, summer, fall, and winter). Most elk and mule deer within the Morgan Group allotments migrate to lower elevations in the winter and to areas in Oregon. Nevertheless, mule deer are common year-round in the uplands and canyonlands, and pronghorn occur year-round throughout the uplands in much of these allotments. While juniper does provide hiding and thermal cover for elk and deer, juniper encroachment reduces forage and habitat diversity. Browse species important to deer, such as mountain big sagebrush, mountain mahogany, and bitterbrush, have decreased in juniper encroachment areas.

The Morgan Group allotments are located within the IDFG game management unit (GMU) 40. Current population data for elk and mule deer are lacking because surveys have not been conducted within GMU 40 for several decades (IDFG 2000a, IDFG 2000b). Elk in GMU 40 are managed as part of the greater Owyhee–South Hills Zone. IDFG estimated the 2002 population at approximately 450 elk within GMUs 40 and 42. IDFG does not have any current population estimates for mule deer in GMU 40 and managers have identified population information within the GMU as a primary data need in the future (IDFG 2010a). The IDFG objective for mule deer within GMU 40 is to increase populations within these important herds (IDFG 2010a). No pronghorn surveys have been conducted in GMU 40, although pronghorn are known to occur within these allotments. Besides maintaining a variety of hunting opportunities and average horn lengths, IDFG has no explicit population objectives for pronghorn within GMU 42 (IDFG 2010b).

Large predators that occur within the Morgan Group allotments include bobcat, coyote, and mountain lion. These predators are quite secretive and elusive. Because of their secretive nature, predator densities are difficult to determine. However, predators are closely tied to their prey, and if prey numbers are low, predator numbers reflect corresponding low numbers as well. Because these species are relatively common and abundant habitat exists in the area, they will not be discussed further.

Beavers are not as widespread throughout the area as they once were. Riparian habitat along many of the streams has deteriorated to the point that only remnant populations may remain. Loss of aspen, cottonwood, and willow trees will affect beaver by reducing suitable forage and material for building dams to create pond habitat. The loss of beavers throughout much of the area is suspected of leading to declines in spotted frog numbers.

Amphibians and Reptiles (including Special Status Species)

Several special status amphibians and reptiles, including the northern leopard frog, western toad, and common garter snake, have been documented or have the potential to occur within the Morgan Group allotments (Appendix G, Table G-1). All three species prefer habitats in proximity to water, including springs, streams, wetlands, and meadows. Loss and degradation of riparian/wetland habitats are the most serious threats to the maintenance of viable populations of these species. Because very little is known about amphibian (with the exception of spotted frogs) and reptile populations in the Morgan Group allotments, individual species will not be discussed in detail further. Amphibian and reptile habitat in general will be included in discussions under spotted frogs and in the broader context of upland and riparian habitat conditions.

Fisheries

Other fish species that occur or potentially occur within streams in the Morgan Group allotments include dace (*Rhinichthys* spp.), redside shiner (*Richardsonius bateatus*), and sculpin (*Cottus* spp.). Fish habitat is degraded within the majority of the streams due to grazing effects along the stream channel and riparian areas (see Section 3.4.1). These species will not be discussed further, as fish habitat and effects in general will be discussed in more detail under Columbia redband trout.

IDAHO STANDARDS FOR RANGELAND HEALTH, STANDARD 8 – WILDLIFE

Allotments Meeting Standard 8

There are no allotments meeting Standard 8 in the Morgan Group of allotments.

Allotments Not Meeting Standard 8

All of the allotments are not meeting Standard 8 (Table WDLF-3), whether it be to undesirable conditions in the uplands identified by Standard 4 and 6; inadequate functional stream, spring, wetland, riparian and water quality conditions identified in Standards 2, 3, and 7; and/or unsuitable focal species habitat conditions identified in Standard 8 are not meeting objectives identified in the ORMP to sustain wildlife populations. All of the Morgan Group allotments in some respect of habitat condition are not providing a full range of adequate upland/riparian vegetation composition, structure, or function to provide for terrestrial and aquatic species sustainability (Table WDFL-3).

Table WDLF-3: Morgan group allotments that are not meeting Idaho Rangeland Health Standard 8 and their relationships to Upland Habitat, Riparian Habitat, and Focal Species.

Allotment Name	Upland Habitat			Riparian Habitat	Focal Species		
	Native Comm.	Seeded Comm.	Exotic Comm.		Greater Sage Grouse	Columbia Redband Trout	Columbia Spotted Frog
Bachelor Flat FFR	X			X	X	X	X
Berrett FFR	X			X	X	X	
Big Field FFR	X			X	X	X	
Bogus Creek FFR	X			X			X
Boulder	X			X	X		X
Boulder Flat FFR	X			X	X	X	X
Combination Creek FFR				X			
Feltwell	X			X			
Glass Creek	X				X		
Gluch				X			
Gluch FFR	X		X		X		
Jim’s Peak	X			X			
Morgan	X			X	X	X	X

Allotment Name	Upland Habitat			Riparian Habitat	Focal Species		
	Native Comm.	Seeded Comm.	Exotic Comm.		Greater Sage Grouse	Columbia Redband Trout	Columbia Spotted Frog
Rail Creek FFR	X			X			X
South Mountain Ind.	X			X	X	X	X
West Maher FFR	X			X	X		
Walt's Pond FFR	X			X	X	X	
Warn				X			
Wroten				X	X		

3.1.6 Recreation and Visual Resources

The Morgan Group 5 allotments and FFR's cover a large area within the Owyhee Field Office and all lie within the Owyhee Extensive Recreation Management Area (ERMA). An ERMA is an area where recreation management is only one of several management objectives, and where a limited commitment of resources is required to provide extensive and unstructured types of recreation activities (USDI-BLM 1999).

The Owyhee ERMA contains approximately 1,006,700 acres extending from the Snake River south along the Oregon border to Nevada. The extreme diversity of landforms and vegetation within the ERMA create a wide range of natural settings in which to enjoy recreational opportunities. Recreation is widely dispersed and consists mostly of hunting, fishing, horseback riding, rock hounding, nature study, camping, OHV riding, mountain biking, sight-seeing, hiking, and snowmobiling in the winter.

Off-highway motor vehicle (OHV) designations within the Morgan Group 5 allotments are limited to existing roads and trails. The limited to existing designation will change within the next 5 years (roughly) to limited to designated, as all of Owyhee County is currently undergoing a travel management process as per the 2009 Ominbus Public Lands Management Act.

The Morgan Group 5 also lies within a small portion of the North Fork Owyhee Wilderness, as the southernmost portion of the Bogus Creek FFR contains roughly 105 acres of wilderness. The OHV designations, as well as the over snow vehicle designations within the wilderness would be designated as closed to motorized and mechanized uses.
The 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 of public land. The Morgan Group 5 allotments/FFRs contain multiple settings for recreationists, ranging from primitive, to rural, roaded natural, semi-primitive motorized, and semi-primitive non-motorized classifications.

The primitive classification is an area characterized by an essentially unmodified natural environment. The concentration of users is very low and the evidence of other users is minimal. The area is managed essentially to be free from evidence of man-induced facilities for comfort or convenience. Only facilities essential for resource protection are used. Motorized use within the area is not permitted.

The rural classification is an area that is characterized by a substantially modified natural environment. Resource modifications and utilization practices are obvious, the sights and sounds of man are readily evident, and the concentration of users is often moderate to high.

The roaded natural classification is an area that is characterized by a generally natural environment with only moderate evidence of the sights and sounds of man. Resource modifications and utilization practices are evident, but harmonize with the natural environment.

The semi-primitive motorized and the semi-primitive non-motorized classifications are areas that are characterized by a primarily unmodified natural environment. There is evidence of other users in the area; however, management actions encourage limited contacts between users. Semi-primitive motorized classification permit motorized uses within the area; and semi-primitive non-motorized does not (USDI-BLM, July 1999).

Overall, the Group 5 area offers ample recreational opportunities, however there is a substantial amount of private lands mixed in throughout these units, which can restrict access, resulting in limiting and sometimes discouraging public use. The allotments also contain a fair amount of state lands, access to these lands are typically not restricted. Group 5 allotments receive a moderate amount of OHV riding as well as hunting, camping, horseback riding, sight-seeing, wildlife viewing, and snowmobiling. Big game hunting would likely be considered the most popular recreational activity for this area. As mentioned above, the southernmost portion of the Bogus Creek FFR (roughly 105 acres) lies within the North Fork Owyhee wilderness, which offers high quality non-motorized, non-mechanized recreational opportunities.

The visual resource management (VRM) classes within the Group 5 allotments/FFRs consist of VRM class I, II, III, and IV.
Allotments containing VRM class I consist of:

- Bogus Creek FFR [(roughly 2%; 105 acres of wilderness)]

Allotments containing VRM management class II include:

- Bachelor Flat FFR (100%)
- Barrett FFR (100% pastures 2 & 3, and roughly 25% of pasture 1)
- Jim's Peak FFR (roughly 70%)
- Rail Creek FFR (roughly 30% of pasture 1)
- Morgan (roughly 45% of pasture 3)
- Boulder Flat (roughly 15% of pasture 1 and 80% of pasture 2)
- Combination Creek (roughly 25%)
- Big Field FFR (roughly 40%)

Allotments containing VRM management class III include:

- Gulch FFR, Glass Creek, Masher FFR, Warn, and Fretwell (100%)
- Wroten (roughly 85%)
- Morgan (roughly 50% of pasture 1)
- Walters Pond FFR (roughly 45% of pasture 1)

The remainder of the allotments and FFRs lie within VRM management class IV.

The VRM class I objective is to preserve the existing character of the landscape. This class provides for natural ecological changes, but it does not preclude very limited management activity. The level of change to the characteristic of the landscape should be very low and must not attract attention.

The VRM class II objective is to retain the existing character of the landscape. The level of change to the characteristic of the landscape would be low. Management activities may be seen, but would not attract the attention of the casual observer. Except within wilderness areas, very limited construction of new rangeland facilities and vegetation treatment projects is permitted.

The VRM class III objective is to partially retain the existing character of the landscape and the level of change to the characteristic of the landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features or the characteristic landscape. This classification occurs where the amount of use is relatively high and scenic quality is generally good. Maintenance, construction, and reconstruction of rangeland facilities, roads, and vegetation treatment projects are permitted. In this classification, emphasis is placed on construction techniques that will reduce the projects visual impacts to the natural landscape.

The objective for VRM class IV is to provide for management activities that would require major modifications to the existing character of the landscape. These activities may dominate the view and be the focus of attention. However, every attempt should be made to minimize impacts with careful location and minimal disturbances (USDI-BLM, July 1999).

3.1.7 Wilderness Areas

The North Fork Owyhee Wilderness is approximately 43,413 acres in size and a mere 105 acres of this wilderness area lie within the extreme southern tip of the Bogus Creek FFR. In 2009, this area was designated as wilderness through Omnibus Public Land Management Act of March 30, 2009 (OPLMA).

The wilderness area consists of rugged juniper hills and a flat plateau dissected by numerous canyons. Approximately 15 miles of the North Fork Owyhee River meanders throughout the wilderness area. This section of river was designated as a “wild” river in OPLMA. Special features recognized for the North Fork Owyhee Wilderness area include exceptional scenic quality because of its spectacular sheer-walled canyons and rock outcrops highlighted with gnarled juniper. Sensitive wildlife species are also included as special features in the wilderness area (USDI BLM 1999a).

Regulations administering management of wilderness areas specify that they be managed in a manner that preserves and protects wilderness characteristics and values. Wilderness values include: solitude, naturalness, opportunities for primitive and unconfined recreation, and the presence of special features that enhance wilderness values. The North Fork Owyhee Wilderness contains naturalness, outstanding opportunities for solitude due to excellent topographic and vegetative screening, outstanding opportunities for primitive and unconfined recreation, and supplemental values such as scenic, geological, ecological, and historic and prehistoric sites.

BLM Manual 6340 states “The Wilderness Act directs that wilderness areas be managed to provide for their protection, the preservation of their natural conditions, and the preservation of their wilderness character” which include naturalness and outstanding opportunities for solitude and/or primitive and unconfined recreation. The continuation of existing grazing, in accordance with [Sec 4(d)(4)(2)] of the Wilderness Act provides for continued livestock grazing where established prior to designating the area as wilderness. The objective of livestock management in wilderness is to utilize the forage resource in conformity with established wilderness objectives for each area and BLM grazing regulations (43 CFR 4100), and through practical, reasonable and uniform application of the congressional guidelines and policy.

3.1.8 ACECs

The Boulder Creek ACEC is comprised of a deep, winding canyon, which cuts through a basalt and rhyolite table-land. This area was recognized as an Outstanding Natural Area (ONA) in the 1981 Management Framework Plan (MFP) based on high scenic values and multiple natural resource values. Interdisciplinary analysis during the development of the 1999 RMP concluded that 6,978 public land acres met the ACEC criteria. Only roughly 2,200 acres of the ACEC lies within the Group 5 allotments, 90% of which is in the Boulder Flat allotment pasture 2. The dominant plant communities represented in the area include western juniper-Idaho fescue and western juniper-low sagebrush, in addition to the riparian shrub component. The area also contains a number of special status animal species including redband trout, sage grouse, and several species of bats.

Management of the ACEC in relation to livestock grazing is addressed in the 1999 ORMP which states:

- Domestic livestock grazing use will not be increased within the ACEC boundaries.
- Salt placement within and adjacent to the area will be considered on a site-specific basis for maximum protection of identified resource values.
- Water developments are allowed only where identified resource values will be enhanced or maintained and impacts can be mitigated. Construction of reservoirs within the ACEC is prohibited.
- Fencing is allowed only where identified resource values will be enhanced or maintained and impacts can be mitigated.

3.1.9 Social and Economic Values

This socioeconomic analysis will focus primarily on Owyhee County, Idaho, where all of the Morgan Group allotments are located, but as some of the livestock operators who own the cattle maintain base ranches in Jordan Valley, Oregon (Malheur County), this county will also be included in the analysis.

Owyhee County is the second-largest county in the state and covers 7,639 square miles. The population in Owyhee County in 2010 was 11,389, an increase of 7 percent from the year 2000, compared to an 18 percent increase throughout the state of Idaho over that same time period. The population density is only 1.5 people per square mile, and most of the county residents enjoy a largely rural lifestyle. Residents of the Treasure Valley come to the public lands to recreate on weekends and during hunting and fishing seasons. I n 2010, the median age in the county was 35.3 years, almost three years older than the median age in 2000 and close to the median age of 36.3 for the entire state. Almost one-third of county residents are under the age of 18 and more than 20 percent of residents are age 45 to 64. The population in the baby boomer generation increased almost 26 percent from 2000 to 2010. Southwest Idaho is projected to grow by more than 95,000 people by the year 2020, and 77,000 of these people will live in Ada or Canyon Counties (Gardner and Zelus 2009).

Economic profiles

Unemployment in Owyhee County in 2010 was 11 percent, compared to 8.8 percent in Idaho and 9.6 percent nationwide in the same year. Incomes are lower in Owyhee County than in Idaho, possibly due to employment primarily in lower-paying sectors like agriculture and social services. In 2010, the per capita income for Owyhee County was $17,373, with a median household income of $33,441; per capita income for the state was $22,518 and median household income was $46,423 (U.S. Census Bureau 2012). More than 20 percent of people in Owyhee County live below the poverty level, which is a higher rate than Idaho's poverty rate. Table SOCE-1 shows the unemployment rate, per capita income, median household income, and poverty rate of Owyhee and Malheur counties.

Table SOCE-1: Economic statistics for populations in Owyhee and Malheur counties

Location	Unemployment rate	Per capita income	Median household income (2010 dollars)	All people below poverty rate
Owyhee County, ID	11%	$17,373	$33,441	22.2%
Malheur County, OR	10.3%	$16,335	$39,144	22.7%

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Agriculture (including livestock ranching), natural resource management, education and social services are the primary sectors for employment in Owyhee and Malheur counties, although manufacturing and retail trades also employ many residents in the counties (Table SOCE-2). Malheur County in southeastern Oregon covers 9,887 square miles and is 94 percent rangeland, two-thirds of which are managed by the BLM (Malheur County, Oregon 2012). Population density was 3.2 persons per square mile in 2010. Although education, health care and social services together employ almost one-fourth of the county's residents (U.S. Census Bureau 2011), irrigated fields in the northeast corner of the county allow for intensive and diversified farming, and residents of the Treasure Valley in Oregon and Idaho support businesses connected to hunting, fishing, golfing, camping, hiking, and water-related activities.

Table SOCE-2: County employment by industry (2006-2010 average)

Industry	Owyhee County, Idaho	Malheur County, Oregon	United States
Civilian employed population 16 years and over	4,448	11,487	141,833,331
Agriculture, forestry, fishing and hunting, and mining	19.4%	12.4%	1.9%
Construction	12.6%	7.1%	7.1%
Manufacturing	9.0%	10.0%	11.0%
Wholesale trade	1.6%	4.4%	3.1%
Retail trade	8.3%	10.7%	11.5%
Transportation and warehousing, and utilities	6.3%	3.4%	5.1%
Information	1.0%	1.3%	2.4%
Finance and insurance, and real estate and rental and leasing	4.2%	4.1%	7.0%

Industry	Owyhee County, Idaho	Malheur County, Oregon	United States
Professional, scientific, and management, and administrative and waste management services	2.9%	4.2%	10.4%
Educational services, and health care and social assistance	19.7%	23.1%	22.1%
Arts, entertainment, and recreation, and accommodation and food services	5.7%	7.6%	8.9%
Other services, except public administration	3.3%	3.8%	4.9%
Public administration	5.9%	7.9%	4.8%

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Economic Contribution of Livestock Grazing

The federal government manages 78 percent of the total land in Owyhee County; the BLM manages 75.9 percent of all federal land in the county. Ninety-three percent of the total federal land in the county is managed for commodity production (timber harvest, crop and livestock production, and mining) and 7 percent is managed primarily for natural, cultural, and recreational activities (EPS-HDT 2012).

Table SOCE-3 shows the industry classification (based on the North American Industry Classification System (NAICS)) for farms located in Owyhee and Malheur counties, as well as the nation as a whole in 2007. Individual farms may engage in various types of agriculture (both crops and livestock), but these classifications provide insight into the likely primary agriculture activity for the farms surveyed in the 2007 USDA Census of Agriculture. As shown in the table, the proportion of farms classified as beef cattle ranching and farming operations substantially exceeds the national average.

Table SOCE-3a and b

Table SOCE-3a: Number of Farms by Type, 2007

Farm Type	Owyhee County, ID	Malheur County, OR	County Region	U.S.
All Farms	620	1,250	1,870	2,204,792
Oilseed & Grain Farming	40	74	114	338,237
Vegetable & Melon Farming	10	57	67	40,589
Fruit & Nut Tree Farming	4	8	12	98,281
Greenhouse, Nursery, etc.	4	8	12	54,889
Other Crop Farming	185	388	573	519,893
Beef Cattle Ranch. & Farm.	247	492	739	656,475
Cattle Feedlots	8	34	42	31,065
Dairy Cattle & Milk Prod.	23	35	58	57,318
Hog & Pig Farming	4	10	14	30,546

Farm Type	Owyhee County, ID	Malheur County, OR	County Region	U.S.
Poultry & Egg Production	6	4	10	64,570
Sheep & Goat Farming	30	40	70	67,254
Animal Aquaculture & Other Animal Prod.	59	100	159	245,675

Table SOCE-3b: Percent of each farm in each county, by type, 2007

Percent of Total	Owyhee County, ID	Malheur County, OR	County Region	U.S.
Oilseed & Grain Farming	6.5%	5.9%	6.1%	15.3%
Vegetable & Melon Farming	1.6%	4.6%	3.6%	1.8%
Fruit & Nut Tree Farming	0.6%	0.6%	0.6%	4.5%
Greenhouse, Nursery, etc.	0.6%	0.6%	0.6%	2.5%
Other Crop Farming	29.8%	31.0%	30.6%	23.6%
Beef Cattle Ranch. & Farm.	39.8%	39.4%	39.5%	29.8%
Cattle Feedlots	1.3%	2.7%	2.2%	1.4%
Dairy Cattle & Milk Prod.	3.7%	2.8%	3.1%	2.6%
Hog & Pig Farming	0.6%	0.8%	0.7%	1.4%
Poultry & Egg Production	1.0%	0.3%	0.5%	2.9%
Sheep & Goat Farming	4.8%	3.2%	3.7%	3.1%
Aquaculture & Other Prod.	9.5%	8.0%	8.5%	11.1%

Source: (EPS-HDT 2012)

Table SOCE-4 shows county-level economic information for 2011 based on data from the Bureau of Economic Analysis. While total earnings in Owyhee County are substantially less than those of Malheur County, farm earnings in Owyhee County are more than triple those of Malheur County. More than half of the earnings generated in Owyhee County come from farming, compared to just under 6 percent in Malheur County.

In terms of employment, the farming section accounts for more than one-quarter of the jobs in Owyhee County, more than 10 percent of the jobs in Malheur County.

In all three counties, more than half of the cash receipts generated by farms come from livestock and products.

Table SOCE-4: Farm Earnings, Employment, and Cash Receipts (2011)

	Owyhee Co. (ID)	Malheur Co. (OR)
Total earnings by place of work (million dollars)[1]	$198.5	$578.8
Farm earnings (million dollars)	$107.3	$33.3
Farm earnings (%)	54.0%	5.7%
Total employment[2]	4,262	17,235
Farm employment	1,123	2,098
Farm employment (%)	26.3%	12.2%
Farm cash receipts and other income (million dollars)[3]	$345.3	$374.5
Livestock and products (%)	58.6%	59.2%
Crops (%)	37.6%	36.1%
Other (%)	3.8%	4.7%

Source:
1 Bureau of Economic Analysis, Regional Economic Information System (BEA-REIS). 2012. Table CA05: Personal income by major source and earnings by NAICS industry.
2 Bureau of Economic Analysis, Regional Economic Information System (BEA-REIS). 2012. Table CA25N: Total full-time and part-time employment by NAICS industry.
3 Bureau of Economic Analysis, Regional Economic Information System (BEA-REIS). 2012. Table CA45 Farm income and expenses.

Data from the Bureau of Labor Statistics (BLS) indicate that the average annual income of individuals employed in occupations related to animal production earned approximately $36,047 and $28,987 in Owyhee and Malheur counties, respectively, in 2011.

In accordance with the ORMP (USDI BLM 1999a), livestock grazing is available within seven Morgan Group allotments. Additionally, the ORMP identified the active authorized use for livestock within the ORMP planning area upon implementation of the plan. The plan further identified that authorized active use would be adjusted through the life of the plan based on monitoring and assessment to determine future stocking levels. Stocking levels necessary to meet objectives[38] were projected to be reduced from 135,116 upon implementation of the ORMP in 1999 to 112,647 AUMs in 2004 and 105,899 AUMs in 2019. These projected levels of authorized active use compare to an average actual use of 96,676 AUMs during the years 1988 through 1997.

In 2010, livestock cash receipts in the state of Idaho totaled $1.2 billion, an increase of 26 percent over the previous year (USDA NASS 2011). According to the 2007 USDA Census of Agriculture, the most recent year the census was taken, (USDA NASS 2009) 134,732 cattle and calves were sold in Owyhee County that year, which brought almost $67 million to the county that year, an average of $497 per head. In the state of Idaho, 1.8 million cattle and calves were sold that same year, totaling more than $1.3 billion, an average of $756 per head. However, most of the grazing operations with livestock on the Owyhee River area allotments are family-owned ranches based in Jordan Valley, Oregon. Thus, although the livestock graze in Idaho, income from the sales of those livestock goes to the counties in which the livestock operations are based. In 2007, sales of 203,743 cattle and calves in Malheur County totaled

[38] The ORMP objective for livestock grazing management is to provide for a sustained level of livestock use compatible with meeting other resource management objectives. In addition, the objective is to resolve issues associated with livestock grazing identified in the allotment management summary (Appendix LVST-1 of the ORMP).

$179 million (USDA NASS 2009). Livestock operation owners may still do business in Idaho, especially while the animals are actively grazing on the allotments, by purchasing supplies, equipment, and gasoline for vehicles, as well as visiting local establishments for food and entertainment. Research completed in 1999 estimated that livestock grazing contributed $66.94/AUM[39] to the Owyhee County economy (Darden, et al. 1999): $46.85/AUM as a direct impact to ranches and $16.22/AUM as indirect/induced effects to other sectors in the local economy. Indirect and induced economic effects to the regional economy include supply purchases (such as hay, equipment, etc.) and from the labor income expenditures by ranch employees and by employees of suppliers. These numbers provide a means of comparing effects to the local economy from changes in livestock grazing management, but actual economic impacts may vary by ranch and county.

The BLM collects annual grazing fees from the operators based on the number of AUMs they are permitted. An AUM represents the amount of dry forage required to sustain one cow and her calf, one steer, one horse, five sheep, or five goats for one month. The ORMP provides 135,116 active permitted AUMs for all of the allotments in the Owyhee Resource Area. Section 2.2.1 shows the active use, suspension, and permitted use AUMs for each of the Morgan Group allotments under the current situation. As defined by the Taylor Grazing Act of 1934, active use is the current authorized use, which includes livestock grazing. Suspension is the temporary withholding of active use, and permitted use is the forage allocated by, or under the guidance of, an applicable land use plan for livestock grazing in an allotment under a permit or lease. At the current rate of $1.35 per AUM, these allotments can generate $22,152 per year from active-use AUMs (based on the number of AUMs authorized in Alternative 1). The BLM distributes 50 percent of the grazing revenues to range betterment projects, 37.5 percent remains in the U.S. Treasury, and 12.5 percent is returned to the state (43 USC Chapter 8A 1934). In addition, the BLM contributes payments in lieu of taxes (PILT), which totaled more than $9.5 million in Owyhee County from 2003 to 2012, for an average of about $956,000 per year[40].

Non-market values of ranching

Most environmental goods and services (e.g., clean air and water, fish and wildlife habitat, recreational and aesthetic values) are not traded in markets, so it is difficult to place a monetary value on the protection or degradation of natural resources that provide these goods and services. In many cases, a method called hedonic pricing can attempt to estimate a value of the goods and services an ecosystem provides by examining the amount of money that people would be willing to pay when the characteristics of the service change. For example, the value of the ecosystem services that support recreational activities (e.g., clean air and water that supports habitat for fish and wildlife, which in turn provides hunting, fishing, and wildlife watching opportunities) can be estimated by examining average expenditures for travel, equipment, and supplies for these recreational activities in an area (see Tables SOCE-9 and 10 below). People may spend less time and money on recreational activities in areas where the natural resources have become degraded. The Group 5 Morgan allotments provide opportunities for recreation such as ORV use, fishing, hunting, boating, camping, and wildlife-watching (see Recreation, Visual Resource, ACEC, Wilderness and Wild and Scenic Rivers, and Lands with Wilderness Characteristics sections in this EA); however, degraded conditions caused by fires and livestock grazing-related activities can reduce wildlife habitat, muddy streams and rivers, and diminish scenic values, all of which can lead to less recreation and thus less money spent in the counties adjacent to these allotments.

Other intangible values associated with ecosystems services include social values of natural resource use––the sense of community cohesiveness and belonging that comes from participating in recreational activities, as well as farming and ranching. Degraded conditions, as mentioned above and in the resource

[39] This total includes Value Added as described in Darden et al. (1999), Table 5: Economic Value of a Single AUM to Owyhee Count Economy. The Total Economic Impacts include calculations of Regional Income Impact and Value Added.
[40] Based on BLM data retrieved at http://www.doi.gov/pilt/county-payments.cfm?term=county&state_code=ID&fiscal_yr=2012

impact analysis sections of this EA, lessen the quality of the land and forage available for growing crops or feeding livestock, which can also have economic impacts on the producers of these goods in the counties adjacent to the Group 5 allotments. Ecosystems services also have value beyond providing for the uses discussed in this EA. As noted in (Besser et al. 2012), providing for healthy, functioning ecosystems can contribute to a greater resilience to extreme events like fires and storms, as well as the long-term impacts of climate change.

Rangeland Ecosystem Goods and Services

Healthy rangeland ecosystems can provide multiple goods and services that can increase the economic, social, and cultural well-being of individuals and communities. To the degree that rangeland resources are degraded, an opportunity exists—through restoration of ecosystem health—to obtain these goods and services at a higher and more productive level.

According to participants in the Sustainable Rangelands Roundtable (Roundtable), rangeland ecosystem goods and services are divided into three main categories: Biological, hydrological/atmospheric, and miscellaneous.[41] The Roundtable identified a list of goods and services available from healthy rangelands, some of which are shown. Additional goods and services not identified by the Roundtable have been added to their list (see table SOCE-5) to show other potential gains within the Owyhee region. This list should not be considered as exhaustive. There may be even more potential goods and services that could be provided in greater amounts by an increase in rangeland health in the area.

Table SOCE-5: Rangeland ecosystems services

Biological	Hydrological/Atmospheric	Miscellaneous
Domestic Livestock Production	Clean Drinking Water	Scenic Views
Other Food for Human Consumption	Water for Downstream Economic Uses	Cultural or Spiritual Resources
Forage for Livestock	Floods for Channel and Riparian Area Rejuvenation	Historical/Archeological Sites
Fiber	Flood Mitigation	Recreation and Tourism Sites
Biofuels	Water Bodies for Recreation/Tourism	
Wildlife Habitat Benefits (Fishing, Hunting, Viewing, Existence Value, etc.)	Minimization of Soil Erosion and Downwind/Downstream Soil Deposition	
Potential Biochemicals	Contribution to Clean, Fresh Air	
Genetic Material	Carbon Sequestration	

[41] Source: http://sustainablerangelands.org/pdf/Ecosystem_Goods_Services.pdf

Some of the potential benefits of increased rangeland health would be realized by individuals who live far away from the Owyhee region. Because streams flowing through the area eventually contribute to the Snake and Columbia River systems, any extra sediment that leaves the area could result in lower hydrologic capacity, lower resistance to flooding, and decreased capacity for boat traffic on the Snake and Columbia rivers. In addition, stream-bottom sediment deposition decreases success rates for spawning fish species, possibly contributing to extended protection and expensive habitat-loss mitigation for salmon and other fish species. While these benefits might not be directly enjoyed by members of the Owyhee community, their value to society as a whole needs to be accounted for. An example of a "downwind" good or service is enhanced carbon sequestration potential, the benefits of which accrue to the entire global community and all earth ecosystems. Although these benefits are not focused on the Owyhee region, their value to the world as a whole must be weighed in the process of evaluating the relative benefits and costs of changes in range allotment permits and management decisions.

In 2011, researchers at the University of Nevada, Reno (UNR) prepared a preliminary draft of a flow-model for economic analysis for land management decision-making in the Intermountain West[42]. In conjunction with this project, the researchers assembled an annotated bibliography of existing studies on the value of ecosystem services provided by rangeland and other land types in the western United States. Table SOCE-6 shows a list of the ecosystem goods services included in that bibliography. For each ecosystem good or service in the list, the table discloses:

a. Whether an impact is expected to occur under any of the alternatives under consideration within this planning process;
b. Whether any anticipated impacts are expected to be measureable;
c. Whether the research included in the bibliography has been able to assign a monetary value to impacts to the ecosystem good or service in question; and
d. Additional resources or data sources used in evaluating the good or service for this EA.

The UNR document also outlines the conditions under which it would be reasonable to use the studies it cites to estimate the monetary value of the goods and services listed.

Table SOCE-6: Rangeland ecosystem goods and services and whether there are potential impacts from grazing and potential values of the services

	Ecosystem Goods and Services listed in the University of Nevada, Reno's Annotated Bibliography	**Is this resource expected to be affected under one or more of the alternatives being considered?**	**Is it expected to be affected in a manner and/or to a degree that can be measured?**	**Has research found a way to assign a monetary value to impacts to this resource?**	**Additional source(s) of documentation on this resource and its value and/or additional information**
A.1	Ranch Incomes	Yes	Yes	Yes	BLM Value of Change in AUMs Calculator
A.2	Amenity Value of Ranching Lifestyle	Yes	No	Yes	
A.3	Recreation	No	No	Yes	
A.4	Wildfires	Maybe	?	Yes	

[42] *Economic Flow-Model for Western Rangelands: Annotated Bibliography and Additional Resources*, June 2011, University of Nevada, Reno, is available from the Owyhee Field Office project record upon request.

	Ecosystem Goods and Services listed in the University of Nevada, Reno's Annotated Bibliography	Is this resource expected to be affected under one or more of the alternatives being considered?	Is it expected to be affected in a manner and/or to a degree that can be measured?	Has research found a way to assign a monetary value to impacts to this resource?	Additional source(s) of documentation on this resource and its value and/or additional information
A.5	Erosion and Hydrology	Maybe	No	Yes	FS WEPP and WEPS water and wind erosions models
A.6	Carbon Sequestration	Yes	No	Yes	The Chicago Climate Exchange carbon markets is not currently functional. If and when it becomes functional again, the market value of carbon will serve as a type of measure of the economic value of carbon sequestration. It is important to note that the true value of carbon sequestration is found in reduced future impacts from climate change. Those expected impacts can be estimated but are highly uncertain.
A.7	Wild Horses (under Miscellaneous)	Maybe	No	Yes	The study cited shows that additional wild horses beyond the target level cause economic losses due to reduced forage for livestock and wildlife.

Economists regularly quantify the value of ecosystem goods and services in dollar terms. Techniques used to estimate the dollar value of these benefits include:

- Revealed Preference Methods
  - Hedonic Pricing
  - The Travel Cost Method
- Expressed Preference Methods
  - Contingent Valuation
  - Welfare Measures
- Replacement Cost Method
- Dose-Response Methods
- Opportunity Cost Calculation

Revealed preference methods of valuation estimate proxy market prices based on the activities and choices made by actual people:

- In the hedonic pricing method of assessing value, the analyst identifies the contribution that environmental or ecosystem services make to the price of other goods and or services. For example, a piece of land or home with a scenic view will generally command a higher market price than does a similar piece of land or home without the same view. So if a thriving ecosystem provides a more beautiful view, the difference in price between that property and one without the view would be attributed to the ecosystem itself.
- To use the travel cost method of analyzing the value of ecosystem goods or services, the analyst surveys the amount of money people either are willing to spend or actually spend on visits to a particular place. Expenditures on fuel, vehicle wear and tear, airfares, motels or hotels, restaurant food, entry fees, and so on can be interpreted as the value placed by the traveler on the experience of visiting that location. Complicating factors include income effects, differences in the values placed by visitors on the time they spend traveling to the location, proximity of the location to the visitor's starting point, declining willingness to spend money on subsequent visits, and so on.

Expressed preference methods use hypothetical economic data based on interviews or surveys to estimate the market value of ecosystem goods and services:

- Contingent valuation methods rely on surveys in which people are either asked how much they would be willing to pay to obtain an ecosystem good or service, or they are asked to state how much they would have to be compensated in dollars in exchange for giving up an ecosystem good or service. For example, a group of landowners might be asked how much they would each be willing to pay in order to establish a specific wildlife population on a nearby piece of public land. The total amount for all surveyed landowners could be used as a statistical basis for an approximation of the market value of establishing the proposed wildlife population. Alternatively, the same landowners could be asked how much they would have to be paid in compensation in order to get them to give up an existing wildlife population on nearby land. Contingent valuation methods are sometimes less than ideal due to strategic "voting" by survey participants. They are also subject to some unsurprising distortions. People are usually more conservative when they state how much they would be willing to pay to obtain something in contrast with how much they would have to be paid by someone else in order for them to give up something they already possess or that they might possess in the future.
- Welfare measures of value refer to methods in which the total consumer well-being (welfare) associated with an ecosystem good or service is measured by comparing the estimated dollar amounts that all prospective consumers are willing to pay for an ecosystem good or service are compared with the actual cost to society of providing that good or service. To the degree to which the actual cost falls below the amount individuals are willing to pay, an economist would say that consumer surplus or, in other words, surplus economic enjoyment, is (or will be) generated by the good or service being evaluated.

In the replacement cost method, economists add up the amount it would cost to provide a specific ecosystem good or service by means of a human-built method. For example, vegetation on a healthy landscape provides water filtration benefits. To calculate the monetary value of those filtration benefits using this method, an economist would use engineers' estimates of the cost of building one or more water treatment plants to treat the same volume of water to the level as provided by the ecosystem. This method can also be used to estimate the value of ecosystem services that are expect to be obtained through restoration of a degraded landscape.

The dose-response method is used to estimate the value of a healthy ecosystem by identifying the cost of treatment for ecological damages where treatment or mitigation is required locally, downstream, or downwind. For example, if a degraded ecosystem allows elevated levels of nutrients to pollute a water body that is a source of drinking water at some point downstream, then the cost of treating human and/or livestock illnesses caused by the polluted water can be used to estimate some of the value of repairing the ecosystem so that nutrient runoff is reduced or eliminated. Similarly, the cost of water treatment downstream to remove the nutrient load (thus preventing contamination-related illnesses) can also be used to approximate the value of upstream ecosystem restoration. This method is sometimes closely correlated with the replacement cost method.

In the opportunity cost method of valuation, the following simple rule is applied: The value of something is equal to the value of whatever must be given up in order to obtain it. Based on the rules of mathematical equality, this must mean, conversely, that the value of what was given up is equal to the value of what was obtained in the exchange. This method is sometimes used to make a statement regarding the value of an ecosystem when a damaging activity either is proposed or has already occurred. For example, if a new gold mine is opened on a piece of land, then the total value of the ecosystem goods and services that were given up in order for the mine to be opened and operated is said to be equal to the total economic value generated by the mine.

These and other methods all provide means of quantifying, in dollars, the value of goods and services not directly traded in existing markets. Many of the goods and services provided by healthy rangeland ecosystems are already traded in existing market systems and could be valued by means of identifying the quantities and qualities in which they exist. The estimation of the market value of all of the goods and services provided by the rangeland in this set of allotments falls outside the scope of the present analysis.

Recreation

Residents in nearby counties in Idaho and Oregon engage in fishing, hunting, boating, off-highway vehicle use, camping, wildlife watching, and winter sports throughout the Owyhee Resource Area. Studies conducted in 1995 identified visitor day values and net willingness-to-pay values for recreation here. Table SOCE-7 depicts the value recreationists place on these activities, rather than the actual expenditures. As mentioned above, there are few or no suppliers for recreational equipment in Owyhee County, so most expenditures for this equipment would occur outside the county and likely would not have much of an impact on the local economy, although recreationists would spend money on gasoline and groceries within Owyhee County. However, recreation presents some costs to the county. According to a 2003 report on the social and community aspects of public land grazing policy alternatives (Wulfhorst et al. 2003), the limited staff of the county Sheriff's department is often overwhelmed with requests from recreational users who are lost, having mechanical problems, or injured. Search-and-rescue efforts often draw in community members who have more familiarity with the landscape than the out-of-town users with little knowledge of the area. Each call to help someone hurt, lost, or stranded in the backcountry costs money. In FY2003, search-and-rescue supplies totaled $1,000 of the $13,600 budget for the patrol component of the Sheriff's budget, and additional staff members are hired seasonally to respond to incidents (Wulfhorstet al. 2003). The state of Idaho reimburses counties up to $4,000 per incident to cover some of the costs for volunteer-related expenses and the Sheriff bills the BLM for backcountry patrols. State funds come from the state gas tax and vehicle registrations. However, some county residents are uncomfortable with the idea of state resources being used to rescue recreationists who come from outside the county; attempts to recover costs ($500 each) from those rescued have been successful only about half the time.

Table SOCE-7: Net willingness-to-pay recreation value for the Owyhee Resource Area

Activity	1995 Value
Deer hunting	$40.02
Elk hunting	52.42
Antelope hunting	80.47
Other big game	53.65
Waterfowl hunting	42.48
Upland and small game	42.47
Warm-water fishing	39.28
Cold-water fishing	38.08
Developed site recreation	7.45
Disbursed use recreation	4.47
Non-game viewing, photography	28.31

Source: (USDI BLM 1999b)

Table SOCE-8: Owyhee Resource Area Estimated Recreation Use and Value (1995)

Activity*	Visitor Days	1995 Value
Hunting	70,722	$3,816,617
Fishing	11,109	429,682
Off-highway vehicles	24,600	696,412
Other motorized use	22,616	640,266
Non-motorized use	10,669	47,689
Camping	39,107	291,344
Other land-based	36,740	717,113
Whitewater boating	1,368	38,714
Other water-based	1,057	29,917
Snowmobiling	2,301	10,285
Other winter sports	423	1,891
Total	**220,712**	**$6,719,930**

*Based on 8 hours per visitor day
Source: (USDI BLM 1999b)

Social Value of Ranching

As noted in the Owyhee County Natural Resources Plan (Owyhee County Commissioners 2009) livestock grazing often plays an important social role in this area, in addition to contributing economically. It has been an important component of the local economy in Owyhee County since the late 1860s, when the

establishment of the southern Idaho railroad coincided with the migration of sheep through the Owyhee Mountains to Elko, Nevada. Horses and cattle were also introduced in the Owyhee Mountains at that time, and residents of rural Oregon, Idaho, and Nevada have since identified with the tradition, land use, and history of ranching in these areas. Maintaining the land in agriculture and ranching preserves the rural character and small-community feel, keeps the cost of living lower, and provides ample opportunities for recreation. Harp and Rimbey (2004) found that in communities in Owyhee County where ranching was an essential component, community members felt a much greater connection to each other, to the ranchers, and to local business owners. Among the Owyhee County communities surveyed for the study, Jordan Valley and Marsing communities scored higher in terms of community cohesion, owed at least in part to the large role that ranching plays in each of these communities. Closing a ranch in Jordan Valley or Marsing could have substantial negative social effects.

Environmental Justice

The Executive Order 12898 of February 11, 1994, established the requirement to address environmental justice concerns within the context of federal agency operations. This means that agencies must:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
- Ensure the full and fair participation by all potentially affected communities in the decision-making process; and
- Prevent the denial of, reduction in or significant delay in the receipt of benefits of the project by minority and low-income populations.

Evaluation of these impacts requires the identification of minority and low-income populations (including Native American tribes) within the affected area and evaluation of the potential for the alternatives to have disproportionately high and adverse impacts on such populations. Low-income populations are determined based on annual statistical poverty thresholds developed by the Bureau of Census. A low-income community may include either a group of individuals living in geographic proximity to one another or dispersed individuals (such as migrant workers or Native Americans) where the group experiences a common effect or environmental exposure. Minorities are individuals who are members of the following population groups: American Indian, Alaskan Native, Asian, Pacific Islander, Black, or Hispanic. (Council on Environmental Quality 1997)

Table SOCE-1 above shows the median household incomes and poverty rates for both counties addressed in this document. Owyhee and Malheur counties are largely agriculturally based economies, so incomes are lower and poverty rates are higher.

Table SOCE-9 shows the breakdown in race and ethnicity for both counties. Neither of the counties has a minority population that exceeds 50 percent. However, the proportion of minorities in Owyhee County and Malheur County are higher than the proportions for Idaho (16 percent) and Oregon (21.4 percent), respectively. Crop producers and livestock operations in the United States commonly and legally employ citizens of Mexico and various Latin American countries, and most of these individuals would be classified as minority. Some proportion of the minority populations in Owyhee County and Malheur County could be employed by crop producers and livestock operators, so changes in livestock grazing in these counties could affect some members of the minority communities there.

Table SOCE-9: Race/ethnicity distribution

	Owyhee County	Malheur County
Total	11,389.0	31,326.0
Population by race		
White alone	69.2%	64.4%
Black or African American alone	0.1%	0.1%
American Indian and Alaska Native alone	3.1%	0.5%
Asian alone	0.0%	0.9%
Native Hawaiian and other Pacific Islander alone	0.0%	0.1%
Some other race alone	0.0%	0.1%
Two or more races	3.2%	2.7%
Population by ethnicity		
Hispanic or Latino	24.4%	30.3%
Minority	30.82%	35.60%

Source: U.S. Census Bureau, 2006-2010 American Community Survey

3.1.10 Cultural and Paleontological Resources

Cultural resources are past and present indications of human life-ways, which create a prehistoric and historic record left in the physical environment. This evidence of human presence on the land can take the form of archaeological sites, natural and modified features, structures, trails and other manifestations of use. Cultural resources also include areas of the landscape known as traditional cultural properties, which have past and on-going significance to a people. Historic property is a term used to describe a cultural resource that meets specific eligibility criteria for listing in the National Register of Historic Places (NRHP).

The Morgan Group begins in the geologic region known as the Owyhee Uplands, which stretches from north-central Nevada, through the southwestern corner of Idaho, to the southeastern corner of Oregon and ends at the Snake River Plain. The region is characterized by sagebrush-covered plateaus and narrow, deep canyon bottomlands. Perennial waterways are few, but the landscape has a multitude of ephemeral drainages, springs and pluvial collection points. Aboriginal occupation of the greater area dates back several thousands of years. The archaeological record for the Dirty Shame Rockshelter located in southeastern Oregon reveals continual human use from 9,500 years ago to 400 years ago (Hanes 1988). Sites in the Camas Creek area of southwestern Idaho date from about 6,000 years ago to 150 years ago (Plew 2008). The region still holds important cultural significance to the people of the Shoshone-Paiute Tribes of the Duck Valley Indian Reservation.

Euroamerican visits to the Owyhee County area started as early as the beginning of the 19th century. A fur trading expedition led by Donald Mackenzie of the Northwest Company traveled to the Snake River country in 1818 and some trappers were reputed to have visited the region as early as 1812 (Idaho State Historical Society 1964). Starting in the 1840s, the Oregon Trail and its alternates allowed thousands of immigrants to travel to southwestern Idaho and points farther west. Settlement of the area began in the mid- to-late 19th century and the proliferation of gold mining in the 1860s, primarily along Jordan Creek,

created a demand for livestock to feed the growing population of prospectors and to supply other markets (Yensen 1982). Although local mining activities have subsided greatly since its heyday, the demand for beef remains strong. More recently, recreational pastimes such as hunting and backcountry motorized travel have become very popular and bring people to areas previously ignored.

BLM cultural resources specialists conducted a Class I records search in conjunction with Geographical Information Systems (GIS) datasets to identify all cultural and paleontological sites and all cultural resources surveys within the allotment group. They reviewed project inventory reports for adherence to current standards and for survey acreage, and checked each site record to verify site location, description and discussion of any type of impacts. Staff also compared GIS range improvement datasets to cultural resources inventory coverage and examined high resolution aerial imagery to identify areas of possible livestock congregation that had not been previously surveyed. BLM archaeologists and a contractor conducted Class III inventories of recognized and potential congregation areas (troughs, reservoirs, springs, salt blocks, etc.) to ascertain the presence or absence of cultural properties. A minimum radius of 50 meters used around these areas is sufficient for survey coverage (Coddington 2008). Previously recorded sites determined to be within a 100-meter radius of these locations were chosen for monitoring visits to assess any effects. Since there are no new range improvements proposed for any of the allotments, no project-specific inventories occurred. This review process is in accordance with the grazing permit/lease renewal guidelines agreement between the BLM and the State Historic Preservation Office (SHPO), dated January 29, 1999, and with standard professional procedures for livestock grazing permit/lease renewals. If impacts to NRHP-eligible properties are present, the stipulations of the grazing permit can be modified or other mitigation measures can be authorized to address the presence and protection of these resources.

Within the Morgan Group allotments, previous inventories for cultural resources on BLM administered land total 136 acres and 19 acres for land currently under state and private ownership. Of the 88 potential livestock congregation areas, BLM or contracted services personnel surveyed 58 (66 percent), as shown in Table CULT-1. These surveys resulted in 160 acres of new inventory for this analysis. The thirty non-inventoried areas either could not be reached due to access limitations or for other reasons field personnel did not visit them. Four of the allotments have no potential areas of congregation on BLM administered land and/or lacked the presence of recorded sites. No additional surveys occurred within their boundaries. Staff monitored five previously recorded sites and documented two new sites.

Table CULT-1: Results of cultural resources analyses.

Allotment	BLM Acres	Previous Survey Acres	New Survey Acres	Total Survey Acres	Percent of BLM Surveyed	Previously Recorded Sites	New Sites Recorded	Number of Sites Monitored	Cong./ Survey[1]
Bachelor Flat FFR	915	9	5	14	1.5	0	0	0	2/1
Barrett FFR	886	1	8	9	1.0	0	0	0	4/1
Big Field FFR	1,044	0	0	0	0.0	0	0	0	0/0
Bogus Creek FFR	421	0	0	0	0.0	0	0	0	2/0
Boulder	1,825	9	20	29	1.6	4	0	0	11/11
Boulder Flat	3,950	5	6	11	0.3	4	0	0	7/5
Combination Creek	3,142	0	0	0	0.0	2	0	0	2/0
Feltwell	1,033	0	0	0	0.0	0	0	0	4/0
Glass Creek	1,627	31	17	48	2.7	3	0	0	4/3
Gluch	243	6	0	6	2.5	0	0	0	0/0
Gluch FFR	751	0	5	5	0.7	0	0	0	3/3

Jims Peak FFR	1,042	0	3	3	0.3	0	0	0	7/2
Morgan	4,733	51	38	89	1.9	5	1	3	12/11
Rail Creek FFR	124	0	0	0	0.0	1	0	0	0/0
South Mountain Individual	3,517	5	41	46	1.3	2	1	2	19/15
Walt's Pond FFR	1,320	18	4	22	1.6	2	0	0	2/1
Warn	674	1	8	9	1.3	0	0	0	5/5
West Maher FFR	808	0	0	0	0.0	0	0	0	0/0
Wroten	1,710	0	0	0	0.0	2	0	0	4/0
Totals	**29,765**	**136**	**160**	**294**	**1.0**	**25**	**2**	**5**	**88/58**

[1]Number of potential congregation areas/number of areas surveyed.

Native American Religious Concerns

The Shoshone-Paiute Tribes of the Duck Valley Indian Reservation actively maintain their cultural traditions and assert aboriginal rights and/or interests in this area. As Native American traditions and practices are tied to the elements of the natural environment, any impacts to the earth are of concern to the tribes. The tribes have been consulted on the renewal of these grazing permits pursuant to American Indian Religious Freedom Act (AIRFA) and NHPA and have not raised any cultural resource concerns. There are no recorded or known traditional cultural properties or identified sacred sites within the 19 allotments of the Morgan Group.

Paleontological Resources

Paleontological resources (fossils) have long been recognized for their scientific, educational, and recreational value. A fossil is any evidence of past life, and includes body fossils such as shells and bones, as well as trace fossils such as footprints, burrows, trails, or other evidence of an organism's presence. Fossils are preserved in rocks and are usually discovered when they are eroding out of the rock at the surface, or during ground-disturbing activity such as road grading or trenching. Most individual organisms that lived in the past did not die in such a way as to have their remains fossilized, and fewer still will be collected and studied before they erode away. Therefore, fossils are considered rare and nonrenewable.

All fossils contain information about past life, but not all fossils are significant. Significant fossils are those that are unique, unusual, or rare, are diagnostic, stratigraphically important, and add to the existing body of knowledge. In order to determine a fossil's significance, an assessment must be made by someone who is experienced in the field of paleontology, and who possesses a sufficient mastery of the existing body of knowledge to understand how a given fossil contributes to our overall understanding.

The BLM has managed fossils as a valued resource for many years. Legal authority to manage fossils comes from a variety of laws, executive orders, and policies. The laws include NEPA of 1969 and the FLPMA of 1976. More recently, the Paleontological Resources Preservation subtitle of the Omnibus Public Land Management Act of 2009, also known by its popular name, the Paleontological Resources Preservation Act (PRPA), directs land managers within the Department of the Interior Agencies and the U.S. Department of Agriculture, but not including either Indian or Military (Department of Defense) lands, to manage and protect fossils using scientific principles and expertise. PRPA does not make a distinction between the types of organism preserved; therefore, all fossil resources, plants, invertebrates, and vertebrates that are determined to be scientifically significant are to be actively managed.

The resources are managed in collaboration with BLM partners such as universities and museums across the country, as it is those parties that provide much of the work done on collecting, studying, storing, and providing meaning to our fossil resources. Additionally, BLM and our partners strive to educate the public about the value of this natural heritage.

In general, the desired outcomes for the paleontological resource is to: 1) protect the resource from unnecessary damage, theft, or vandalism; 2) ensure that the resource is responsibly collected by qualified individuals working to benefit the public through their actions; 3) utilize the resource in educational programs for the general public; and 4) teach the public about BLM's role in the management of this important resource.

The impact to fossils from the management of other resources on BLM land can be negligible to deleterious, depending up on nature of those actions. However, by maintaining best practices for the identification of resources and the mitigation of damage, the paleontological resources should continue to remain an invaluable part of the national trust.

There are no recorded fossil sites within the Morgan Group allotments. The lack of fossil discoveries can be directly related to the absence of any fossil bearing strata underlying the allotments (Erathem-Vanir Geological Consultants 2009).

3.2 Environmental Consequences Common to All Allotments

3.2.1 Vegetation, incl. Noxious Weeds

3.2.1.1 Environmental Consequences Common to All Grazing Alternatives

Upland Vegetation/Noxious Weeds

Herbivores remove vegetation through foraging or trampling, altering the amount, condition, and vigor of the vegetation. Grazing influences individual species and plant communities, the magnitude of which is dependent on the intensity, frequency, season, and duration of grazing, as well as the resilience of the vegetation. In the long term, herbivores alter plant community composition, density, and structure, as well as nutrient cycling, hydrology, and energy flow. These changes would potentially result in reduced vegetative cover, reduced water infiltration rates, and increased soil erosion (Clary 1995). Impacts to soils from livestock grazing has direct and indirect effects to plant communities and typically occur in localized, concentrated use areas, such as near water sources, salting areas, or frequently used gates or trails. Salting areas have a compounding effect by increasing salt concentration in the soils which alters vegetation. Effects from increased disturbance include increased invasive annual plants, noxious weeds, and disturbance-resistant communities.

Season of Use (including utilization)

Livestock impacts to public land resources are dependent on the season of use as it relates to timing of grazing during the growth cycle of plants (Table VEG-7; all dates referenced are approximations dependent on elevation and climatic conditions). Season of use influences the magnitude of grazing effects and is dependent on elevation, temperature, and precipitation timing and amount. A number of sources suggest limiting the intensity of grazing on bluebunch wheatgrass during the active growing season and providing at least 2 years of deferment from grazing outside the active growing season for

every year of active growing season use (Stoddart 1946, Blaisdell and Pechanec 1949, Mueggler 1972, Mueggler 1975, Miller et al. 1994, USDA NRCS 2013; Appendix F

Winter Season (November 1 to March 31)
Upland herbaceous plants are mostly dormant during the winter season of use, with the exception of some photosynthesis by new growth after fall and winter precipitation and during warming weather trends, primarily on southern exposed slopes. Light to moderate utilization of standing cured herbaceous vegetation is moderate to low, but increase when mixed with new growth or browse from palatable shrubs. Grazing of fall sprouting annual species may reduce competition with desirable perennial herbaceous species (Pellant 1996). Light to moderate utilization levels will retain adequate standing material and litter for soil protection from wind erosion, rainfall impact and late winter and spring runoff. Heavy utilization levels expose the soil surface to these negative impacts.

Spring Season (April 1 to June 30)
Plants in areas grazed early in the season only, prior to the critical growth period, would set seed as the growing season progresses into the summer. Minimal impacts to plant vigor and health occur with light to moderate utilization of this early growth when adequate soil moisture is available for regrowth and completion of the annual growth cycle. Moderate utilization, in years with minimal soil moisture available for regrowth after use, could deplete plant vigor and health, including removal of structural diversity valued for wildlife habitat, especially during periods of critical growth. Heavy to severe defoliation exposes the soil surface to future erosive forces from wind and water. Use of palatable annual species early in the period can reduce competition with desirable native perennial species when adequate soil moisture remains to complete growth cycles.

Summer and Fall Seasons (July 1 to October 31)
Summer and fall - including re-growth and dormant season grazing with no early season or critical growth period use would not affect plant recruitment as plants would be able to set seed. During these periods, large bunchgrasses would have the capability to produce seed because grazing would occur after the plant has produced much of its annual aboveground biomass. Livestock tend to turn to palatable browse species, especially when herbaceous plants are dormant late during this period. Overall plant vigor would be maintained by moderate grazing during the regrowth and dormant seasons because plants would have dispersed be dispersing seed, or become dormant. Localized impacts from defoliation and physical impacts of livestock intensify, especially near water sources and other areas of concentrated activity.

Deferred and Season-based (rest) Grazing Use Periods
Deferred rotation grazing schedules provide for one or more years of grazing use after seed-set, following one or more years of growing season use. Rest-rotation schedules allow for similar opportunities for recovery, with one or more years of the grazing rotation in which no use is scheduled. Moderate utilization levels at either deferred or rest-rotation grazing systems can allow for adequate recovery of upland herbaceous root growth and associated carbohydrate storage following the impact of critical-season defoliation. Additional years of deferment or rest increase opportunity for recovery and maintenance of plant health and vigor improve. Implementing these grazing practices (deferment and rest) that improve or maintain native rangeland species to attain composition, density, foliar cover and vigor appropriate to site potential (USDI BLM 1999b) can help achieve desired conditions for native plant communities. Most rest-rotation and deferred-rotation grazing schedules, designed for the physiological needs of herbaceous upland plants, can be successful within wide, low-gradient sedge-, rush-, and grass-dominated riparian sites, provided utilization levels in riparian communities are maintained within acceptable limits. These schedules promote species diversity and productivity, seed and root production, and seedling establishment. Improvement of vegetation composition may require recruitment of new individuals of desired species through seeding, planting, or natural regeneration from vegetation on the site. Establishment of desirable seedlings into a vegetation community may require a

sequence of rest and or deferment years to avoid defoliation and physical impacts of livestock presence. Table VEG-7 below describes the approximate timeframes of foraging behavior of livestock and vegetative phenology at time of foraging.

Table VEG-7: Factors influencing grazing regime and approximate timeframes

Season of Use	**Grazing Regime or Timing** **(+/- up to 2 weeks on either end)**	**Vegetative Phenology/Livestock foraging behavior**[1]
Early Season	April 1 to April 30	Post-dormant season; some green growth is evident; much of the available forage is from the previous year's residual growth. Livestock[2] distribute widely and have slow-growing early upland and riparian forage available that usually re-grow after grazing.
Critical Growth Period	May 1 to June 30	Period of most active growth, where plant is most sensitive to water deficit. Livestock distribute widely and have abundant upland and riparian forage available that usually re-grow after grazing.
Non-critical Growth Period	July 1 to July 15	Boot stage through flowering; livestock distribute closer to riparian areas and shade and have abundant upland and riparian plants available that can re-grow after grazing.
Hot Season	July 15 to September 1	Period of maturity to senescence; livestock distribute mostly in riparian areas and shade and have abundant upland and riparian plants available that usually exhibit minimal re-growth after grazing.
Regrowth	September 1 to October 31	Root and shoot regeneration occurs at this time. Livestock distribute mostly in riparian areas and shade and have abundant upland and riparian plants available that usually partially re-grow after grazing, depending on precipitation.
Dormant Season	November 1 to March 31	Period of non-growth; livestock distribute widely and have abundant dormant upland and riparian plants available that usually don't re-grow after grazing.

[1] Factors that influence season of use include temperature, precipitation, and elevation.
[2] Livestock are defined as sheep, cattle and horses; however, cattle usually graze more grass-like species, whereas sheep graze more forbs until the plants dry up. Horses seek higher elevations most of the year and graze more grass-like species.

Utilization

Allotment-specific utilization data is available in Section 3.3.1 above and Appendix B. Areas of repeated moderate to heavy grazing would result in decreased abundance of deep-rooted perennial grasses (e.g., bluebunch wheatgrass) and increased abundance of shallow-rooted grasses (e.g., Sandberg bluegrass). Areas of repeated moderate to heavy grazing during the early season through the hot season would remain static or degrade because repetitively grazed plants would have reduced vigor and recruitment. Areas of repeated light grazing would result in static or increased community diversity.

Intensity of grazing use includes a number of potential impacts to a variety of resource values. Generally, the vigor of forage grass species can be sustained with light or moderate utilization, while heavy utilization reduces photosynthetic tissue below levels needed to maintain root reserves, diminishing the vigor of utilized species. However, the timing of grazing use relative to plant phenology and the occurrence of repeat grazing of individual plants combine with utilization levels to affect the health and vigor of key species, as well as changes to vegetation community composition. Moderate utilization during periods when reserves and photosynthesis are limited for initial growth, during regrowth, or during seed formation may impact herbaceous species more than the same level of utilization during periods

when the plant is not actively growing. A review of the literature by Anderson (1991), pertaining to the effects of defoliation and vigor recovery of bluebunch wheatgrass, and research by (Ganskopp 1988), pertaining to similar effects to Thurber's needlegrass, revealed a high sensitivity to utilization during the active growing season. Grazing use that occurred when the plant was entering the boot stage, a period early in its seed producing stage of growth, was the period of highest sensitivity. Utilization levels of 30 to 40 percent under deferred grazing systems or one-time utilization levels greater than 50 percent during the growing season have been shown to cause significant reductions in vigor and productivity. Time frames necessary for recovery may extend beyond the average 2-to-4-year cycle frequently used in grazing rotations. Researchers have recommended that desert ranges be stocked for approximately 30 to 35 percent use of forage production in an average year to meet both vegetation management and livestock production objectives (Holechek et al. 1999; Appendix F).

Heavy utilization can be detrimental this type of utilization leads to reduced vigor of perennial bunchgrasses. Commensurate with reduced vigor, recruitment of these species also declines. As these species decline, the vegetative community becomes susceptible to an increase in shrub species and potential invasion of noxious and invasive plants (Holechek et al. 1998).

Improper grazing management can influence fire frequency with hoof disturbance creating a seedbed for invasive annual species that increases fine fuels. Fires become more frequent when cheatgrass increases and becomes co-dominant and other annuals or Sandberg bluegrass. Annual grasses and Sandberg bluegrass provides a continuous fuel load, whereas, larger bunchgrasses grow in discrete clumps, creating spaces and breaking up fuel continuity. Proper grazing management that addresses frequency, duration, and intensity of grazing can keep fine fuels from developing, thereby reducing annuals and fire frequency, as proposed in all grazing alternatives (Holecheck et al. 2006).

Utilization effects to specific key forage species are described generally as the degree of increasing or decreasing presence in the vegetative community from grazing pressure. Bluebunch wheatgrass as a key forage species decreases with heavier grazing pressure while Sandberg bluegrass increases. Most sources recommend that bluebunch wheatgrass be grazed under a deferred, rotational grazing system to ensure plants remain healthy. Spring grazing should occur no more than 1 out of 3 years, and no more than 40 percent utilization should occur during rapid growth (Miller, Seufert and Haferkamp 1994) (USDA NRCS 2013). Heavy early spring grazing is especially damaging and grazing should be delayed until at least mid-boot stage. No more than 60 percent utilization should occur after seed ripening.

Noxious Weeds

Livestock grazing can bring in noxious weed seed from outside the allotments and spread seed from any existing infestations within the allotments. Cattle may spread weed seed by ingesting and depositing seed in manure and carry seed in their fur and in mud on hooves (Nevada Agricultural Experiment Station 2008).

Indirect effects from grazing include potential for weed increase from both noxious and other invasive plants, since these species (such as leafy spurge and cheatgrass) flourish with an increase in bare ground and reduction of perennial grass cover, and alien weeds may be more resilient to grazing than natives (Kimball and Schiffman 2003). Bulbous bluegrass in particular is likely to continue to increase. This also presents a potential for invasion of noxious weeds, such as knapweeds, which would have substantial negative effects on native plant community integrity and ecosystem function (Dukes 2002). Medusahead may also increase in existing areas and spread to other unoccupied areas.

Juniper encroachment

Livestock grazing seasons of use and livestock numbers under current situation would not contribute to either improvement or continued failure to meet the Idaho Rangeland Health Standard for native plant communities in areas where the standard is not being met due to juniper encroachment into sagebrush steppe vegetation communities. Other than the indirect effect from removal of fine fuels that support the spread of wildfire, recent livestock grazing has had little influence on juniper encroachment. Although browsing by goats has been found to be an effective tool to reduce juniper encroachment when the trees are young, juniper foliage is laden with monoterpenes that reduce digestibility and can cause liver damage in other livestock (Taylor, Jr. 2006). The introduction of season-long grazing by large numbers of domestic livestock beginning in the late 1800s, a period of uncontrolled livestock grazing (National Research Council 1994), reduced fine fuels and significantly reduced the frequency, extent, and effect of naturally occurring fire (Oregon Watershed Enhancement Board 2007). Miller and others identified that the peak of juniper establishment in closed canopy woodland stands in southeastern Oregon and southwestern Idaho was between 1890 and 1920 (Oregon State University Agricultural Experiment Station 2005). Closed canopy stands produce limited shrub and herbaceous biomass, even in the absence of livestock grazing.

Livestock Trailing

Effects on upland vegetation from implementing trailing would authorize 219 additional AUMs to the annually authorized for trailing. This trailing could potentially trample 29 miles in short-term trailing events. The permitted AUMs for the cumulative effects area would have short-term direct effects of removal and trampling of vegetation. The routes and miles directly affected by trailing make up less than 1 percent of the cumulative effect analysis area, and not all of these acres would actually be trailed upon.

Effects from livestock trailing/crossing would include minor trampling and 0 to 10 percent utilization. Due to the short duration of trailing, grazing effects from cattle trailing are expected to be minimal. Direct grazing from sheep trailing would occur where sheep are trailed off existing roadbeds. However, because both sheep and cattle trailing would occur on such a small proportion of the landscape and for a limited duration, effects from trailing are expected to be insignificant (USDI BLM 2012b). A slight increase in the spread of weeds could occur, but the short distance and duration would limit the amount and possibility. Additionally, if noxious weeds are detected in the future, easy access would be available for treatment. Range readiness determinations are essential and would reduce mechanical damage to soils when soils are saturated early in the spring during the peak spring melt events. The duration of trailing activities to be authorized would require active trailing in most cases. Management actions as described above, if implemented, would allow upland plant communities to meet or make significant progress toward meeting Idaho Rangeland Health Standards and ORMP objectives.

3.2.1.2 Environmental Consequences of Alternative 1 Common to All Allotments

General impacts of livestock grazing are discussed in the Effects Common to All Grazing Alternatives section 3.2.1.1. Any additional specific effects from this alternative are described below by allotment in section 3.3.

Implementation of Alternative 1 would continue current livestock management. Section 3.1.1 Affected Environment describes the existing vegetation condition resulting from current management. Section 3.1.1 also describes by allotment whether the allotment is meeting Idaho Rangeland Health Standards for native plant communities, seedings and exotic plant communities under current management. This alternative would generate little to no change to existing plant communities. Those allotments (Table ALLOT-2 section 1.3) that are meeting the Standards and ORMP objectives would continue to do so. Likewise, those allotments currently not meeting the Standards and ORMP objectives would continue to

fail to meet the Standards under current grazing management, as described in Section 3.1.1 above. The repeated spring and summer grazing during the critical growing period will not allow ample deferment or rest to upland vegetation in areas currently not meeting vegetation standards or ORMP objectives, nor will it promote shifting early seral bunchgrasses and invasive annual communities to later seral bunchgrasses (Holechek et al. 1999). Vegetation resources not meeting ORMP vegetation management objectives would not have the opportunity to improve unsatisfactory, or maintain satisfactory, vegetation health and condition on all areas.

The Morgan Group allotments include 29,766 acres of BLM managed lands (51 percent) of the total 58,033 acres. ORMP objectives and Idaho Rangeland Health Standards for upland native plant communities are currently meeting Standard 4 on 10,876 acres out of 28,944 acres (38 percent); all of the 726 acres of rangeland seedings are meeting Standard 5 (100 percent); and none of the 97 acres of exotic plant communities are meeting Standard 6 (0 percent). In other words, in the Morgan Group allotments, current livestock management practices do not maintain native rangeland species to attain composition, density, basal cover, and vigor appropriate to site potential or multiple-use resource objectives on 2,823 BLM acres of upland vegetative communities (9 percent) of the BLM managed acres.

3.2.1.3 Environmental Consequences of Alternative 2 Common to All Allotments

General impacts of livestock grazing are discussed in the Effects Common to All Grazing Alternatives section 3.2.1.1. Any additional specific effects from this alternative will be described below by allotment section 3.3, where effects are different from effects described in Alternative 1.

Alternative 2 will have generally the same effects as described in Alternative 1 (current management) with added flexibility in the grazing schedules and livestock numbers (see Appendix D for complete proposals by permittee). Although livestock numbers may change, season of use in 17 of the 19 Morgan Group allotments would offer at least one year of deferment in the growing season and authorized AUMs by allotment would not be exceeded. Effects of these proposals would improve current existing conditions of plant communities. The two allotments with repeated spring and summer grazing during the critical growing period would not allow ample deferment or rest to upland vegetation currently not meeting vegetation standards, nor would it promote shifting from early seral bunchgrasses and invasive annual communities, to later seral bunchgrasses (Holechek et al. 1999). Plant communities not meeting ORMP vegetation management objectives would not have the opportunity to improve unsatisfactory, or maintain satisfactory, vegetation health and condition on all areas.

The grazing proposals on the FFR allotments would continue or improve current existing conditions of vegetative communities. The permit would reflect a true percent of BLM managed public land acres, which may change the livestock numbers to better reflect actual allotment management.

Alternative 2 would maintain or improve the existing conditions of plant communities on 17 of the 19 Morgan Group allotments. Plant communities not meeting ORMP vegetation management objectives would not have the opportunity to improve unsatisfactory, or maintain satisfactory, vegetation health and condition on two allotments.

3.2.1.4 Environmental Consequences of Alternative 3 Common to All Allotments

General impacts of livestock grazing are discussed in the Effects Common to All Grazing Alternatives section 3.2.1.1. Any additional specific effects from this alternative will be described below by allotment section 3.3.

Implementation of Alternative 3 would institute pasture rotation schedules that include less frequent use during the critical growth periods, or deferred use, compared to Alternative 1. Increased years of

deferment or rest would allow opportunity for recovery and maintenance of plant health and vigor to improve (Bailey and Brown 2011). The decrease in the frequency of growing-season use would allow native perennial species to complete the annual growth cycle more often in the absence of defoliation by livestock grazing and allow significant progress toward meeting upland vegetation health and vigor and ORMP objectives. This decrease in active grazing use would be achieved by reducing livestock numbers and/or season (Reed et al. 1999). In addition, stocking rates have been developed for plant communities not meeting management objectives where grazing intensity is lower than the management prescriptions in Alternatives 1 baseline (Appendix C-2). Section 3.3 describes the effects of seasons of use and AUMs by allotment.

Livestock management prescriptions in Alternative 3 would maintain or improve the existing conditions of plant communities on all of the 19 Morgan Group allotments. Plant communities not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory, or maintain satisfactory, vegetation health and condition on the Morgan Group allotments.

3.2.1.5 Environmental Consequences of Alternative 4 Common to All Allotments

General impacts of livestock grazing are discussed in the Effects Common to All Grazing Alternatives section 3.2.1.1. Any additional specific effects from this alternative will be described below by allotment section 3.3.

Implementation of Alternative 4 would institute pasture rotation schedules that include less-frequent use during the critical growth period, deferred grazing, and rest compared to Alternatives 1, 2, and 3. Increased years of deferment or rest allow opportunity for recover and maintenance of plant health and vigor to improve (Bailey and Brown 2011). The decrease in the frequency of growing-season use would allow native perennial species to complete the annual growth cycle more often in the absence of defoliation by livestock grazing and allow significant progress toward meeting upland vegetation health and vigor and ORMP objectives, faster than Alternative 3 (Reed et al. 1999). In addition, lower stocking rates provide lower grazing intensities for plant communities that are not meeting management objectives than management prescriptions in Alternatives 1 and 2 (Appendix C-2). Section 3.3 describes the effects of seasons of use and AUMs by allotment.

Alternative 4 proposals would maintain or improve the existing conditions of vegetative communities on all of the 19 Morgan Group allotments. Plant communities not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory, or maintain satisfactory, vegetation health and condition on the Morgan Group allotments.

3.2.1.6 Environmental Consequences of Alternative 5 Common to All Allotments

Implementation of the no-grazing alternative would allow opportunity to provide a more rapid rate of recovery toward ecological site potential than other alternatives considered, in those areas where livestock are the causal factor for a site not being at potential. In the absence of livestock grazing, growing season defoliation of native perennial species, including bunchgrass species that provide the majority of current forage for livestock grazing use, would be limited to use by native herbivores, including insects. Limited growing-season defoliation would allow bunchgrass species to complete their growth cycle annually without the need to replace grazed leaves or tillers midway through the growing season, and would thus regain health and vigor. Although restoration of plant communities consistent with the reference site described in ecological site descriptions is limited to a process that may take decades, if not centuries, when initiated through the passive action of removing livestock grazing impacts. The degree to which state-and-transition models apply and transitions have been crossed will limit opportunity in the absence of active vegetation manipulation for recovery toward the reference site described. The introduction of non-native and invasive species, fire suppression activities, and sources of disturbance, other than

livestock grazing and physical impacts from livestock that did not define the reference site, would continue, preventing full recovery even in the long term (decades, if not centuries).

The no-grazing alternative eliminates the risk of introducing noxious weeds and invasive species to public lands resulting from soil disturbance by livestock activity and the increased spread of existing incursions resulting from seed distribution in fur, on hooves, and in the livestock digestive system. The number of other vectors for seed dispersal and soil disturbance would continue to encourage the spread of weeds and provide a need for weed control programs coordinated across multiple ownership boundaries.

Implementing Alternative 5 would move vegetation in the allotments toward reference communities and would make progress toward meeting the Idaho Rangeland Health Standard for native plant communities. Seedings would transition back to native plant communities at a very slow rate. Native plants might increase in exotic plant communities, but the Gluch FFR allotment, pasture 1, would continue to fail to meet the Idaho Rangeland Health Standard for exotic plant communities based on soil conditions and increased litter. Restoring areas dominated by exotic annuals to shrubs and deep-rooted perennial grasses would not occur through a simple modification or even cessation of livestock grazing. Rather, such restoration would require targeted vegetation treatments such as seeding and herbicide applications. Progress toward a full complement of native perennial species more consistent with ecological site potential would result in the long term. Recovery of ecological site potential vegetation communities would not occur within the 10-year period of initial livestock exclusion because recovery of all vegetation functional-structural groups from the existing ecological condition in sagebrush steppe type occurs at a slow rate, requiring decades, if not centuries.

Implementing Alternative 5 would maintain or improve the existing conditions of vegetative communities on all 19 of the Morgan Group allotments. Plant communities not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory or maintain satisfactory vegetation health and condition on the Morgan Group allotments. Allotments would continue a transition back to a native plant community with the absence of livestock (see Table VEG-6 in Section 3.1.1 above). These acres include only the BLM lands associated with the Morgan Group allotments, not private or state lands.

3.2.2 Soils

3.2.2.1 Environmental Consequences Common to All Grazing Alternatives

Analyses of the alternatives are based on consequences of seasons and intensities of livestock grazing use (Appendix B) that have led to the current conditions for soil as displayed above. Consequently, Alternatives 2 to 5 are compared against Alternative 1 (current condition) to assess the different level of effects on soil and upland watershed conditions while a brief comparison against the remaining alternatives is added. The following section provides ecological, physical, and biological concepts for expected soil impacts resulting from livestock management practices and is common to all grazing alternatives. Common environmental consequences from direct and indirect effects of the individual alternatives follow.

A detailed discussion of rangeland vegetation inventory and ecology and the concepts of the state-and-transition model can also be found in Appendix F. More site-specific information on plant communities for the allotments is available in the Upland Vegetation Section 3.1.1 and 3.2.1. For processes involving upland soils and sediments and their effects on water resources, riparian areas, and wetlands, please refer to Water Resources Section 3.1.3 and 3.2.3.

Introduction

The effects and consequences of grazing on soil resources are related to the intensity, season, frequency, and duration of use by livestock. Livestock primarily affect soils via two methods. First, the consumption of vegetation can indirectly alter plant composition, ecological function, and community structure, health, and diversity. Second, impacts from hoof action physically affect soils directly through trampling and compaction. All impacts can lead to changes in soil physical, chemical, and/or biological properties.

Soil physical properties include soil bulk density, erosion, surface crusts, and infiltration. Soil chemical properties consist of minerals, organics, soil nutrients, and pH. Soil biological properties include micro- and macroorganisms that can have considerable influence on soil structure and nutrient availability. Alterations to any of these properties from inappropriate grazing management practices can affect the fertility, productivity, and sustainability of soils and associated native plant communities and managed rangelands.

Soils and Vegetative Cover

Vegetation controls soil erosion by means of its canopy, roots and litter components, but erosion also influences vegetation in terms of composition and structure of the plant community as well as growth pattern (Gyssels et al. 2005). Vegetation protects the soil against wind and water erosion by the physical binding of soil particles by stems and living roots, raindrop interception, and the retention of runoff. Consequently, soil surface and ground cover disturbance from grazing reduces the capability of a site to withstand the loss of soil resources by wind and water erosion and essentially leads to higher nutrient loss (Rietkerk and van de Koppel 1997). With ongoing reduction in plant density, plant growth can be reduced below grazing induced plant losses, thereby adversely affecting the stability of the grazing system; as part of a downward cycle, the negative plant/soil interaction can lead to further degradation.

Soil loss results from the combined effect of aboveground biomass *and* roots (Gyssels et al. 2005) because of the reduced protective cover and soil binding capabilities from diminished root depth and strength. A decline in cover increases bare ground that initiates larger and more connected surface water flow patterns. The resulting accelerated erosion and movement of sediments leads to soil loss and degradation, changes in infiltration patterns, and loss of organic matter and persistent litter (Lusby 1965, USDA NRCS 2010, Meeuwig 1970, Meeuwig 1971). This makes it increasingly more difficult for herbaceous cover to regenerate and maintain, so that nutrient cycling, soil stability, and hydrologic function are further altered over the long-term, leading to additional decline in rangeland health.

When bunchgrass communities transition from deep-rooted species to shallow-rooted plant communities or when invasive annuals dominate, soil erosion potential increases. A number of sources suggest limiting the intensity of grazing use of bluebunch wheatgrass during the active growing season and limiting active growing season use with periodic deferment or year-long rest (Stoddart 1946, Blaisdell and Pechanec 1949, Mueggler 1972, Mueggler 1975, Miller et al. 1994, USDA NRCS 2012, Burkhardt and Sanders 2010, Anderson 1991). Some of these sources suggest this deferment or rest occur as frequent as two of every three years or more often. Conservation of native bunchgrasses therefore plays a vital role in upholding soil stability through management of rangeland vegetation.

Soil stability is a primary control over the fertility, productivity, and sustainability of managed ecosystems and serves as a major indicator of long-term range productivity and health. Disturbance to surface soils by livestock grazing can adversely influence ecosystems through the alteration of vegetation cover, soil physical properties, microbial communities, carbon cycling, nitrogen fixation, and hydrologic properties (Schlesinger et al. 1996).

Where livestock utilization levels are increased, the quantity of vegetative material is reduced and canopy cover declines. Additionally, deposition of protective plant litter to the soil surface, incorporation of litter into the soil, and the density and distribution of plant roots in the soil profile are decreased. As a result, a reduction in vegetative material allows for increased runoff due to reduced infiltration capacities and elevated erosion potential (Pluhar et al. 1987, Thurow et al. 1986). The effects of changes in the amounts of available soil water can, therefore, be expressed by changes in the biomass of grasses and of woody vegetation, and of infiltration rate (Walker et al. 1981).

Seasonal Effects on Soils

Physical Impacts

Impacts on soils and upland watershed resources vary during different grazing seasons and from changes in vegetation due to annual use of a pasture (Table SOIL-7). During the winter, frozen soils are more resilient to mechanical hoof damage and compaction. However, when grazing occurs during late winter, spring, and early summer season on wet or saturated soils, the physical impacts of compaction and pugging (plunging hoofs into wet soil, forming a void) create long-lasting consequences (Warren et al. 1986, Eldridge 2004). These impacts not only inhibit water infiltration and increase puddling, surface runoff, and erosion, they reduce vegetative growth because the modification of soil structure and sealed soil pores restrict the movement of water, air, and roots (Bilotta et al. 2007).

Table SOIL-7: Summary of seasonal grazing effects on several soil related variables; seasons may overlap based on elevation, aspect, and topographic differences

Season of Use	Soil Moisture	Grazing Effects					
		Vegetation	Pugging*	Biological Soil Crusts	Compaction Potential*	Erosion Potential	General Effects
Early Spring Grazing (Feb. –Mar.)	available for veg growth; some frozen soils	low–annuals available; most others dormant	low to high depending on freeze/melt conditions	low/mod*	high–increased during thaw	low/high*	**low/high**
Upland Growing Season Grazing (Mar. –July)	reduced to no availability as season progresses; increasingly less regrowth potential	high–critical growth and seed production; reduced ground cover w. grazing	high at first, reduced in early summer	mod/high	high–increased during wetter months	low/mod*	**high**
Summer Grazing (July–Oct.)	limited to no availability for regrowth	low/mod–minimal growth; reduced ground cover w. grazing	low	high	low/mod–increased congregation near water sources	low	**low/mod**
Fall Grazing (Oct. –Nov.)	available	low/mod–emerging annuals	low/mod	mod/low	low/mod	low/mod	**low/mod**
Winter Grazing (Dec. –Feb.)	available; frozen soils	low–emerging annuals; most others dormant	low/mod	low*	moderate/high–increased with freeze thaw	low/mod	**low/high**

*can be excessive with high or prolonged precipitation event

Medium to heavy-textured soils, typically clay, are especially prone to damage during the early seasons because they tend to have high moisture-holding capacity, are usually at or near field capacity, or have higher water content due to snow melt (Warren et al. 1986). Severe weather conditions, such as snow storms, may also limit animal distribution and can result in heavy localized congregation that leads to

utilization or elimination of the remaining plant cover, thus increasing the susceptibility to localized compaction, pugging, and pedestaling.

Physical impacts are always more damaging where the soil is bare, so maintenance of good vegetative cover is essential to lessen the effect of cattle hooves on soil. In areas of water, shade, salt, or mineral locations, compaction from livestock congregation and trail networks can initiate runoff and result in accelerated short- or long-distance movement of sediments.

Where flexibility in the grazing schedule is given, the number of livestock could vary and be increased. While AUMs may stay the same, grazing intensity would increase with elevated livestock numbers over a shorter amount of time and could negatively affect upland soil and watershed health depending on the season of use.

Biological Soil Crusts

Mechanical impacts from livestock not only disturb soil structure, they negatively affect biological soil crusts that function as living mulch, retain soil moisture, provide stability, influence nutrient cycling, and discourage annual weed growth. Biological soil crust condition and spatial extent is an indicator of the ecological health of the plant community; thus, disturbance that results in even small losses of biological crusts can dramatically reduce site fertility and soil productivity, soil moisture retention, and further reduce soil surface stability and soil organic matter (Eldridge and Greene 1994, Belnap and Gillette 1998).

Season of use by livestock has a significant effect on biological soil crust cover values and species richness (Marble and Harper 1989). As crustal species are only metabolically active when wet and are brittle when dry, physical disturbance during the summer season is generally more destructive, and organisms do not recover as easily as when disturbed in wet seasons. Although biological soil crusts are not as fragile during moist periods and may continue to grow from late winter through early spring with favorable soil water conditions, growth can be disrupted if heavy livestock surface disturbance persists during that time.

Utilization

Impacts on soils from changes in vegetation due to utilization of a pasture vary depending on the season. Heavy continuous grazing is generally most impactful to soil hydrologic function, while the effects of moderate to light continuous grazing are significantly less deleterious and frequently not significantly different from each other (McCalla et al. 1984a). Heavy to severe defoliation exposes the soil surface to erosive forces of wind and water and affects the soil moisture regime. Moderate utilization, in years with minimal soil moisture availability for regrowth after use, can deplete plant vigor and health, especially during periods of critical growth. Light to moderate utilization (see Table VEG-5) of early vegetative growth has minimal impacts on regrowth when adequate soil moisture is available for completion of the annual growth cycle.

Livestock Congregation Around Riparian Uplands

Although native upland communities are less susceptible to negative impacts from defoliation during the summer, livestock often congregate near water developments or riparian sources during the hot season and can intensify localized impacts on upland and riparian soils within areas of concentrated activity (Clary and Webster 1989). While riparian zones within managed rangelands generally only account for a minor proportion of the overall area, they are a critical source of diversity and productivity. During heavy winter storms, similar patterns can be expected. Disproportional congregation of livestock during any

season therefore promotes the potential of impacts to protective ground cover, resulting in compromised soil stability and hydrologic function in localized areas compared to remaining portions of the pastures.

Soils and Invasive Plants

Annual Grasses

The dominance or spread of cheatgrass and other invasive annual plants in several of the Morgan Group allotments is reflected in the monitoring data and was evident during field visits[43]. Invasive annual plants modify the ecosystem attributes of soil temperature and soil water distribution, provide less root mass and soil stability than perennial bunchgrasses, reduce the diversity and cover of microbiotic crusts, out-compete native plants, and adversely alter fertility and organic matter from shortened fire intervals and their associated impacts (Pellant 1996). In addition, deep percolation is limited when shrubs and deep-rooted bunchgrasses are reduced or absent. Increased bare ground and gaps in perennial vegetation may serve as an early warning indicator of when cattle grazing or other stressors are compromising resistance of a sagebrush ecosystem to annual invasive plants; maintaining and conserving bunchgrass cover and community structure therefore continues to be of highest priority (Reisner et al. 2013).

Using cattle to reduce herbaceous biomass to levels that would strongly influence fire behavior under extreme fire conditions would require reductions and utilization levels that would potentially degrade shrub and grassland communities and compromise sustained livestock production (Launchbaugh et al. 2008). This is especially critical for soils as targeted grazing generally occurs during the late winter and spring season when wet soils are especially susceptible to impacts. On the other hand, the extremely flammable conditions associated with standing dead cheatgrass and other non-native annuals increase the risk of wildfire and post-fire erosion hazard. The resulting combination of water erosion on unprotected steeper ground and wind erosion promotes soil surface loss and degradation, reduces soil productivity, and adds to deteriorating conditions.

Individual plant species can affect rates of litter accumulation and availability with the litter of a variety of grass species differing in rates of decomposition and nutrient immobilization or release (Facelli and Pickett 1991). These differences can establish feedbacks that affect both litter quality and the rates at which soil nutrients are released from organic to inorganic forms. Monocultures, such as cool season invasive annuals that produce nutrient-poor litter, can reduce soil nutrient re-supply, and affect long-term range productivity.

Although invasive annual plants provide spring forage for livestock and cover for watershed protection by effectively reducing raindrop energy and protecting from wind erosion, they can affect the biological and chemical aspects of soils and long-term (more than 10 years) rangeland health. Besides recreation and transport from motorized vehicles, soil disturbance resulting from livestock concentration adjacent to water sources, salting areas, and routes of travel provides increased sites for establishment of weeds and invasive species. As a result, livestock are expected to contribute to the spread of weeds through transport and defecation across the Morgan Group allotments, especially if grazing during the critical growing season reduces the competitive potential presence of the remaining native vegetation.

Western Juniper

Western juniper invasion in former grass- and shrub-dominated ecosystems can lead to a negative influence on hydrologic cycles, soil stability, and vegetative community composition and diversity. However, many juniper ecosystems are subject to accelerated erosion as juniper overstory significantly affects production, diversity, and cover of the herbaceous layer (Miller et al. 2005) while others remain stable. Davenport et al. (1998) and Miller et al. (2005) suggest that such differences in soil erosion are a

[43] For detailed information, see Appendix E and the 2013 Group 5 Soil Field Reports (in the project record)

function of site erosion potential, determined by climate, geomorphology, soil erodibility, and ground cover, as well as soil depths and plant associations.

Because ground cover has a primary effect on erosion rates (Wood et al. 1987), reductions of herbaceous intercanopy plants as a result of competition from juniper can cause erosion rates to increase. Added impacts from livestock grazing then have the potential to directly move a juniper site across an erosion threshold by concurrently reducing intercanopy vegetation cover and soil water infiltration capacities through trampling effects (Davenport et al. 1998). However, even in the absence of livestock grazing, closed canopy stands produce limited shrub and herbaceous biomass while the rate of decline may be lessened with limitation of grazing. Where juniper is still encroaching after a fire, the decreased plant biomass, insufficient residual litter amounts and persistent soil cover, decreased root structure diversity, increased erosion potential, and an altered hydrologic and nutrient cycle over the long-term (more than 20 years) persist.

Juniper is highly competitive in terms of available soil moisture, nutrients, and understory photosynthetic needs (Pierson et al. 2007, Wilcox and Davenport 1995). As juniper increases and shrubs and bunchgrasses are lost from the plant community, hydrologic function, such as infiltration, is impaired due to the lack of diversity in plant structure and spatial distribution of roots. Over the longer term (more than 20 years), the imbalance in vegetative composition associated with juniper in comparison to ecological potential is the primary concern for upland watershed health. Improvements to plant communities therefore remain static or at a downward trend regardless of whether livestock grazing occurs. For the reasons stated above, juniper is therefore not further discussed during the effects analysis for the alternatives since no vegetation treatments are proposed.

Climate Change

Climate variability can directly drive soil changes where, depending on the resilience of the system, certain rangelands may be able to adapt to change by exploiting instabilities, rather than the ability to absorb disturbances by returning to a steady state after being disturbed (Walker et al. 1981). In some areas of the allotments, heavy grazing or lack of deferment combined with climate change may exacerbate the effects of drought on vegetative condition by further weakening plants, increasing invasive annual plants, accelerating shifts in plant species composition, and promoting the deterioration of soils and rangeland. Where a water-limited system is present, any reduction in the rate of water infiltration to soil is critical (Walker et al. 1981).

The altered future climate may not provide soil conditions that are favorable for current plant species where they presently occur; over time, these climate-induced imbalances will promote shifts and associated changes in soil. At this point, global climate change does not have a clear cause-and effect-relationship with the proposed action or alternatives. Although rotational grazing may not prevent deterioration of soils and rangeland with a series of drought years, it may decrease the rate of deterioration and reduce the effects of a decline in soil quality and productivity (Teague et al. 2004).

Direct and Indirect Effects—Introduction

The impacts discussed in this section under each alternative focus primarily on the differences among season of use. . Resource constraints (see Section 2.2) were applied to Alternatives 3 and 4 and, in some cases, resulted in an additional reduction of livestock numbers and AUMs. As a result, limiting grazing intensity and season of use reduces impacts during the wet season when soils are most vulnerable to trampling. Equally important is rest during the critical growing season to encourage plant vigor, regrowth, and soil stability. Table SOIL-8 summarizes each alternative from a soils perspective by comparing the season of use to extract which alternative provides the greatest potential resources benefits.

Table SOIL-8: Alternative summary applying soil constraints (see Section 2.2) that determine deferment or rest based on season of use, and incorporating critical growing season use for all Morgan Group allotments

Allotment	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Bachelor Flat FFR	No D/R, CGSU all yrs	**P1:** no D/R, CGSU all yrs **P2:** D/R with some CGSU all yrs	**P1:** D/R 1 out of 3 yrs **P2**: D/R all yrs (with some CGSU in all yrs)	**P1, 2:** D/R 2 out of 3 yrs	none
Berrett FFR (Pasture 2 private)	No D/R, CGSU all yrs	**P1, 3:** no D/R, CGSU all yrs **P4**: D/R all yrs	**P1, 3:** D/R 1 out of 3 yrs **P4:** D/R all yrs	**P1, 3:** D/R 2 out of 3 yrs **P4:** D/R all yrs	none
Big Field FFR	D/R all years, CGSU all yrs	D/R all yrs with some CGSU in all yrs	D/R all yrs with some CGSU in 2 out of 3 yrs	D/R all yrs with some CGSU in 1 out of 3 yrs	none
Bogus Creek FFR	D/R most yrs, CGSU some yrs	D/R all yrs with some CGSU in 2 out of 3 yrs	NA	D/R all yrs with some CGSU in 1 out of 3 yrs	none
Boulder	**P1:** some irregular D/R, CGSU most yrs **P2:** D/R 1 out of 2 yrs, CGSU 1 out of 2 yrs **P3:** D/R 1 out of 3 yrs with CGSU in 2 out of 3 yrs	D/R 1 out of 3 yrs	D/R 2 out of 3 yrs (with some CGSU in 2 of 3 yrs)	**P 1, 2:** D/R 2 out 3 yrs **P3:** D/R all yrs	none
Boulder Flat	No D/R, CGSU all yrs	**P1:** D/R 1 out of 2 yrs with CGSU all yrs **P2:** no D/R, CGSU all yrs	**P1:** D/R 2 out of 3 yrs with CGSU 2 out of 3 yrs **P2:** D/R 1 out of 3 yrs with CGSU 2 out of 3 yrs	D/R 2 out of 3 yrs	none
Combination Creek	D/R with some CGSU all yrs	D/R all yrs with some CGSU in 2 of 3 yrs	NA	D/R all yrs with some CGSU in 1 of 3 yrs	none
Feltwell	**P1, 2, 4:** No D/R, CGSU all yrs **P3:** D/R with some CGSU most years	**P1, 2:** D/R 1 out of 3 yrs **P3:** D/R all yrs **P 4:** D/R 2 out of 3 yrs	**P1, 2, 4:** D/R 2 out of 3 yrs **P3:** D/R all yrs with CGSU in 2 out of 3 yrs **P4:** D/R 2 out of 3 yrs	**P1, 2, 4:** D/R all yrs **P3:** D/R all yrs (with CGSU in 1 out of 3 yrs)	none
Glass Creek	**P1:** No D/R, CGSU all yrs **P2:** Irregular	**P1:** D/R 1 out of 3 yrs **P2:** D/R 2 out of 3 yrs	NA	**P1:** D/R 2 out of 3 yrs (with CGSU in 1 D/R yr) **P2:** D/R 2 out of 3 yrs	none
Gluch	No D/R, CGSU all yrs	No D/R, CGSU all yrs	D/R 1 out of 3 yrs	D/R 2 out of 3 yrs	none

Allotment	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Gluch FFR	No D/R, CGSU all yrs	No D/R, CGSU all yrs	**P1, 2, 3:** D/R 1 out of 3 yrs **P4, 5:** No D/R, CGSU all yrs	**P1, 2, 3:** D/R 2 out of 3 yrs **P4, 5:** No D/R, CGSU all yrs	none
Jim`s Peak FFR	D/R all yrs with some CGSU in 2 of 3 yrs	D/R all yrs with some CGSU in 2 of 3 yrs	NA	D/R all yrs with some CGSU in 1 of 3 yrs	none
Morgan	No D/R, CGSU all yrs	No D/R, CGSU all yrs	**P1, 3, 4:** D/R 1 out of 3 yrs **P2:** D/R all yrs (with CGSU in 2 out of 3 yrs)	**P1, 3, 4:** D/R 2 out of 3 yrs **P2:** D/R all yrs (with CGSU in 1 out of 3 yrs)	none
Rail Creek FFR	**P1:** D/R with CGSU all yrs **P2:** D/R all yrs	No D/R, CGSU all yrs	**P1:** D/R all yrs with CGSU in 2 out of 3 yrs **P2:** D/R all yrs	**P1:** D/R all yrs with CGSU in 1 out of 3 yrs **P2:** D/R all yrs	none
South Mountain Individual	No D/R, CGSU all yrs	D/R 1 out of 2 yrs	**P1:** D/R 1 out of 3 yrs **P2:** D/R 2 out of 3 yrs	D/R 2 out of 3 yrs	none
Walt's Pond FFR	No D/R, CGSU all yrs	No D/R, CGSU all yrs	**P1:** D/R 2 out of 3 yrs **P2:** D/R 1 out of 3 yrs	**P1, 2:** D/R 2 out of 3 yrs	none
Warn	No D/R, CGSU all yrs	D/R 1 out of 3 yrs	D/R 1 out of 3 yrs	D/R 2 out of 3 yrs	none
West Maher FFR (Pasture 1 private)	No D/R, CGSU all yrs	No D/R, CGSU all yrs	D/R 1 in 3 yrs	D/R 2 in 3 yrs	none
Wroten	No D/R, CGSU all yrs	D/R 1 in 4 yrs	D/R 1 in 3 yrs	D/R 2 in 3 yrs	none

D/R = Deferment/Rest CGSU = Critical Growing Season Use P = Pasture NA = Not Applicable

3.2.2.2 Environmental Consequences of Alternative 1 Common to All Allotments

Alternative 1 would continue to authorize grazing under the same terms and conditions (see Section 2.2.1) acknowledging that flexibility in the established grazing schedule as recently implemented between 1997 and 2013 has led to the existing condition and would continue (Appendix B) if permitted. Grazing season of use would primarily include wet spring and early summer season and critical growing season use (Table SOIL-9) and would continue to reflect existing conditions.

Table SOIL-9: Grazing rotation and generalized season of use under Alternative 1 for the 19 Morgan Group allotments (see impacts associated with each season of use in Table SOIL-7)

Allotment*	Year 1	Year 2	Year 3
Bachelor Flat (all pastures)	spring, summer, fall, and early winter		
Berrett FFR (all pastures)	spring, summer, fall, and early winter		
Big Field FFR	year-round		
Bogus Creek FFR	year-round		
Boulder (all pastures)	spring and summer		
Boulder Flat (all pastures)	spring, summer, and fall		

Allotment*		Year 1	Year 2	Year 3
Combination Creek		summer and fall		
Feltwell (all pastures)		spring and summer		
Glass Creek (all pastures)		spring		
***Gluch*#**		spring		
Gluch FFR (all pastures)		spring		
Jim's Peak		year-round		
Morgan (all pastures)		spring and summer		
Rail Creek FFR	**Pasture 1**	summer		
	Pasture 2	fall		
South Mountain Individual	**Pasture 1**	late winter, spring, summer, fall, and early winter		
	Pasture 2	spring, summer, fall		
Walt's Pond FFR		spring and early summer		
Warn		spring and early summer		
West Maher (all pastures)		spring, summer, fall, and early winter		
***Wroten*#**		spring, summer, and fall		

* FFRs may show a defined season but use is always year-round at the discretion of the permittee
#Allotments meeting Standard 1

The primary causes for failing to meet the Standard include spring season use during wet soil conditions and continued or past grazing during the critical growth period with minimal to no rest or deferment. The resulting adverse effects on soil stability and hydrologic function are associated with physical soil impacts and departures from expected conditions in the plant community, as discussed in Section 3.1.2 under existing conditions and Section 3.3 for individual allotments. In addition, some allotments have been impacted by past and recent fires (see Maps FIRE-1) or the lack thereof, which has resulted in the encroachment of western juniper that has affected Big Field FFR, Bogus Creek FFR, and Combination Creek allotments (see Section 3.3).

As shown by the declining frequency in deep-rooted bunchgrasses and overall reduced cover (see Appendix E; Section 3.3), continual critical-growing-season grazing has caused or contributed to a deterioration of upland soil and watershed health in many of the allotments. The RHAs and Determinations (Appendix E) identify that 17 of the 19 Morgan Group allotments do not meet the Idaho Standards for Rangeland Health—Standard 1 for upland watersheds and that ORMP objectives are not met. Sixteen allotments do not meet the Standard due to current livestock grazing (Table SOIL-5); historic grazing management practices, past fires (see Map FIRE-1), and invasive species are the causal factors for failing the remaining one (Table SOIL-3).

Range readiness criteria (Appendix J) apply under Alternative 1 and protect the allotment/pasture during initial turnout when conditions can be too wet. However, should substantial precipitation occur after turnout, the spring and early summer grazing prescribed under the alternative would have the potential of physical impacts from hoof action on wet or saturated soils. The continuous annual impacts would impair plant vigor and promote soil pugging and compaction during the wetter season. This would also increase the risk of spreading noxious weeds that often thrive when early-season pugging and trampling provide establishment opportunities.

Under this alternative, the number of livestock in custodial allotments (FFRs) could vary and be increased due to flexibility in the grazing schedule. While AUMs may stay the same, grazing intensity would increase with elevated cattle numbers and could negatively affect upland soil and watershed health.

The implementation of Alternative 1 would continue existing conditions (Section 3.1.2) and provide little to no improvement to ecological function and site potential because proper nutrient cycling, hydrologic

cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1).

Of the 19 allotments to which Alternative 1 applies, the 17 allotments that are currently not meeting Standard 1 (Tables SOIL-3 and 5) are not anticipated to make progress toward meeting Rangeland Health Standard 1 and ORMP soil objectives over the life of the permit (also see individual allotments in Section 3.3). The two allotments that are meeting (Table SOIL-1) may continue to do so while their pastures identified to be at risk have the potential to show increased declines in soil and hydrologic function that could move from them from meeting to not meeting in the future.

3.2.2.3 Environmental Consequences of Alternative 2 Common to All Allotments

The permittees' applications for Bogus Creek FFR, Combination Creek, Glass Creek, and Jim's Peak FFR allotments (Table SOIL-10) identified changes that differ from recent grazing management by incorporating rotations that are concurrent with resource constraints for Alternative 3. As a result, "Environmental Consequences of Alternative 3 Common to All" (see below) applies to these 4 allotments.

Table SOIL-10: Alternative 2 grazing rotations and generalized seasons of use where applications for permit renewal differ from Alternative 1 and are comparable to Alternative 3 (see impacts associated with each season of use in Table SOIL-7).

Allotment*		Year 1	Year 2	Year 3
Bogus Creek FFR		summer and fall	summer and fall	fall
Combination Creek		summer and fall	summer and fall	fall
Glass Creek	**Pasture 1**	spring	spring	rest
	Pasture 2	rest	rest	spring
Jim's Peak FFR		summer and fall	summer and fall	fall

* Seasons for the FFRs are defined and not at the discretion of the permittee

For all remaining allotments (Table SOIL-11), the grazing schemes proposed by the permittees under Alternative 2 (Section 2.4; Appendix D) would be identical or similar to current management (Alternative 1). Thus, the impacts associated under Alternative 2 would be the same as those described above under Alternative 1.

Table SOIL-11: Alternative 2 grazing rotation and generalized season of use where application for permit renewal is similar to Alternative 1 (see impacts associated with each season of use in Table SOIL-7)

Allotment*		Year 1	Year 2	Year 3
Bachelor Flat	**Pasture 1**	spring and early summer		
	Pasture 2	early summer to fall		
Berrett FFR	**Pasture 1**	spring and summer		
	Pasture 2	spring and summer		
	Pasture 3	spring to fall		
	Pasture 4	spring to fall		
Big Field FFR		summer and fall		
Boulder	**Pasture 1**	spring	rest	spring and early summer
	Pasture 2	spring and early summer	spring	rest
	Pasture 3	rest	spring and early summer	spring
Boulder Flat**	**Pasture 1**	spring	spring	NA

Allotment*		Year 1	Year 2	Year 3
	Pasture 2	summer	summer	NA
Feltwell	**Pasture 1**	spring and summer	late summer	spring and summer
	Pasture 2	spring and summer	late summer	spring and summer
	Pasture 3	summer	summer	late summer
	Pasture 4	late summer	spring	summer
Gluch#		spring		
Gluch FFR	**Pasture 1**	winter and spring		
	Pasture 2	spring		
	Pasture 3	spring		
	Pasture 4	year-round		
	Pasture 5	year-round		
Morgan (all 4 pastures)		spring to fall		
Rail Creek FFR (both pastures)		spring to fall		
South Mountain Individual	**Pasture 1**	spring and summer	spring and summer	spring and summer
	Pasture 2	fall	fall	fall
West Maher (Pasture 1 private)	**Pasture 2**	spring and summer	spring and summer	spring and summer
	Pasture 3	spring and summer	spring and summer	fall
Walt's Pond FFR (both pastures)		spring and early summer		
Warn		spring	spring	fall
Wroten#		year-round except March***		

#Allotments meeting Standard 1 **2 year rotation ***proposed summer, fall, and winter grazing in year 4
* FFRs may show a defined season but use is always year-round at the discretion of the permittee

In general, livestock grazing for the Morgan Group allotments occurs during the wet spring months and the critical growing season, with limited to no periodic rest. These factors deteriorate upland soil and watershed health because they increase physical impacts to soils in the spring and early summer from hoof action, and decrease the ability of native plant communities to remain healthy, vigorous, and productive during active growth.

Where soil impacts currently exist as outlined in the affected environment section, effects as described in Impacts to Soils Common to All Grazing Alternatives (Section 3.2.2) apply, with little to no change in place to improve resource values and to provide opportunity for recovery over the life of the permit. In the absence of changing seasonal use, progress toward improved soil and upland watershed resource issues and associated impacts is not expected to allow for an upward trend to positively affect soil stability, productivity, and hydrologic function over the short- and long term.

Out of the 19 allotments to which Alternative 2 applies, the 13 allotments that are currently not meeting Standard 1 (Tables SOIL-3 and 5) and where proposed grazing management is similar to current conditions (Alternative 1) are not anticipated to make progress toward meeting Rangeland Health Standard 1 and ORMP soil objectives under Alternative 2. The four allotments where proposed grazing management meets resource constraints developed under Alternative 3 (Table SOIL-10) are anticipated to make progress toward meeting Rangeland Health Standard 1 and ORMP soil objectives under Alternative 2. The two allotments that are currently meeting Rangeland Health Standard 1 and ORMP soil objectives (Table SOIL-1) may continue to do so, while their pastures identified to be at risk have the potential to show increased declines in soil and hydrologic function that could move from them from meeting to not meeting in the future.

3.2.2.4 Environmental Consequences of Alternative 3 Common to All Allotments

Alternative 3 would improve existing condition compared to Alternative 1, in part by incorporating grazing schedules for 13 allotments of the Morgan Group (Section 2.2.3) that are not meeting standards because grazing would be deferred for a minimum of one critical growing season of use in the rotation. Under the grazing scheme proposed in Alternative 3 (Section 2.2.3), 13 of the 15 allotments that are part of Alternative 3 do not meet upland watershed Standard 1 (Tables SOIL-3 and 5) and would be subject to the impacts described in Table SOIL-7. The impacts would vary according to the season of use.

Table SOIL-12: Alternative 3 grazing rotation and season of use (see impacts associated with each season of use in Table SOIL-7)

Allotment		Year 1	Year 2	Year 3
Bachelor Flat	**Pasture 1**	spring and early summer	summer to fall	fall
	Pasture 2	summer to fall	spring to early summer	summer
Berrett FFR (Pasture 2 all private)	**Pasture 1**	spring and summer	spring and summer	fall
	Pasture 3	spring to fall	spring to fall	summer
	Pasture 4	summer to fall	summer to fall	fall
Big Field FFR		summer to fall	summer to fall	fall
Bogus Creek FFR		NA		
Boulder	**Pasture 1**	spring	rest	summer
	Pasture 2	summer	spring and early summer	rest
	Pasture 3	rest	summer	spring and early summer
Boulder Flat	**Pasture 1**	spring	late spring to early summer	summer
	Pasture 2	late spring to early summer	spring	summer to early fall
Combination Creek		NA		
Feltwell	**Pasture 1**	spring and early summer	summer	fall
	Pasture 2	spring and early summer	summer	fall
	Pasture 3	early summer to early fall	fall	early summer to early fall
	Pasture 4	fall	fall	spring and early summer
Glass Creek		NA		
***Gluch*#**		spring	spring	spring and summer
Gluch FFR	**Pasture 1**	winter and spring	winter and spring	rest
	Pasture 2	rest	spring	spring
	Pasture 3	spring	rest	spring
	Pasture 4	year-round		
	Pasture 5	year-round		
Jim's Peak		NA		
Morgan	**Pasture 1**	spring to early summer	fall and early winter	spring to early summer
	Pasture 2	fall	summer	summer
	Pasture 3	spring to early summer	spring to early summer	fall
	Pasture 4	spring	spring	fall
Rail Creek FFR	**Pasture 1**	summer	summer	fall
	Pasture 2	fall	fall	fall to early winter
South Mountain Individual	**Pasture 1**	spring to early summer	spring to early summer	fall
	Pasture 2	summer to fall	summer to fall	spring to early fall
Walt's Pond	**Pasture 1**	fall to early winter	fall to early winter	spring
	Pasture 2	spring	spring	fall to early winter
Warn		spring and early summer	spring and early summer	fall
West Maher	**Pasture 2**	spring and early summer	spring and early summer	fall

Allotment		Year 1	Year 2	Year 3
(Pasture 1 private)	**Pasture 3**	spring and early summer	fall	spring and early summer
***Wroten*#**		spring to late summer	spring to late summer	fall and winter

#Allotments meeting Standard 1 NA = not applicable since Alternative 2 is comparable to Alternative 3 (see Table SOIL-9)

Incorporation of a deferred season of use would lessen livestock impacts on upland soils in all affected allotments. This would allow for increased recovery and maintenance of bunchgrass, which in turn, promotes soil stability and hydrologic function. Where active AUMs have also been reduced (Appendix C), additional improvements to watershed health are expected and would promote vegetation soil cover, decrease bare ground, and generally reduce the susceptibility to accelerated erosion. When grazing in riparian areas during the height of the summer is eliminated, livestock congregation along nearby uplands would lessen potential sediment movement into streams from concentrated use. Improvements proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5.

Although range readiness criteria (Appendix L) apply under Alternative 3 to protect the allotment/pasture during initial turnout, the potential of physical impacts from hoof action on wet or saturated soils could take place should substantial precipitation occur after initial turnout, as described in Alternative 1. However, the deferment year(s) would allow for recovery potential, promote plant vigor, and reduce impacts from soil pugging and compaction during the wetter season compared to Alternative 1. This would also reduce the risk of spreading noxious weeds that often thrive when early-season pugging and trampling provide for favorable seedbeds. Pastures or allotments that avoid spring grazing would benefit the most (Table SOIL-12).

As a result, soil stability, productivity, hydrologic function, nutrient cycling, and energy flow would be positively affected over the short and long term and provide an opportunity to enhance ecological function and site potential to upland soil and watershed conditions. This would allow for an upward trend over the life of the permit, though not as consistently as Alternative 4 and 5.

Of the 15 allotments to which Alternative 3 applies, the 13 allotments that are currently failing to meet Standard 1 (Tables SOIL-3 and 5) are anticipated to make significant progress toward meeting Rangeland Health Standard 1 and ORMP soil objectives compared to Alternatives 1 and 2. The two allotments that are meeting the standard, along with their associated pastures identified to be at risk (Table SOIL-1), would continue to meet with maintaining or improving soil and hydrologic function.

3.2.2.5 Environmental Consequences of Alternative 4 Common to All Allotments

The leading difference between Alternative 4 and Alternative 1 for the Morgan Group allotments is the incorporation of grazing schedules that would rest or defer grazing outside of critical growing season use more often than any other grazing alternative considered, generally for a minimum of 2 years within a three-year rotation. Under the grazing scheme proposed in Alternative 4 (Section 2.2.4), 17 of the 19 allotments that are part of Alternative 4 do not meet upland watershed Standard 1 (Tables SOIL-3, 5, and 13) and would be subject to the impacts described in Table SOIL-7 that would vary according to the season of use.

Table SOIL-13: Alternative 4 grazing rotation and season of use (see impacts associated with each season of use in Table SOIL-7)

Allotment		Year 1	Year 2	Year 3
Bachelor Flat FFR	**Pasture 1**	spring and early summer	summer	rest
	Pasture 2	summer to fall	fall	rest
Berrett FFR (Pasture 2 private)	**Pasture 1**	spring to summer	fall	rest
	Pasture 3	spring to fall	fall	rest
	Pasture 4	summer to fall	fall	rest
Big Field FFR		summer to fall	fall	rest
Bogus Creek FFR		summer to fall	fall	rest
Boulder	**Pasture 1**	spring	rest	late summer
	Pasture 2	spring to early summer	late summer	rest
	Pasture 3	rest	summer	late summer to fall
Boulder Flat	**Pasture 1**	spring	rest	fall
	Pasture 2	spring to early summer	rest	late fall to early winter
Combination Creek		summer and fall	fall	rest
Feltwell	**Pasture 1**	rest	late summer	fall
	Pasture 2	rest	late summer	fall
	Pasture 3	summer to early fall	fall	rest
	Pasture 4	fall	rest	early fall
Glass Creek	**Pasture 1**	spring to early summer	summer	rest
	Pasture 2	rest	rest	spring to early summer
Gluch		spring	spring	spring
Gluch FFR	**Pasture 1**	winter and spring	summer to early winter	rest
	Pasture 2	summer to early winter	rest	spring
	Pasture 3	rest	spring	summer to early winter
	Pasture 4	year-round		
	Pasture 5	year-round		
Jim's Peak FFR		summer to fall	summer to fall	fall
Morgan	**Pasture 1**	spring to early summer	fall and early winter	rest
	Pasture 2	fall	rest	summer
	Pasture 3	rest	spring to early summer	fall
	Pasture 4	rest	spring	fall
Rail Creek FFR	**Pasture 1**	summer	rest	fall
	Pasture 2	fall	rest	fall to early winter
South Mountain Individual	**Pasture 1**	spring to early summer	rest	fall
	Pasture 2	summer to fall	rest	spring to early fall
Walt's Pond FFR	**Pasture 1**	fall to early winter	rest	spring
	Pasture 2	rest	spring	fall to early winter
Warn		spring and early summer	fall	rest
West Maher (Pasture 1 private)	**Pasture 2**	spring and early summer	fall	rest
	Pasture 3	fall	rest	spring and early summer
Wroten		spring to late summer	rest	fall and winter

Alternative 4 would make the most significant progress toward desired conditions compared to all remaining grazing alternatives for allotments that are not meeting due to livestock grazing. While Alternative 3 provides for improved watershed function through seasonal deferment, Alternative 4 also periodically eliminates grazing through the incorporation of rest rather than deferment for most allotments, providing for two consecutive years of deferment and rest within a three-year rotation. As a result, shorter grazing periods and reduced critical-growth-period grazing result in a reduction of active AUMs (Appendix C).

Although range readiness criteria (Appendix L) apply under Alternative 4 to protect the allotment/pasture during initial turnout, the potential of physical impacts from hoof action on wet or saturated soils could take place should substantial precipitation occur after initial turnout, as described in Alternative 1. However, the additional rest and deferment years would increase opportunities to promote plant vigor and reduce impacts from soil pugging and compaction during the wetter season compared to Alternatives 1, 2, and 3. This would also reduce the risk of spreading noxious weeds that often thrive when early-season pugging and trampling provide for favorable seedbeds. Pastures or allotments that avoid spring grazing would benefit the most (Table SOIL-13).

Implementation of increased periodic rest and deferment outside of critical-growing-season use is expected to increase and maintain vegetative vigor of native perennial bunchgrasses. This would positively affect soils because improved upland vegetation communities provide added soil stability, hydrologic function, litter, and nutrients. The restricted seasons, compared to Alternative 1, often result in a decrease in active AUMs over the life of the permit (Appendix C). Upland vegetation communities would have an opportunity to improve and respond with increased soil cover, decreased bare ground, and reduced susceptibility to accelerated erosion.

Adjustments in seasonal use would also reduce grazing in riparian areas during the height of the summer and move grazing into the later summer and fall season, generally two out of three years. This would benefit soils by reducing livestock congregation along nearby uplands that could otherwise promote sediment movement into streams from concentrated use.

As a result, soil stability, productivity, hydrologic function, nutrient cycling, and energy flow would be positively affected over the short and long term and provide an opportunity to enhance ecological function and site potential to upland soil and watershed conditions. This would allow for a greater opportunity for upward trend over the life of the permit compared to the previous alternatives.

Of the 19 allotments to which Alternative 4 applies, the 17 allotments that are currently failing to meet Standard 1 (Tables SOIL-3 and 5) are anticipated to make the fastest progress (aside from Alternative 5) toward meeting Rangeland Health Standard 1 and ORMP soil objectives compared to Alternatives 1, 2, and 3. The two allotments that are meeting the Rangeland Health Standard 1 and ORMP soil objectives, along with their associated pastures identified to be at risk (Table SOIL-1) would continue to meet with maintaining or improving soil and hydrologic function.

3.2.2.6 Environmental Consequences of Alternative 5 Common to All Allotments

Under Alternative 5, the elimination of livestock impacts would permit the unhindered expansion of the existing vegetation cover. Soil conditions would make progress over time more than under any of the other alternatives, though recovery would depend on soil and site characteristics, including capability of existing plant communities, and may not be immediately evident in all locations.

Natural processes of recovery would be achieved through cycles of wetting and drying, shrinking and swelling, freeze and thaw, root growth, and bioturbation of compacted layers. Plant canopies and root masses would fully enlarge and plant litter would accumulate on soil surfaces where additional soil organic matter protects against the effects of wind and water erosion.

Additional fuel availability from the build-up of litter and plant expansion would combine to form a more continuous fuel for wildfires than under Alternative 1 or any of the other alternatives. Under these conditions, fire in allotments with extensive invasive annual monocultures could be more difficult to contain and control than at present. The probability of extensive, stand-replacing fires increases and could adversely impact soils and upland watershed function.

Taken together, suspending livestock grazing for 10 years would eliminate physical soil impacts from hoof action and improve the vegetative cover and microbiotic soil development and promote recovery and upland watershed health for 19 allotments. Livestock trailing, however, would occur every year as needed and is not dependent on whether an allotment is rested during the time of trailing. Rangeland Health Standard 1 and ORMP soil objectives would be met and allow for an upward trend over the life of the permit and positively affect soil stability, productivity, and hydrologic function over the short and long term.

3.2.3 Riparian/Water Quality

3.2.3.1 Environmental Consequences Common to All Grazing Alternatives

Analyses of the alternatives are based on the consequences of seasons and intensities of livestock grazing use (Appendix C) that have led to the current conditions for the riparian areas and water quality as discussed above in the Affected Environment section 3.1.3. Consequently, Alternatives 2 through 5 were compared against Alternative 1 (current condition) to assess the different level of effects on riparian area conditions and water quality. The following section provides introductory concepts and general impacts for expected effects resulting from livestock management practices that are common to all grazing alternatives. Specific environmental consequences, as they apply to the 19 Morgan Group 5 allotments, from direct and indirect effects of the individual alternatives, are discussed in sections 3.3.1 through 3.3.19.

Direct and Indirect Effects—Introduction

The term *riparian* denotes both a landscape position and a specific type of ecosystem; riparian areas are located next to a body of water or wetland. Riparian areas are widely recognized as the most biologically diverse and productive of all ecosystems (Kauffman et al. 1984, Powell et al. 2000). Riparian areas filter sediment, stabilize soil and stream banks, regulate water temperature and flow, and provide many significant habitat attributes for terrestrial and aquatic wildlife (Stevens et al. 1992). Because they generally offer gentle slopes, cool microclimate, available water, and abundant forage, livestock often concentrate in riparian areas (Powell et al. 2000).

The riparian areas that occur within the allotments have both structural and functional diversity; thus, there is a need to characterize and quantify the effects of grazing management practices on the stream and spring riparian communities and the maintenance of hydrologic systems. The impacts common to all of the grazing alternatives depending on season of use (Table RIPN-6) are shown below (Table RIPN-7). The impacts discussed below under each alternative focus primarily on differences among season of use because there is no conclusive evidence and information is speculative regarding impacts on riparian-wetland areas from livestock numbers (Powell et al. 2000).

The streams and springs that occur within the allotments are unique in their particular setting: stream characteristics, valley bottom type and soils, potential vegetation, relationship to upland topography, and vegetation. Therefore, each area will require a unique strategy to accomplish desired conditions and meet objectives. There are no one-size-fits-all prescriptions for livestock grazing in riparian areas; however, authors agree that any successful grazing strategy will at a minimum:

- Limit grazing intensity and season of use to provide sufficient rest to encourage plant vigor, regrowth, and energy storage;
- Ensure sufficient vegetation during periods of high flow to protect stream banks, dissipate energy, and trap sediments; and

- Control the timing of grazing to prevent damage to stream banks when they are most vulnerable to trampling.

Table RIPN-6: Season of use associated with alternative within each Morgan Group 5 allotment that contains riparian-wetland resources (see impacts for each season of use in Table RIPN-6)

Allotment Name	Alternative 1[1]	Alternative 2[2]	Alternative 3	Alternative 4	Alternative 5
Bachelor Flat FFR	year-round (all yrs)	**P1[3]:** spring & early summer (all yrs) **P2:** summer & fall (all yrs)	**P1:** spring & early summer (1 yr), summer & fall (1 yr), fall (1 yr) **P2**: spring & early summer (1 yr), summer (1 yr), summer & fall (1 yr)	**P1:** spring & early summer (1 yr), summer (1 yr), rest (1 yr) **P2**: summer & fall (1 yr), fall (1 yr), rest(1 yr)	none
Berrett FFR	year-round (all yrs)	**P1,2:** spring & summer (all yrs) **P3:** spring, summer, & fall (all yrs) **P4**: summer & fall (all yrs)	**P1:** spring & summer (2 yrs), fall (1 yr) **P2:** year-round **P3:** spring, summer, & fall (2 yrs), fall (1 yr) **P4:** summer & fall (2 yrs), fall (1 yr)	**P1:** spring & summer (1 yr), fall (1 yr), rest (1 yr) **P2:** year-round **P3:** spring, summer, & fall (1 yr), fall (1 yr), rest (1 yr) **P4:** summer & fall (1 yr), fall (1 yr), rest (1 yr)	none
Big Field FFR	year-round (all yrs)	summer & fall (all yrs)	summer & fall (2 yrs), fall (1 yr)	summer & fall (1 yr), fall (1 yr), rest (1 yr)	none
Bogus Creek FFR	year-round (all yrs)	summer & fall (2 yrs), fall (1 yr)	NA[4]	summer & fall (1 yr), fall (1 yr), rest (1 yr)	none
Boulder	spring & summer (all yrs)	early spring (1 yr), late spring & summer (1 yr), rest (1 yr)	spring (1 yr), summer (1 yr), rest (1 yr)	**P1,2:** spring (1 yr), fall (1 yr), rest (1 yr) **P3:** summer (1 yr), fall (1 yr), rest (1 yr)	none
Boulder Flat	spring, summer, & fall (all yrs)	spring (1 yr), summer (1 yr)	spring (1 yr), summer (2 yrs)	spring (1 yr), fall (1 yr), rest (1 yr)	none
Combination Creek	summer & fall (all yrs)	summer & fall (2 yrs), fall (1 yr)	NA	summer & fall (1 yr), fall (1 yr), rest (1 yr)	none
Feltwell	spring & summer (all yrs)	**P1,2,4**: spring & summer (2 yrs), summer (1 yr)	**P1, 2:** spring (1 yr), summer (1 yr), fall (1 yr) **P3:** summer &	**P1,2:** summer (1 yr), fall (1 yr), rest (1 yr) **P3:** summer & fall	none

Allotment Name	Alternative 1[1]	Alternative 2[2]	Alternative 3	Alternative 4	Alternative 5
		P3: summer (2 yrs), summer & fall (1 yr)	fall (2 yrs), fall (1 yr) **P4:** spring (1 yr), fall (2 yrs)	(1 yr), fall (2 yrs) **P4:** fall (2 yrs), rest (1 yr)	
Glass Creek	spring & early summer (all yrs)	spring & early summer (2 yrs), rest (1 yr)	NA	spring & early summer (1 yrs), summer (1 yr), rest (1 yr)	none
Jim`s Peak FFR	year-round (all yrs)	summer & fall (2 yrs), fall (1 yr)	NA	summer & fall (1 yr), rest (1 yr), fall (1 yr)	none
Morgan	spring & summer (all yrs)	spring, summer, & fall (all yrs)	P1,3,: spring & summer (2 yrs), fall (1 yr) P2: summer (2 yrs), fall (1 yr) P4: spring (2 yrs), fall (1 yr)	**P1,3:** spring & summer (1 yr), fall (1 yr), rest (1 yr) **P2:** summer (1 yr), fall (1 yr), rest (1 yr) **P4:** spring (1 yr), fall (1 yr), rest (1 yr)	none
Rail Creek FFR	**P1:** summer (all yrs) **P2:** fall (all yrs)	spring, summer, & fall (all yrs)	**P1:** summer (2 yrs), fall (1 yr) **P2:** fall (all yrs)	**P1:** summer (1 yr), fall (1yr), rest (1 yr) **P2:** fall (2 yrs), rest (1 yr)	none
South Mtn Indv	**P1:** year-round (all yrs) **P2:** spring, summer, & fall (all yrs)	**P1:** spring & summer (1 yr), fall (1 yr) **P2:** spring, summer, and early fall (1 yr), summer & fall (1 yr)	**P1:** spring & early summer (2 yrs), fall (yr) **P2:** spring (1 yr), summer & fall (2 yrs)	**P1:** spring & summer (1 yr), fall (1 yr), rest (1 yr) **P2:** spring, summer, and early fall (1 yr), summer & fall (1 yr), rest (1 yr)	none
W. Maher FFR	spring, summer, fall, and early winter (all yrs)	year-round (all yrs)	spring & early summer (2 yrs), fall (1 yr)	spring & early summer (1 yr), fall (1 yr), rest (1yr)	none
Walt's Pond FFR	spring (all yrs)	year round (all yrs)	spring (1 yr), fall (2 yrs)	spring (1 yr), fall (1 yr), rest (1 yr)	none
Warn	spring & early summer (all yrs)	spring & early summer (2 yrs), fall (1 yr)	spring (2 yrs), fall (1 yr)	spring & early summer (1 yr), fall (1 yr), rest (1 yr)	none
Wroten	spring, summer, & fall (all yrs)	year-round (3 yrs), summer, fall, and winter	spring & summer (2 yrs), fall & winter (1	spring & summer (1 yr), fall & winter (1 yr), rest	none

Allotment Name	Alternative 1[1]	Alternative 2[2]	Alternative 3	Alternative 4	Alternative 5
		(1 yr)	yr)	(1 yr)	

[1]The seasons of use represent the current situation; for details regarding recent actual use, see Appendix C-2 and Appendix B
[2]For details on the permittees' applications see Section 2.2 and Appendix D
[3]Pasture number, if applicable
[4]Alternative was not applied

Table RIPN-7: Effects of livestock grazing on aquatic and riparian habitats by alternative and season of use (*Adapted from* (Bellows 2003) *and* (Belsky, Matzke and Uselman 1999))

Alternative(s)	Season of Use	Issue	Impacts (P denotes primary impact and S denotes secondary set of impacts)
1, 2, 3, and 4	Spring (March–May)	Soil compaction Selective grazing on palatable species	P Increased erosion P Sediment loading of riparian areas and streams S increased flooding S reduced groundwater recharge S lowered water table S increase stream bank erosion S removal of submerged vegetation S reduced aquatic habitat S reduced fish spawning habitat P Decreased herbaceous cover P Decreased species and age diversity S less shade and higher stream temperatures S decrease in stream bank stability S less sediment trapping S decreased water infiltration S impaired aquatic and fish habitat
1, 2, 3, and 4	Summer (June–Aug.) Fall (Sep–Nov.) *these impacts are in addition to those listed under all seasons	Browsing on trees and shrubs	P Decreased tree and shrub cover S decline in stream bank stability S less shade and higher stream temperatures S loss of wildlife habitat S impaired fish habitat
1 and 2	Season Long (March–Sept) *includes all of the impacts described in the spring, summer, and fall sections as well as 'Continuous Grazing'	Continuous grazing	P Decreased species and age diversity P Decreased herbaceous cover S less shade and higher stream temperatures S decrease in stream bank stability S less sediment trapping S decreased water infiltration S impaired aquatic and fish habitat
1, 2, 3, and 4	All Seasons	Loss of herbaceous vegetation Loss of stream bank stability	P Decreased stream bank stability P Change in channel shape, structure, and form S Reduced water infiltration S increased runoff

Alternative(s)	Season of Use	Issue	Impacts (P denotes primary impact and S denotes secondary set of impacts)
		Manure deposition in and near streams In-stream trampling and congregation	S increased water velocity S increased flooding S reduced groundwater recharge S lowered water table S increased stream bank erosion S removal of submerged vegetation S reduced aquatic habitat S reduced fish spawning habitat P Nutrients, pathogens, and bacteria additions P Sediment loading of riparian areas and streams S increased water temperature S reduced habitat quality for fish and aquatic species S increase in nutrients and pathogens from manure S human health impacts

Impacts Associated with Season of Use

Spring (March–May)

Adverse impacts from spring use are the result of grazing when soils are typically wet. The static load of a cattle hoof is reported to range from 2.8 to 10.9 kg/cm^2 and can increase by 2 to 4 times when the animal travels (Powell et al. 2000); thus, when the soils are saturated, the physical damage to the stream banks increase. The increased soil compaction causes an increase in erosion and sediment loading that could impair water quality and thus fish and aquatic habitat.

Additionally, during the spring months as herbaceous vegetation is growing and green, livestock selectively graze on the most palatable species. This could directly lead to both decreased herbaceous cover and decreased species and age diversity. The loss of herbaceous cover indirectly causes less shade and higher stream temperatures, a decrease in stream bank stability, less sediment trapping, decreased water infiltration, and thus impaired aquatic and fish habitat (Bellows 2003, Belsky et al. 1999).

Summer (June–August)

Livestock grazing during the summer months creates both direct and indirect impacts. Because upland grasses are often dry and temperatures are warmer during the summer months, livestock make disproportionate use of riparian areas and riparian herbaceous vegetation is preferred (Powell et al. 2000, Bailey and Brown 2011). Once the riparian herbaceous vegetation is used to a level ranging from 45 to 90 percent, willows and other riparian shrubs are browsed at various levels. If both the herbaceous and shrub cover decline, a compounding set of impacts could occur because shade has been reduced, water temperatures increase; vegetative structure and cover for fish and wildlife is lost; stream bank stability decreases increasing erosion, sediment and stream velocity; a loss of hydric, deep-rooted species that aid in bank stability occurs; and riparian plant species may be replaced by weedy and/or upland plant species (Green and Kauffman 1995, Belsky et al. 1999).

Additionally, when riparian areas are grazed during the growing season, livestock congregate close to water where it is cooler and the forage is more palatable (Bryant 1982, Smith et al. 1992, Liggins 1999). Once livestock have congregated along the floodplain, in riparian-wetland areas, and in the stream channel, further impacts associated with stream bank trampling (Kauffman et al. 1984), soil compaction (Marlow and Pogacnik 1985), and water quality (Taylor et al. 1989) occur (Table RIPN-26). In-stream trampling, disturbance and erosion from denuded banks, reduced sediment trapping by vegetation, loss of bank stability, and increased peak flows lead to reduced habitat quality for both fish and aquatic species, reduced infiltration, and lowered water tables (Stevens et al. 1992). An increase in soil compaction created by congregated livestock causes an increase in erosion, decreased water infiltration rates and more runoff, reduced plant productivity and thus less vegetative cover (Clary 1995). Finally, impacts associated with water quality include a potential increase in nutrient concentrations, bacteria, sediment, and water temperatures. Direct fecal deposition into and near water, runoff from disturbed stream banks, and hoof churn up of contaminated sediments increase nutrient and bacteria concentrations (Taylor et al. 1989).

In semi-arid rangelands where forage growth is limited primarily by precipitation, ensuring that riparian area grazing does not occur during the critical late summer period may be more beneficial than rotational systems that defer livestock use throughout the grazing season (Bailey and Brown 2011). Since the Morgan Group allotments occur in an arid region, Alternatives 1-4 analyze both scenarios.

Fall (September–November)

Where woody species occur, fall grazing increases the occurrence of browse on woody riparian species because both upland and riparian herbaceous forage have dried and/or been used (Elmore 1994). The

amount of time available for both herbaceous and woody species regrowth would be reduced. For example, a study in eastern Oregon showed that the density of cottonwood saplings and the height of both cottonwood and willows increased significantly within a gravel bar community after 2 years of rest (Kauffman et al. 1984).

During the fall season, vegetation growing in the riparian zones is generally more palatable and of higher nutritive quality than the upland vegetation. Kauffman and others (1984) found that once the herbaceous component of the riparian area was reduced, a definite shift to less-palatable species occurs. In their study, the composition of woody species was higher in ungrazed compared to grazed areas in a wet meadow community, and plant dormancy occurred up to two weeks later in the ungrazed areas. Similarly, Holland and others (2005) found that recent grazing exclusion resulted in an increase in canopy cover, height growth, and stem density during an 11-year study in Colorado, indicating that these variables respond positively to removal of livestock grazing.

A fall system of grazing would be beneficial for the improvement of the riparian areas when stream bank temperatures are cool enough to discourage animals from congregating in the riparian areas (Bellows 2003). Additionally, in areas that are not saturated late in the season, the potential for compaction damage and the physical damage to the soils would be reduced.

Rest (non-use)
Rest would restore the riparian ecosystem because the rest from livestock grazing would allow for the recovery of the stream bank and a functional riparian plant community. Information is lacking on the length of rest required for recovery of riparian vegetation; however, shrubs often require longer periods of recovery than herbaceous vegetation (Powell et al. 2000). Improvement in stream channel form and function would only occur if the channel is at a stage where improvement is possible; for example, downcut systems would need to reach a new base level and widening would have to occur to allow vegetation establishment sufficient to resist higher flows (Leonard and Karl 1995). Research has found that in ungrazed areas, streams experienced decreased widths and depths (Clary 1999), vegetation cover increased two-fold, stream bank stability increased by 50 percent (Scrimgeour and Kendall 2002), and stream bank erosion was 3.3 times less in an ungrazed area compared to an area grazed at a moderate stocking rate and level of use (Kauffman 1982).

3.2.3.2 Environmental Consequences of Alternative 1 Common to All Allotments

General impacts of livestock grazing are discussed in the Environmental Consequences Common to All Grazing Alternatives Section 3.2.3.1.

Under the grazing scheme proposed in Alternative 1 (for details see Section 2.2.1), 17 of the Morgan Group 5 allotments contain riparian-wetland areas and would be subject to the impacts described in Table RIPN-7. The impacts would vary according to the season of use (Table RIPN-8).

Table RIPN-8: Season of use, and stream mileage and number of springs impacted under Alternative 1 for the Group 5 allotments

Allotment and Pastures	Season of use for all years	Intermittent Miles[1]	Perennial Miles	Number of Springs
Bachelor Flat FFR				
Pasture 1	year-round (all yrs)	2.8	2.2	0
Pasture 2	year-round (all yrs)	6.9	0	0
Berrett FFR				
Pasture 1	year-round (all yrs)	2.4	2.2	1
Pasture 4	year-round (all yrs)	0.3	0	0

Allotment and Pastures	Season of use for all years	Intermittent Miles[1]	Perennial Miles	Number of Springs
Big Field FFR	year-round (all yrs)	1.7	3.9	1
Bogus Creek FFR	year-round (all yrs)	3.3	0	0
Boulder **Pasture 1** **Pasture 2** **Pasture 3**	**All Pastures:** spring & summer (all yrs)	 3.6 0.6 0	 0 2.9 2.4	 0 0 1
Boulder Flat **Pasture 1** **Pasture 2**	spring, summer, & fall (all yrs)	 6.8 8.6	 2.2 1.2	 0
Combination Creek	summer & fall (all yrs)	5.3	7.1	0
Feltwell **Pasture 1** **Pasture 2** **Pasture 3** **Pasture 4**	spring & summer (all yrs)	 0.2 1.7 0 0.2	 0 0.2 1.1 0	 0
Glass Creek- **Pasture 2**	spring & early summer (all yrs)	4.2	0.9	0
Jim`s Peak FFR	year-round (all yrs)	2.1	1.2	1
Morgan **Pasture 1** **Pasture 3** **Pasture 4**	**All Pastures:** spring & summer (all yrs)	 6.3 5.4 4.2	 1.2 1.2 1.5	 0 1 0
Rail Creek FFR- Pasture 2	P1: summer (all yrs) P2: fall (all yrs)	3.4	0	0
South Mountain Individual **Pasture 1** **Pasture 2**	year-round (all yrs) spring, summer, & fall (all yrs)	 5.5 10.2	 1.0 1.6	 0 0
W. Maher FFR **Pasture 2** **Pasture 3**	spring, summer, fall, and early winter (all yrs)	 0.8 0	 0 2.8	 0 0
Walt's Pond FFR **Pasture 1** **Pasture 2**	spring (all yrs)	 4.0 0.5	 0.8 4.0	 2 0
Warn	spring & early summer (all yrs)	3.3	2.8	0
Wroten	spring, summer, & fall (all yrs)	2.7	3.8	0

[1]Intermittent miles are not differentiated from ephemeral; thus, many of the intermittent miles do not support riparian-wetland areas (based on the NHD)

3.2.3.3 Environmental Consequences of Alternative 2 Common to All Allotments

General impacts of livestock grazing are discussed in the Environmental Consequences Common to All Grazing Alternatives Section 3.2.3.1.

Under the grazing scheme proposed in Alternative 2 (for details see Section 2.2.2), 17 of the Morgan Group 5 allotments contain riparian-wetland areas and would be subject to the impacts described in Table RIPN-7. The impacts would vary according to the season of use (Table RIPN-9).

Table RIPN-9: Grazing rotation, season of use, and stream mileage and number of springs impacted under Alternative 2 for the Group 5 allotments

Allotment and Pastures	**Season of use for all years**	**Intermittent Miles[1]**	**Perennial Miles**	**Number of Springs**
Bachelor Flat FFR				
Pasture 1	spring & early summer (all yrs)	2.8	2.2	0
Pasture 2	summer & fall (all yrs)	6.9	0	0
Berrett FFR				
Pasture 1	spring & summer (all yrs)	2.4	2.2	1
Pasture 4	summer & fall (all yrs)	0.3	0	0
Big Field FFR	summer & fall (all yrs)	1.7	3.9	1
Bogus Creek FFR	summer & fall (2 yrs), fall (1 yr)	3.3	0	0
Boulder				
Pasture 1		3.6	0	0
Pasture 2	**All Pastures:** early spring (1 yr), late	0.6	2.9	0
Pasture 3	spring & summer (1 yr), rest (1 yr)	0	2.4	1
Boulder Flat				
Pasture 1	spring (1 yr), summer (1 yr)	6.8	2.2	0
Pasture 2	spring (1 yr), summer (1 yr)	8.6	1.2	0
Combination Creek	summer & fall (2 yrs), fall (1 yr)	5.3	7.1	0
Feltwell				
Pasture 1	spring & summer (2 yrs), summer (1 yr)	0.2	0	
Pasture 2	spring & summer (2 yrs), summer (1 yr)	1.7	0.2	
Pasture 3	summer (2 yrs), summer & fall (1 yr)	0	1.1	
Pasture 4	spring & summer (2 yrs), summer (1 yr)	0.2	0	0
Glass Creek- **Pasture 2**	spring & early summer (2 yrs), rest (1 yr)	4.2	0.9	0
Jim`s Peak FFR	summer & fall (2 yrs), fall (1 yr)	2.1	1.2	1
Morgan				
Pasture 1	spring, summer, & fall (all yrs)	6.3	1.2	0
Pasture 3	spring, summer, & fall (all yrs)	5.4	1.2	1
Pasture 4	spring, summer, & fall (all yrs)	4.2	1.5	0
Rail Creek FFR				
Pasture 2	spring, summer, & fall (all yrs)	3.4	0	0
South Mountain Individual				
Pasture 1	spring & summer (1 yr), fall (1 yr)			
Pasture 2	spring, summer, and early fall (1 yr),	5.5	1.0	0
	summer & fall (1 yr)	10.2	1.6	0
W. Maher FFR				
Pasture 2	year-round (all yrs)	0.8	0	0
Pasture 3	year-round (all yrs)	0	2.8	0
Walt's Pond FFR	year-round (all yrs)	4.0	0.8	2
Pasture 1	year-round (all yrs)	0.5	4.0	0

Allotment and Pastures	Season of use for all years	Intermittent Miles[1]	Perennial Miles	Number of Springs
Pasture 2				
Warn	spring & early summer (2 yrs), fall (1 yr)	3.3	2.8	0
Wroten	year-round (3 yrs), summer, fall, and winter (1 yr)	2.7	3.8	0

[1]Intermittent miles are not differentiated from ephemeral; thus, many of the intermittent miles do not support riparian-wetland areas (based on the NHD)

3.2.3.4 Environmental Consequences of Alternative 3 Common to All Allotments

General impacts of livestock grazing are discussed in the Environmental Consequences Common to All Grazing Alternatives Section 3.2.3.1.

Under Alternative 3, a deferred grazing system is proposed that would generally allow grazing during the spring and/or summer for two years, and during the fall the third year of a three year rotation. Thus, it was estimated that the impacts would be eliminated approximately 20 percent of the time and about 20 percent of the streams currently not meeting the Standard would make progress toward meeting (i.e., streams would be in PFC). Currently, approximately 49 miles of stream have been assessed, and 11 miles are in PFC. Therefore, the total mileage of streams meeting or making progress toward meeting the Standards would increase from 11 miles to approximately 18.5 miles.

Under the grazing scheme proposed in Alternative 3 (for details see Section 2.2.3), 17 of the Morgan Group 5 allotments contain riparian-wetland areas that would be subject to the impacts described in Table RIPN-7. Alternative 3 was not developed for four of the allotments; therefore, the alternative applies to 13 of the 17 allotments that contain riparian areas. The impacts would vary according to the season of use (Table RIPN-10).

Table RIPN-10: Season of use, and stream mileage and number of springs impacted under Alternative 3 for the Group 5 allotments

Allotment and Pastures	Year 1	Intermittent Miles[1]	Perennial Miles	Springs	Year 2	Intermittent Miles	Perennial Miles	Springs	Year 3	Intermittent Miles	Perennial Miles	Springs
Bachelor Flat FFR												
Pasture 1	spring & early summer	2.8	2.2	0	summer & fall	2.8	2.2	0	fall summer & fall	2.8	2.2	0
Pasture 2	spring & early summer	6.9	0	0	summer	6.9	0	0		6.9	0	0
Berrett FFR												
Pasture 1	spring & summer	2.4	2.2	1	spring & summer summer	2.4	2.2	1	fall	2.4	2.2	1
Pasture 4	summer & fall	0.3	0	0	& fall	0.3	0	0	fall	0.3	0	0
Big Field FFR	summer & fall	1.7	3.9	1	summer & fall	1.7	3.9	1	fall	1.7	3.9	1
Bogus Creek FFR	NA[2]											
Boulder												
Pasture 1		3.6	0	0		3.6	0	0		3.6	0	0
Pasture 2	spring	0.6	2.9	0	summer	0.6	2.9	0	rest	0.6	2.9	0
Pasture 3	spring	0	2.4	1	summer	0	2.4	1	rest	0	2.4	1
Boulder Flat												
Pasture 1	spring	6.8	2.2	0	summer	6.8	2.2	0	summer	6.8	2.2	0
Pasture 2	spring	8.6	1.2	0	summer	8.6	1.2	0	summer	8.6	1.2	0
Combination Creek	NA											
Feltwell												
Pasture 1	spring	0.2	0	0	summer	0.2	0	0	fall	0.2	0	0
Pasture 2	spring	1.7	0.2	0	summer	1.7	0.2	0	fall	1.7	0.2	0
Pasture 3	summer & fall	0	1.1	0	summer & fall	0	1.1	0	fall	0	1.1	0
Pasture 4	spring	0.2	0	0	fall	0.2	0	0	fall	0.2	0	0

Allotment and Pastures	Year 1	Intermittent Miles[1]	Perennial Miles	Springs	Year 2	Intermittent Miles	Perennial Miles	Springs	Year 3	Intermittent Miles	Perennial Miles	Springs
Glass Creek- **Pasture 2**	NA											
Jim`s Peak FFR	NA											
Morgan **Pasture 1** **Pasture 3** **Pasture 4**	spring & summer spring & summer spring	6.3 5.4 4.2	1.2 1.2 1.5	0 1 0	spring & summer spring & summer spring	6.3 5.4 4.2	1.2 1.2 1.5	0 1 0	fall fall fall	6.3 5.4 4.2	1.2 1.2 1.5	0 1 0
Rail Creek FFR- **Pasture 2**	fall	3.4	0	0	fall	3.4	0	0	fall	3.4	0	0
South Mountain Individual **Pasture 1** **Pasture 2**	spring & summer spring, summer, & early fall	5.5 10.2	1.0 1.6	0 0	spring & summer summer & fall	5.5 10.2	1.0 1.6	0 0	fall & summer fall	5.5 10.2	1.0 1.6	0 0
W. Maher FFR **Pasture 2** **Pasture 3**	spring & early summer spring & early summer	0.8 0	0 2.8	0 0	spring & early summer spring & early summer	0.8 0	0 2.8	0 0	fall fall	0.8 0	0 2.8	0 0
Walt's Pond FFR **Pasture 1** **Pasture 2**	fall fall	4.0 0.5	0.8 4.0	2 0	fall fall	4.0 0.5	0.8 4.0	2 0	spring spring	4.0 0.5	0.8 4.0	2 0
Warn	spring	3.3	2.8	0	fall	3.3	2.8	0	rest	3.3	2.8	0

Allotment and Pastures	Year 1	Intermittent Miles[1]	Perennial Miles	Springs	Year 2	Intermittent Miles	Perennial Miles	Springs	Year 3	Intermittent Miles	Perennial Miles	Springs
Wroten	spring & summer	2.7	3.8	0	spring & summer	2.7	3.8	0	fall & winter	2.7	3.8	0

[1]Intermittent miles are not differentiated from ephemeral; thus, many of the intermittent miles do not support riparian-wetland areas (based on the NHD)
[2]The alternative was not applied- typically because alternative 2 met the resource constraints that would have been applied under alternative 3

3.2.3.5 Environmental Consequences of Alternative 4 Common to All Allotments

General impacts of livestock grazing are discussed in the Environmental Consequences Common to All Grazing Alternatives Section 3.2.3.1.

Under Alternative 4, a deferred grazing system is proposed that would generally allow grazing during the spring and/or summer for two years, and during the fall the third year of a three-year rotation. Thus, it was estimated that the impacts would be eliminated approximately 20 percent of the time and about 20 percent of the streams currently not meeting the Standard would make progress toward meeting (i.e., streams would be in PFC). Currently, approximately 49 miles of stream have been assessed, and 11 miles are in PFC. Therefore, the total mileage of streams meeting or making progress toward meeting the Standards would increase from 11 miles to approximately 30 miles.

Under the grazing scheme proposed in Alternative 4 (for details see Section 2.2.4), 17 of the Morgan Group 5 allotments contain riparian-wetland areas and would be subject to the impacts described in Table RIPN-7. The impacts would vary according to the season of use (Table RIPN-11).

Table RIPN-11: Season of use, and stream mileage and number of springs impacted under Alternative 4 for the Group 5 allotments

Allotment and Pastures	Year 1	Intermittent Miles[1]	Perennial Miles	Springs	Year 2	Intermittent Miles	Perennial Miles	Springs	Year 3	Intermittent Miles	Perennial Miles	Springs
Bachelor Flat FFR												
Pasture 1	spring & early summer	2.8	2.2	0	summer	2.8	2.2	0	rest	2.8	2.2	0
Pasture 2	summer & fall	6.9	0	0	fall	6.9	0	0	rest	6.9	0	0
Berrett FFR												
Pasture 1	spring & summer	2.4	2.2	1	fall	2.4	2.2	1	rest	2.4	2.2	1
Pasture 4	summer & fall	0.3	0	0	summer &fall	0.3	0	0	rest	0.3	0	0
Big Field FFR	summer & fall	1.7	3.9	1	fall	1.7	3.9	1	rest	1.7	3.9	1
Bogus Creek FFR	summer & fall	3.3	0	0	fall	3.3	0	0	rest	3.3	0	0
Boulder												
Pasture 1		3.6	0	0		3.6	0	0		3.6	0	0
Pasture 2	spring	0.6	2.9	0	fall	0.6	2.9	0	rest	0.6	2.9	0
Pasture 3	summer	0	2.4	1	fall	0	2.4	1	rest	0	2.4	1
Boulder Flat												
Pasture 1	spring	6.8	2.2	0	fall	6.8	2.2	0	rest	6.8	2.2	0
Pasture 2	spring	8.6	1.2	0	fall	8.6	1.2	0	rest	8.6	1.2	0
Combination Creek	summer & fall	5.3	7.1	0	fall	5.3	7.1	0	rest	5.3	7.1	0
Feltwell												
Pasture 1	summer	0.2	0	0	fall	0.2	0	0	rest	0.2	0	0
Pasture 2	summer	1.7	0.2	0	fall	1.7	0.2	0	rest	1.7	0.2	0
Pasture 3	summer & fall	0	1.1	0	fall	0	1.1	0	fall	0	1.1	0
Pasture 4	fall	0.2	0	0	fall	0.2	0	0	rest	0.2	0	0

Allotment and Pastures	Year 1	Intermittent Miles[1]	Perennial Miles	Springs	Year 2	Intermittent Miles	Perennial Miles	Springs	Year 3	Intermittent Miles	Perennial Miles	Springs
Glass Creek- **Pasture 2**	spring & early summer	4.2	0.9	0	summer	4.2	0.9	0	rest	4.2	0.9	0
Jim`s Peak FFR	summer & fall	2.1	1.2	1	rest	2.1	1.2	1	fall	2.1	1.2	1
Morgan	spring & summer											
Pasture 1	spring &	6.3	1.2	0	fall	6.3	1.2	0	rest	6.3	1.2	0
Pasture 3	summer	5.4	1.2	1	fall	5.4	1.2	1	rest	5.4	1.2	1
Pasture 4	spring	4.2	1.5	0	fall	4.2	1.5	0	rest	4.2	1.5	0
Rail Creek FFR- Pasture 2	fall	3.4	0	0	fall	3.4	0	0	rest	3.4	0	0
South Mountain Individual	spring & summer											
Pasture 1	spring,	5.5	1.0	0		5.5	1.0	0		5.5	1.0	0
Pasture 2	summer, & early fall	10.2	1.6	0	spring & summer summer & fall	10.2	1.6	0	rest rest	10.2	1.6	0
W. Maher FFR												
Pasture 2	spring & early summer											
Pasture 3	spring & early summer	0.8	0	0	fall	0.8	0	0	rest	0.8	0	0
		0	2.8	0	fall	0	2.8	0	rest	0	2.8	0
Walt's Pond FFR												
Pasture 1	fall	4.0	0.8	2	rest	4.0	0.8	2	spring	4.0	0.8	2
Pasture 2	rest	0.5	4.0	0	spring	0.5	4.0	0	fall	0.5	4.0	0
Warn	spring	3.3	2.8	0	fall	3.3	2.8	0	rest	3.3	2.8	0

Allotment and Pastures	Year 1	Intermittent Miles[1]	Perennial Miles	Springs	Year 2	Intermittent Miles	Perennial Miles	Springs	Year 3	Intermittent Miles	Perennial Miles	Springs
Wroten	& summer	2.7	3.8	0	fall & winter	2.7	3.8	0	rest	2.7	3.8	0

[1]Intermittent miles are not differentiated from ephemeral; thus, many of the intermittent miles do not support riparian-wetland areas (based on the NHD)
[2]The alternative was not applied- typically because alternative 2 met the resource constraints that would have been applied under alternative 3

3.2.3.6 Environmental Consequences of Alternative 5 Common to All Allotments

Under Alternative 5, all of the Morgan Group 5 allotments would be rested from grazing for the duration of the 10-year permit. Thus, none of the riparian-wetland areas associated with the streams and springs would be impacted by livestock grazing.

Table RIPN-12: Grazing rotation, season of use, and stream mileage/number of springs impacted under Alternative 5 for the Group 5 allotments

Allotment and Pasture	All Years	Perennial Miles	Intermittent Miles	Springs
All Allotments	no grazing-rested	49	101	7

Under Alternative 5 (for details, see Section 2.2.5), the elimination of grazing for a period of 10 years would restore the riparian ecosystem because the rest from livestock grazing would allow for the recovery of the stream bank and a functional riparian plant community. Information is lacking on the length of rest required for recovery of riparian vegetation; however, shrubs often require longer periods of recovery than herbaceous vegetation (Powell et al. 2000). Improvement in stream channel form and function would only occur if the channel is at a stage where improvement is possible; for example, downcut systems would need to reach a new base level and widening would have to occur to allow vegetation establishment sufficient to resist higher flows (Leonard and Karl 1995). Recovery would also be dependent on the levels of degradation and the climatic variables (Bellows 2003). Since the allotments occur in a semi-arid region and the riparian areas are degraded, 10 years of rest would not always generate riparian-wetland areas that historically existed. However, research has found that in ungrazed areas, streams experienced decreased widths and depths (Clary 1999), vegetation cover increased two-fold, stream bank stability increased by 50 percent (Scrimgeour and Kendall 2002), and stream bank erosion was 3.3 times less in an ungrazed area compared to an area grazed at a moderate stocking rate and level of use (Kauffman 1982).

The implementation of this alternative would have the greatest benefit for the riparian and water resources because the riparian ecosystem would recover much of the structural and functional diversity that occurs within the allotments. Thus, the allotments would maintain meeting or make progress toward meeting Standards 2, 3, and 7 that are associated with the water and riparian resources. Additionally, the ORMP objective to maintain or improve riparian-wetland areas to attain PFC for all lotic and lentic systems would be achievable. Similarly, the ORMP objective to meet or exceed State water quality standards would make progress toward being attained.

3.2.4 Special Status Plants

3.2.4.1 Environmental Consequences Common to All Grazing Alternatives

Introduction

The ORMP recognizes the ecological connectivity between resources by tiering from one resource to another. The management action of protecting and enhancing habitat for a diversity of special status species (NABCI-US, 2012) p. 12) is connected to several resources, particularly vegetation, and the need to ensure proper nutrient cycling, hydrologic cycling, and energy flow. When a pasture or allotment is not meeting the Standard for upland rangeland vegetation (Standards 4 or 5), or occurs in pastures subject to Standard 6 (Exotic Plant Communities other than Seedings), special status plants and their habitats are more vulnerable to degradation from direct and indirect impacts of livestock. Rare (SSPs) and common native plant communities can be retained with the maintenance of healthy native communities, which aids

in limiting their susceptibility to direct and indirect effects of livestock, such as herbivory, trampling, alterations to fire interval, non-native weed invasion (Rosentreter 1992), and habitat fragmentation.

Grazing strategies that incorporate proper management of special status plants place livestock disturbances outside of SSP habitats and limit grazing intensity and season of use during special status plant active growing periods and when soils are moist. These management practices reduce or eliminate threats to SSPs by encouraging plant vigor, reproduction, habitat continuity, and overall maintenance.

The consequences of livestock impacts on special status plants are determined by season of use, stocking rate/AUMs, and frequency of use (i.e., recovery interval between disturbances). Monitoring information on SSPs within the project area are limited, so specific livestock effects under current management are limited. However, when livestock are present, direct and indirect effects on SSPs have the potential to occur, and it is likely that direct effects may impact individuals and/or vigor and reproduction of the occurrence and their habitats.

Direct effects on SSPs include herbivory and trampling. Special status plants and their habitats are most vulnerable to direct impacts during the spring/critical growing season when plants are flowering and soils tend to be saturated. The majority of species within the project area complete their reproductive cycle by mid-June thus, the positive effects on upland vegetation and SSPs of decreased trampling and herbivory would be most apparent in those years when livestock grazing is deferred from spring to summer or fall. All SSPs within the project area are not known to be especially palatable to livestock; however, when herbivory does occur, it can lead to partial or entire removal of a plant and subsequent mortality.

3.2.4.2 Environmental Consequences of Alternative 1 Common to All Allotments

General impacts of livestock grazing are discussed in the Environmental Consequences Common to All Grazing Alternatives Section 3.2.4.1. There are no additional specific effects from this alternative, there are no documented Eos for SSPs in the Morgan Group 5 allotments Livestock Grazing Permit Renewal EA.

3.2.4.3 Environmental Consequences of Alternative 2 Common to All Allotments

General impacts of livestock grazing are the same as in Alternative 1.

3.2.4.4 Environmental Consequences of Alternative 3 Common to All Allotments

General impacts of livestock grazing are the same as in Alternative 1.

3.2.4.5 Environmental Consequences of Alternative 4 Common to All Allotments

General impacts of livestock grazing are the same as in Alternative 1.

3.2.4.6 Environmental Consequences of Alternative 5 Common to All Allotments

General impacts of livestock grazing are the same as in Alternative 1.

3.2.5 Wildlife and Special Status Animals

3.2.5.1 Environmental Consequences Common to All Grazing Alternatives

Upland Habitat

The direct and indirect effects of livestock grazing can cause changes in plant community composition and result in the overall decrease in the quality and quantity of wildlife habitat within the Morgan Group

allotments. All wildlife species require a level of adequate forage and cover to meet yearly reproduction needs and avoid predators. Plant community departures from what would be expected based upon ecological site descriptions (i.e., tall, deep-rooted perennial grasses like bluebunch wheatgrass versus short-statured, shallow-rooted grasses like Sandberg's bluegrass and invasive species) are indicators of habitat quality and the health of wildlife community. Further discussions on the effects of livestock grazing on the upland plant community are available in Section 3.2.1.

Alternatives 1-4 all propose varying levels of livestock grazing intensity and duration. Livestock grazing pressure will occur in all of the alternatives (with exception of Alternative 5—No Grazing) within the upland shrub steppe community and will have varying effects. Vegetation will be consumed and soils will be trampled that can directly and indirectly alter or change habitat composition, structure and function. The effects of grazing rotations and associated terms and conditions under each alternative will be analyzed to determine whether the allotment would make significant progress toward meeting Rangeland Health Standard 8 and ORMP objectives.

Riparian Habitat

The direct and indirect effects of livestock grazing on the riparian community can alter the vegetation community, disrupt ground and surface water flow, and increase the occurrence of invasive species in the Morgan Group allotments. Riparian habitats are disproportionately the most important habitat features in the landscape and provide the greatest benefit to obligate and facultative wildlife covering fish, birds, amphibians, reptiles, big game, and insect species. Livestock are attracted to these habitat types because of the availability of quality forage, water, and shade, which can contribute to the decrease in quality and quantity of stream, wetland, spring, and mesic habitat conditions. Riparian habitats that are not functioning probably do not provide for adequate terrestrial, avian, and aquatic species needs. Further discussion on the direct and direct effects of livestock grazing to riparian communities are available in Section 3.2.3.

Alternatives 1-4 all propose varying levels of livestock grazing intensity and duration. Livestock grazing pressure will occur in all of the alternatives (with exception of Alternative 5—No Grazing) within the riparian community. Riparian vegetation will be consumed and soils would be trampled that could affect the quality and quantity of riparian vigor, structure, and function to support wildlife needs. The effects of grazing rotations and associated terms and conditions, under each alternative will be analyzed to determine whether the allotment would make significant progress toward meeting Standard 8 and ORMP objectives.

Focal Species

Sage-grouse

Alternatives 1–4 all propose livestock grazing within upland and riparian habitat communities that are used by sage-grouse within the Morgan Group allotments. Livestock trampling and nest encounters have been shown to destroy nests and eggs and cause sage-grouse to flush and abandoned nests. Movement of birds caused by livestock encounters also expose eggs and individuals and alert predators such as ravens and coyotes to their location (USDI USFWS 2010).

The direct and indirect effects of livestock grazing have the ability to alter the overstory/understory composition and structure of sagebrush habitats and contribute to changes in the plant community function (Section 3.3). Greater sagebrush and herbaceous cover provides vertical and horizontal concealment of nests from predators and has been demonstrated to result in higher nest success (Coates and Delehanty 2010, Moynahan et al. 2007, Delong et al. 1995, Gegg et al. 1994, Connelly et al. 1991). Livestock grazing can contribute to departures in the plant community from reference site conditions of

larger perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) to smaller stature grazing tolerant species (i.e., Sandberg bluegrass, cheatgrass, and medusahead) and therefore influence the viability and sustainability of sage-grouse. The effects of grazing could result in reduced plant community composition and structure, concealment cover for nesting and hiding, and forb availability, and increase the risk of predation. (USDI USFWS 2010).

The direct and indirect effects of livestock grazing could alter the composition and function of riparian habitats. Riparian habitats are sought out by sage-grouse and provide a critical source of forage (primarily forbs and insects) throughout the year and are especially important during the first few weeks of chick development. Livestock are also attracted to these areas because of quality forage and water and tend to concentrate for longer periods of time in these locations. The effects of livestock grazing in riparian habitat types can compact soils, inhibit water infiltration, and reduce cover of herbaceous plants and litter, further causing changes to the shrub, grass, and forb components and lead to an increase in exotic plants.

The direct and indirect effects of Alternatives 1–4 to sage-grouse and sage-grouse habitat will depend on the intensity and duration of livestock grazing discussed under each alternative. Vegetation will be consumed and soils will be trampled, which could directly and indirectly affect the quality and quantity of upland and riparian vigor, structure, and function to support sage-grouse needs. The effects of grazing rotations and associated terms and conditions under each alternative will be analyzed to determine whether the allotment would make significant progress toward meeting Standard 8 and the ORMP objectives.

Columbia Spotted Frog

Alternatives 1-4 will have varying levels of riparian (habitats near wetland, springs, seeps, and mesic areas) grazing within the Morgan Group allotments. The direct and indirect effects of livestock grazing to riparian habitats are discussed above and within Sections 3.1.3 and 3.2.3. The Columbia spotted frog lives in creeks and springs within and adjacent to the Morgan Group allotments, and the effects of improper livestock grazing and trampling will reduce the quality and quantity of spotted frog habitat for nesting, foraging and hibernation. Improperly grazed wetlands result in severely hummocked surfaced soils, the breaking up the dense sod, exposing mineral soil, and leading to erosion potential and weed invasion. These disturbances lead to soil compaction, streambank sloughing, damage to vegetation, and premature drying of the soil surface. Livestock can cause direct injury or mortality by trampling spotted frogs and eggs and impact spotted frog movement by defoliating habitat, causing a shift in species composition, dewatering migration corridors and collapsing banks along ponds used for overwintering sites (Tait and Vetter 2008)

Healthy and viable populations of spotted frogs depend on properly functioning wetland and riparian habitats (Section 3.5). Stream, wetland, and springs habitats will be accessed by livestock and riparian vegetation will be consumed and soils will be trampled. This activity can directly and indirectly affect the quality and quantity of riparian habitat composition and structure and subsequently impact aquatic systems that support spotted frogs. The effects of grazing rotations and associated terms and conditions, under each alternative will be analyzed to determine whether the allotment is making significant progress toward meeting Standard 8 and ORMP objectives.

Columbia Redband Trout

Under Alternatives 1–4, livestock grazing in or along streams will occur within the Morgan Group allotments. The direct and indirect effects of improper livestock use of stream corridors and riparian areas could substantially reduce the quality and quantity of functioning fish habitat. When riparian areas are utilized for grazing and impacted by trampling, the direct and indirect effects to fish habitat include increased bank erosion and surface fines, increased stream width-to-depth ratios, loss of stream shading,

and reduced woody debris recruitment. Surface fines further degrade spawning substrates and reduce reproductive success and could suffocate eggs or trap newly hatched fry in the substrate. Direct effects from cattle trampling redds while eggs or fry are present may also occur. Increased stream width-to-depth ratios and absence of woody debris lead to simplified channels, which reduce hiding cover and increase water temperatures. Loss of overhead cover increases exposure to sunlight, which also reduces hiding cover, increases water temperatures, and reduces woody structure to the channel.

Healthy and viable populations of redband trout depend on properly functioning stream and riparian habitats (Section 3.5). Stream systems will be accessed and riparian vegetation will be consumed and banks will be trampled that could directly and indirectly affect the quality and quantity of stream and riparian structure, vigor, and function to support redband trout needs. The effects of grazing rotations and associated terms and conditions, under each alternative will be analyzed to determine whether the allotment is making significant progress toward meeting Standard 8 and ORMP objectives.

3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments

Alternative 1 represents the current permit and characterizes the present condition and status of the upland, riparian, and focal species habitats and will serve as the baseline for comparison to the other alternatives. Under Alternative 1, the Interim Terms and Conditions imposed by the Idaho District Court would continue to apply to each allotment.

Overall, there are no allotments under this alternative that provide a full complement of upland, riparian, and focal species habitat conditions across the board with adequate structural and functional habitat requirements for shrub steppe associated species and aquatic species. The lack of suitable upland, riparian, and focal species habitat is due to a combination of current and historic grazing practices, wildfire, and invasive annual species, and the overall departure of plant communities from the ecological reference site conditions. However, individually, where adequate upland, riparian, or focal species habitats exist in specific allotments/pastures and will be discussed further in Section 3.3.

In general, if the allotment is not meeting Standard 8, the continuation of improper grazing activities under Alternative 1 are not anticipated to progress upland and/or riparian habitat conditions toward improved conditions and therefore will continue to fail to meet Standard 8 for sustaining viable wildlife habitats and populations. On the other hand, if an allotment or individual habitat component (upland, riparian, or focal species) is meeting Standard 8, it can be expected that maintenance of at least minimum plant community composition and structure elements are being provided and meeting terrestrial, avian, and aquatic species cover, reproduction, and foraging needs.

3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments

General impacts of livestock grazing are discussed in the Effects Common to All Grazing Alternatives section 3.2.5.1. Any additional specific effects from this alternative will be described below by specific allotment section 3.3.

Under Alternative 2, permittees submitted applications for renewal of their 10-year permits. The proposed schedules ranged from no change in grazing management to proposals similar to schedules developed for Alternatives 3 and 4 that included deferment. Request to maintain flexibility in stocking levels ranged from no change to increasing the number of cattle; however, maximum AUMs would stay the same. Of the 19 allotments to be analyzed in this document, changes in grazing schedules from

Alternative 1 were submitted for 17 allotments. Only two allotments proposed no change to current conditions. The general direct and indirect effects of the permittees proposed schedules are similar to those discussed in Section 3.2.5.1 and 3.2.5.2.

In general, permittee applications that proposed similar or no changes in grazing management (as compared to Alternative 1), the direct and indirect effects would be the same as those discussed in Section 3.2.5.2. For the allotments where the permittees proposed changes, the incorporation of deferment and rest would benefit upland and riparian habitats and wildlife that use these environments. Where deferment and rest have been proposed, habitats would benefit because the reduction in repeated spring grazing during the critical growing season would allow upland native perennial species to complete the annual growth cycle more often in the absence of defoliation by livestock and would improve plant community health and vigor and improve herbaceous composition and structure (Section 3.2.1.3).

Increased deferment and/or rest from livestock grazing in upland/riparian communities would benefit focal species as well as other sagebrush steppe associated species. Benefits would include improving security cover for nesting and brood-rearing wildlife from predators and the increased abundance and availability of forage (e.g. forbs, browse, insects, and berries) because of the reduced spring grazing pressure and improved health of the habitat. Specific discussion on the direct and indirect effects of the permittees applications by allotment will occur in Section 3.3.

3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments

General impacts of livestock grazing are discussed in the Effects Common to All Grazing Alternatives section 3.2.5.1. Any additional specific effects from this alternative will be described below by specific allotment section 3.3.

Livestock grazing management as described under Alternative 3 would improve upland and riparian habitat conditions, benefiting identified focal species as well as other associated shrub-steppe and riparian dependent species (e.g. migratory birds, pygmy rabbits, big game, and amphibians). Alternative 3 identified resource constraints for soil, vegetation, riparian and focal species resources and would allow grazing during the critical periods for these resources 2 out of 3 years (Section 2.2.3).

Upland communities and the species that use these habitats would benefit from implementation of this alternative and would make significant progress toward meeting Standard 8 and achieve desired habitat management objectives. Significant progress towards meeting this standard and achieving ORMP objectives would be expected because the periodic decrease in grazing frequency during the spring growing and resource constraint periods. This constraint would allow upland native perennial species to complete the annual growth cycle more often in the absence of defoliation by livestock and would improve plant community health and vigor and herbaceous composition and structure (Section 3.2.1.3). Resulting in greater security cover for nesting and brood-rearing sage-grouse from predators and increasing preferred forb diversity and availability.

In addition, limited riparian habitat grazing intensity and season of use would improve plant vigor, diversity, and regeneration and improve riparian functions to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality. Improved herbaceous and woody cover in riparian zones would benefit Columbia redband trout and Columbia spotted frogs by reduced trampling of spring spawning and egg laying sites, decreased erosion and sediment loading, enhanced shade and woody debris delivery, greater channel structure and flow regulation, and improve water quality (Section 3.1.3 and 3.1.5).

Overall, by the incorporation of deferment 2 out of 3 years into the grazing schedule, repeated grazing pressure during the critical growth season and during critical species nesting periods would be reduced. As generally discussed above, Alternative 3 would increase the frequency of implementing deferment and/or rest from livestock grazing compared to Alternative 1 (Current Situation), which would make moderate progress toward meeting Standard 8 and achieving ORMP objectives in the Morgan Group allotments. Additional specific discussion on the direct and indirect effects of Alternative 3 by allotment will occur in Section 3.3.

3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments

General impacts of livestock grazing are discussed in the Effects Common to All Grazing Alternatives section 3.2.5.1. Any additional specific effects from this alternative will be described below by specific allotment section 3.3.

Livestock grazing management as described under Alternative 4 would improve upland and riparian habitat conditions, benefiting identified focal species as well as other associated shrub-steppe and riparian dependent (e.g. migratory birds, pygmy rabbits, big game, and amphibians) in all of the Morgan Group allotments. Alternative 4 would identify resource constraints for soil, vegetation, riparian and focal species resources and would allow grazing during the critical periods for these resources 1 out of 3 years (Section 2.2.4). In addition, stocking levels are significantly reduced from the current permit and utilization is proposed to be light.

Under Alternative 4, the quality and quantity of the upland and riparian habitats would make significant progress toward meeting Standard 8 and achieve desired habitat management objectives (Section 3.1.5). The repeated non-grazing frequency during the spring growing season and resource constraint periods combined with the addition of periodic rest and lower stocking levels would allow upland native perennial species to complete the annual growth cycle more often in the absence of defoliation by livestock and improve plant community health and vigor (Section 3.2.1.3). In addition, limited riparian habitat grazing intensity and season of use would improve plant vigor and regeneration and improve riparian functions to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (Section 3.1.3).

Under alternative 4, improved upland and riparian habitat conditions would benefit identified focal species as well as other associated shrub-steppe species and aquatic species (e.g. migratory birds, pygmy rabbits, big game, amphibians). Implementing a deferment/rest grazing rotation grazing schedule with reduced stocking levels would improve upland plant community health and vigor and enhanced herbaceous composition and structure and would provide greater security cover for nesting and brood-rearing sage-grouse from predators and increase preferred forb diversity and availability. Improved herbaceous and woody cover in riparian zones would benefit Columbia redband trout and Columbia spotted frogs by reduced trampling of spring spawning and egg laying sites, decreased erosion and sediment loading, enhanced shade and woody debris delivery, greater channel structure and flow regulation, and improve water quality and riparian function(Section 3.1.3 and 3.1.5).

Overall, by incorporating deferment/rest 2 out of 3 years into the grazing schedule, repeated grazing pressure during the critical growth season and during critical species breeding, nesting and brood-rearing periods is reduced, grazing management under this alternative would make significant progress toward meeting Standard 8 and achieve ORMP as described above. Specific discussion on the direct and indirect effects of Alternative 4 by allotment will occur in Section 3.3.

3.2.5.6 Environmental Consequences of Alternative 5 Common to All Allotments

Under this alternative, extended allotment and pasture rest from repeated grazing pressure would allow for immediate and long-term upland and riparian habitat improvements for all species of wildlife throughout the Morgan Group allotments. Vegetative structure and diversity, perennial herbaceous vegetation heights and residual cover, and available forage would increase in all habitat types. Stream and riparian (wetlands, springs, seeps, mesic areas) habitats would improve and expand (Section 3.1.5) due to the removal of livestock grazing pressure. Under this alternative, landscape wide forage availability and cover for all wildlife would significantly improve and subsequently allow wildlife populations to flourish and diversify. In general, none of the negative effects associated with grazing discussed in Alternative 1 would occur and the benefits to the sagebrush steppe environment would be compounded across the allotments.

3.2.6 Recreation and Visual Resources

3.2.6.1 Environmental Consequences Common to All Grazing Alternatives

Hunting is the most likely recreational activity to be affected under any of the grazing alternatives in those allotments/pastures where grazing schedules overlap with hunting seasons. These impacts however are considered to be negligible. Effects to recreation throughout all of the Group 5 allotments would be the interaction with livestock during periods of livestock use. During periods of non-livestock use, no impacts would be expected. Areas that are improving with current management would likely continue to improve, thus providing enhanced opportunities for recreation. For example, in areas where vegetation and wildlife habitat is improving, these areas may provide better hunting opportunities for recreationists. Areas of heavy livestock use would also continue to impact recreational opportunities. Overall, the impacts to recreationists as a result of any of the livestock grazing activities throughout all of the allotments are negligible.

Livestock trailing activities would not impact recreational resources or public safety due to the fact that trailing events would be of low frequency and would generally be of short duration. Buffers extending beyond the existing roadways also provide an opportunity for livestock to get off roadways which allow traffic to pass through. Additionally, most trailing activities occur on existing routes made up of gravel or native materials, which would keep traffic speeds slow. Effects of trailing on visual resources would also be negligible due to the fact that livestock trailing occurs on existing roads.

There are no proposed spring developments or water haul sites under any of the grazing alternatives. Additional water sources tend to distribute livestock more evenly throughout the area, decreasing the likelihood of livestock on roads and trails, thus minimizing recreationists' interactions with livestock. Additionally, there are no proposed fence projects for any of the alternatives, which would maintain the existing opportunities for hikers and equestrian users to travel cross-country. This also prevents the creation of new disturbance as fences are constructed in relationship to visual resources, and the potential for new trails along fence lines.

Due to the fact that impacts to recreation are negligible from any of the grazing alternatives, recreation will not be discussed further in this document.

In regards to visual resources, there are areas within class II VRM that have been identified as not meeting standards due to livestock grazing, these areas fall within the Bachelor Flat FFR, Big Field FFR, Boulder Flat, Combination Creek, Jim's Peak FFR, and pasture 3 of the Morgan allotments. These six allotments, which contain VRM class II will be discussed further in the allotment specific environmental

consequences section of the EA. All other allotments within group 5 will not be discussed further as the impacts to visual resources from any of the alternatives would be considered acceptable.

3.2.6.2 Environmental Consequences of Alternative 5 Common to All Allotments

This alternative would provide the greatest benefit to recreationists. There would be no interaction between livestock and recreationists, and as the overall conditions of the area improve so would visual quality, thus creating a more enjoyable recreation experience. There would be no effects to upland vegetation and riparian areas from livestock, thus improving the overall health and visual quality throughout the allotments. Improved wildlife habitat conditions would increase wildlife viewing opportunities and potentially result in increased hunting success.

3.2.7 Wilderness Areas

3.2.7.1 Environmental Consequences Common to All Alternatives

Overall, there are no expected impacts to wilderness under any of alternatives, grazing or non-grazing, as only a very small portion (105 acres) of the roughly 43,000 acre North Fork Owyhee Wilderness lies within the Group 5 allotments. Therefore, the area's naturalness, wilderness character, and values would likely be preserved under any of the alternatives, which would be in conformance with the Wilderness Act. Additionally, there would be no impacts to solitude or primitive and unconfined recreation under any of the alternatives. Due to the fact that there are no expected impacts to wilderness as a result of any of the alternatives, wilderness will not be discussed any further in the document.

3.2.8 ACECs

3.2.8.1 Environmental Consequences Common to All Alternatives

There are no proposed spring developments, water haul sites, or fencing projects under any of the alternatives, which would maintain the resources values within the ACEC, and therefore would be in conformance with the Owyhee RMP.

The Boulder Creek ACEC will be discussed in the allotment specific environmental consequences section of this document. However, due to the fact that only a portion of the ACEC lies within the Group 5 allotments, and that portion is almost entirely in the Boulder Flat allotment, the ACEC will only be addressed in the Boulder Flat section 3.3.6 of the EA.

3.2.9 Social and Economic Values

3.2.9.1 Environmental Consequences Common to All Grazing Alternatives

Table SOCE-10 below shows the total change in AUMs of all the Morgan Group allotments for each alternative. The value of those changes to the community are based on estimates by Darden et al (1999; See Section 3.1.9 above); the breakdown for each allotment can be found in Appendix H.[44] Table SOCE-11 shows the average impact on expected 10-year net revenue for representative ranch operations. The impacts are based on a detailed analysis that incorporates a sample partial enterprise budget showing the potential impact of each alternative on that part of the enterprise affected, based on information provided by a local ranch operator that was reviewed by a BLM rangeland manager (see Explanation of Model in Appendix H). The results of this analysis are intended to represent the impacts of the alternatives on representative small, medium, and large ranch operations and are not specific to any individual ranch.[45] For the purposes of this analysis, a small ranch is one with fewer than 200 cattle plus 10 horses; a medium ranch is one with 200 to 500 cattle plus 10 horses, and a large ranch is one with 501 to 2,499 cattle plus 10 horses.

These values assume that the animals use all of the active use AUMs authorized. In Table SOCE-12, the results show the differences in 10-year net revenue when comparing the changes in AUMs in Alternatives 2 through 5 with the baseline AUMs in Alternative 1, and have been averaged and rounded. The values in Tables SOCE-11 and SOCE-12 should not be construed as an estimate of the actual economic impact

[44] The actual totals in Table SOCE-9 may differ, since the totals for all of the alternatives assume that the same alternative would be chosen for all allotments; however, the Owyhee Field Manager may choose a different alternative for each allotment, which may result in different total impacts from the ones shown here.

[45] A complete analysis using this model has been conducted for each of the Morgan Group allotments to inform the development of the sample small, medium, and large ranches. This analysis is available from the Idaho BLM State Office project record upon request.

on actual individual ranches within the study area. Ranchers have a wide range of options available to them in terms of how they respond to changes in the permitted number of AUMs on their range allotment(s). Depending on the length of their allowed grazing season and the specific change in permitted AUMs, a rancher might choose the following response: increase or decrease herd size, change grazing months, retain or sell animals at their headquarters, lease new ground or cancel one or more leases on private rangeland, switch to irrigated pasture, adjust feed lot contracts, completely change operation types, and so on. Given the number of uncertain variables and the range of possibilities, it is not feasible to anticipate how individual ranches will react to changes in their specific grazing permits. Also unknown are any and all associated business decisions made in response to prevailing markets, federal and state agricultural policies, and personal values.

BLM acknowledges that as a result of any changes in permitted AUMs, there are likely to be multiplier effects within the economy that serves the associated ranching community. Because it is not possible to quantify the specific monetary impacts on individual ranches, it is also not possible to accurately estimate the resulting multiplier effects. It is possible, however, to state qualitatively, for example, that a reduction in AUMs would result in a corresponding reduction in regional economic activity if ranches choose to reduce herd numbers and then in turn reduce their spending within the regional economy. The converse is also true (see this related discussion above). In addition, canceling grazing on any BLM-administered pasture for 1 or more years (e.g., resting a pasture) could impact grazing revenue brought in by the state of Idaho because any unfenced state-administered grazing land located within a rested BLM-administered pasture could not be grazed by a state grazing lessee. The state lessee could request that he or she not be charged a state grazing fee during that time, and the loss of income to the state could impact funding for other state programs.

Table SOCE-10: Total change in AUMs and value of AUMs to the community for all of the Morgan Group allotments

Alternative	% Change in AUMs	Change in Total AUMs	Total Active AUMs	Annual Dollar Value of Change[1]	Value of AUMs to community[2]
1 (Current Situation)	0%	0	3,650	$0	$244,331.00
2	0%	10	3,660	$127	$245,000.40
3	-22%	-808	2,842	-$10,237	$190,243.48
4	-15%	-552	3,098	-$6,994	$207,380.12
5 (No Grazing)	-2%	-1,165	0	-$14,761	$0

[1] Ten-year Average Market Value of Forage per AUM in Idaho, 2002 - 2011 (non-irrigated private ground): $12.67
[2] Based on estimates by Darden et al (See Section 3.9.1 above)

A number of alternatives call for reductions in AUMs on some or all of the allotments. In some cases, as described below, some operators could incur additional costs from alternative forage options due to changes in livestock numbers or management practices. These costs could include:

- Different AUM fees: Private land AUM fees in 2011 were $14.50/AUM in Idaho and $14.80/AUM in Oregon, plus transportation costs. AUM fees on state-owned land in 2012 are $5.25/AUM in Idaho and $8.48/AUM in Oregon. The 10-year (2002-2011) average market value of an AUM in Idaho is $12.67/AUM, which is an estimate based on survey indications of monthly lease rates for private, non-irrigated grazing land.
- Feeding hay on the ranch instead of grazing on pastures: The operators would need 780 pounds (lbs.; [0.4 tons]) dry forage/month for each cow and her calf if the herd were moved back to the ranch instead of to other grazing land. The 10-year (2003–2012) average price for

alfalfa hay was $138/ton in Idaho and $148/ton in Oregon. This means that the operator would spend up to $58/month ($693/year) on dry forage for each cow and her calf.

There may be other costs associated with changes in livestock numbers or management practices that could affect the operators' bottom lines and the community as a whole. For example, Torell and others (2002) found that a 50 percent reduction in BLM AUMs in the Jordan Valley area resulted in a reduction in net annual ranch returns of $2.41 per AUM removed; reductions of 75 percent and 100 percent resulted in net ranch return reductions of $2.94 per AUM removed and $3.44 per AUM removed (respectively). The authors also found that removing spring grazing on BLM land in the Jordan Valley area would reduce an operator's net cash income by $24.17 per AUM removed. If the operator grazed on private pasture or fed the animals at the ranch during the spring, the negative impact would be lower ($5.34/AUM removed; Torell et al. 2002). However, it is possible that one or more of the operators might find that such a large percentage of the herd would need to be moved or sold that operating the ranch would no longer be economically feasible. Any cuts in AUMs would lead to increased expenses for grazing and/or feed that could be detrimental to the viability of the ranch. This could lead to losses in jobs, income to the community, and tax revenue for the county and state. Additionally, ranching is so intimately connected to the overall culture in the areas in and around Owyhee County that the closing of a ranch would lead to a substantial loss of community cohesion. The closing of a ranch in Jordan Valley or Marsing could be viewed by community members as an adverse effect on the social conditions of the local community.

Table SOCE-11: Average impact on expected 10-year net revenue for representative ranch operations

Average Impact on Expected 10-year Net Revenue	Alt. 1 (Baseline) Expected 10-year Net Revenue	Alt. 2	Alt. 3	Alt. 4	Alt. 5 (No Grazing)
Small (< 100 Head)	$348,825	$128,185.00	$43,245.57	$63,029.09	-$261,290.91
Medium (100 - 499)	$681,461	$0.00	$1,331.29	-$40,225.75	-$374,400.00
Large (500 - 2500 Head)	N/A	N/A	N/A	N/A	N/A

Table SOCE-12: Impact on expected 10-year net revenue for each alternative by allotment

	Alternative 1 (Baseline)		Alternative 2			Alternative 3		
Allotment	**Number of Cattle**	**Estimated Ten-year Net Revenue**	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**
Bachelor Flat FFR	125	$771,710	0%	$0	0%	0%	$0	0%
Berrett FFR	112	$691,380	0%	$0	0%	0%	$0	0%
Big Field FFR	142	$875,720	0%	$0	0%	0%	$0	0%
Bogus Creek FFR	24	$148,300	0%	$0	0%	N/A	N/A	N/A
Boulder	97	$555,120	0%	$0	0%	0%	$0	0%
Boulder Flat	64	$298,640	0%	$440,980	148%	0%	$0	0%
Combination Crk.	103	$530,300	0%	$0	0%	N/A	N/A	N/A
Feltwell	69	$353,750	0%	$55,123	16%	-20%	$17,084	5%
Glass Creek	98	$591,380	0%	$0	0%	N/A	N/A	N/A

	Alternative 1 (Baseline)		Alternative 2			Alternative 3		
Allotment	**Number of Cattle**	**Estimated Ten-year Net Revenue**	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**
Gluch	50	$308,960	0%	$0	0%	0%	$0	0%
Gluch FFR	103	$635,770	0%	$0	0%	-29%	$9,319	1%
Jim's Peak FFR	55	$339,510	0%	$0	0%	N/A	N/A	N/A
Morgan	60	$240,730	2%	-$3,106	-1%	0%	$0	0%
Rail Creek	13	$80,330	0%	$285,635	356%	0%	$285,635	356%
South Mtn Indiv.	100	$475,800	0%	$0	0%	0%	$0	0%
Walt's Pond FFR	75	$463,090	0%	$0	0%	0%	$0	0%
Warn	74	$457,260	0%	$631,403	138%	0%	$631,403	138%
West Maher FFR	118	$728,450	0%	$0	0%	0%	$0	0%
Wroten	135	$742,560	0%	$0	0%	0%	$0	0%

	Alternative 4[1]			Alternative 5		
Allotment	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**
Bachelor Flat FFR	-4%	-$23,503	-3%	100%	-$586,944	-76%
Berrett FFR	-14%	-$75,208	-11%	100%	-$525,837	-76%
Big Field FFR	-5%	-$32,904	-4%	100%	-$665,921	-76%
Bogus Creek FFR	0%	$0	0%	100%	-$112,812	-76%
Boulder	-24%	$17,084	3%	100%	-$416,191	-75%
Boulder Flat	-11%	$372,916	125%	100%	-$213,860	-72%
Combination Crk.	-14%	$17,395	3%	100%	-$388,794	-73%
Feltwell	-33%	$28,266	8%	100%	-$259,106	-73%
Glass Creek	-11%	$4,659	1%	100%	-$452,575	-77%
Gluch	-12%	-$28,203	-9%	100%	-$235,026	-76%
Gluch FFR	-29%	$9,319	1%	100%	-$483,532	-76%
Jim's Peak FFR	-4%	-$9,401	-3%	100%	-$258,218	-76%
Morgan	-17%	$22,364	9%	100%	-$165,239	-69%
Rail Creek	0%	$285,635	356%	100%	-$61,107	-76%
South Mtn Indiv.	-33%	-$112,873	-24%	100%	-$342,388	-72%
Walt's Pond FFR	0%	$0	0%	100%	-$352,228	-76%
Warn	0%	$0	0%	100%	-$347,838	-76%
West Maher FFR	15%	-$84,609	-12%	100%	-$554,040	-76%

	Alternative 4[1]			Alternative 5		
Allotment	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**	**Percent Change in Total AUMs over 10 Years**	**Ten-year $ Impact**	**Percent Change in Estimated Ten-year Net Revenue**
Wroten	-1%	-$19,423	-3%	100%	$552,256	74%

3.2.9.2 Environmental Consequences of Alternative 1 Common to All Allotments

Under Alternative 1, grazing permits for the 19 allotments of the Morgan Group would be renewed consistent with the summarized actions that have led to the current conditions. Authorized active use in each of the 19 allotments would be consistent with the maximum actual use that has been made recently. When the current situation for any of the 19 allotments in the Morgan Group closely matched the terms and conditions of the existing permit, the current situation alternative is equivalent to the current permit terms and conditions or a no action alternative. Thus, under Alternative 1, permits to graze livestock on the 19 Morgan Group allotments would be renewed with the terms and conditions of either the maximum actual use or the permits currently in effect. For these allotments, there would be no change in livestock management, operations would continue with business as usual, and there would be no additional socioeconomic impact to the ranches. All of the ranches would continue contributing to employment and the purchase and sale of goods and services in the counties where they are located.

3.2.9.3 Environmental Consequences of Alternative 2 Common to All Allotments

Appendix C-1 and Section 3.2.1.3 in the Upland Vegetation/Noxious Weeds section describe the management changes on the allotments for Alternative 2. Table SOCE-12 in Section 3.2.9.1 shows the differences in 10-year net revenue on each of the allotments for Alternative 2, compared to the estimated 10-year net revenue for Alternative 1. Alternative 2 differs from Alternative 1 in five of the 19 allotments (Boulder Flat, Feltwell, Morgan, Rail Creek, and Warn); impacts from these changes will be discussed in Section 3.3 below.

3.2.9.4 Environmental Consequences of Alternative 3 Common to All Allotments

Appendix C-1 and Section 3.2.1.3 in the Upland Vegetation/Noxious Weeds section describe the management changes on the allotments for Alternative 3. Table SOCE-12 in Section 3.2.9.1 shows the differences in 10-year net revenue on each of the allotments for Alternative 3, compared to the estimated 10-year net revenue for Alternative 1. Grazing dates in Alternative 3 are based on a similar season of use and pasture days that the permittees submitted (see Alternative 2 for each allotment in Section 2.4), but with additional consideration for resource constraints. Impacts from any changes will be described in Section 3.3 below.

3.2.9.5 Environmental Consequences of Alternative 4 Common to All Allotments

Appendix C-1 and Section 3.2.1.3 in the Upland Vegetation/Noxious Weeds section describe the management changes on the allotments for Alternative 4. Table SOCE-12 in Section 3.2.9 shows the differences in 10-year net revenue on each of the allotments for Alternative 4, compared to the estimated 10-year net revenue for Alternative 1. Alternative 4 incorporates more rest on some pastures every 1 in 3 years on all 19 allotments, with AUM reductions of 0 to 33 percent on these allotments. This means that the ranch operators would need to either feed the animals on the ranch or move them to other private, state, or federal grazing lands during the time these pastures are rested, if other pastures in the allotment cannot be used. This could have a substantial impact on the ranch operators and the local economy, as

noted in Section 3.2.9.1. The management changes in Alternative 4 are intended to provide for improvement in vegetation conditions across the landscape, which could, in turn, provide for long-term improvement in forage for livestock.

3.2.9.6 Environmental Consequences of Alternative 5 Common to All Allotments

This alternative would cancel all authorized use AUMs on the allotment for a period of 10 years, after which applications for grazing permits would be accepted. Table SOCE-12 in 3.2.9.1 shows the differences in 10-year net revenue on the allotment for Alternative 5, compared to the estimated 10-year net revenue for Alternative 1. This would likely have a substantial socioeconomic impact on the ranch operators, the people they employ, the businesses where the operators purchase supplies, and the communities that are supported by livestock operation activities (see Section 3.2.9.1 for a discussion of some specific impacts). The ranchers would have to relocate their livestock to other private or state land, possibly outside of Owyhee County, sell their livestock, and/or close the ranch completely. The ranchers already likely purchase supplies from stores closer to the new grazing locations, so income from taxes and sales in these communities would drop, and the income from the livestock sales would go to the counties where the base ranches are located. The people previously employed by the ranches would have to look for new jobs if any of the ranches closed; the agricultural sector in both counties is large enough that they may not have much trouble finding similar work elsewhere, but they may have to relocate or commute long distances, which could be costly. Finding work in other sectors may be difficult because unemployment is so high. The greatest loss to the local communities as a result of ranch closures would be the loss of social cohesion. As noted above, researchers have found that ranchers have more social networks throughout the community, and closing a ranch could lead to a disruption in these networks.

However, not all socioeconomic impacts would be negative. Land on the allotments could be more available for recreational opportunities, which could bring more money to the stores, restaurants, and hotels that provide goods and services for people from the Treasure Valley who come to hunt, fish, camp, boat, and watch wildlife throughout the Owyhee Mountains. This could also provide more employment opportunities in other sectors throughout the county. However, as noted in the ORMP EIS (USDI BLM 1999b), the number of businesses that provide recreational goods and services in Owyhee County is minimal. Most residents, as well as those visiting from other counties, purchase their goods outside of Owyhee County. Thus, although some recreation fees could be collected, the influx of recreation to the county would not add much to the revenue from sales or taxes there and could actually negatively affect the financial resources of the county through additional requests for help in the backcountry. In addition, the management changes in Alternative 5 are intended to provide for improvement in vegetation conditions across the landscape, which could, in turn, provide for long-term improvement in forage for livestock.

3.2.10 Cultural and Paleontological Resources

Direct impacts that may occur as a result of livestock grazing and can affect cultural resources include breakage and modification to artifacts and features, vertical and horizontal displacement, and toppling and modification of standing objects (Coddington 2008, Broadhead 1999, U.S. Army 1990). Indirect effects include biomass reduction that could increase the potential for erosion of the site matrix, looting due to greater visibility from vegetation removal, and soil compaction. The presence and magnitude of these impacts are used to analyze the effects of livestock, if any, to cultural properties. Damage or loss of artifacts and features can affect important attributes that qualify a site as eligible for the NRHP. The effects caused by livestock to sites could be exacerbated by soil composition, soil moisture and animal concentration. Areas of congregation such as salting locations, troughs, springs, reservoirs and other watering spots have the greatest potential to realize these impacts (Coddington 2008, U.S. Army 1990). Historic properties at or in close proximity to these areas may be monitored and, if necessary, protective measures may be instigated. Measures could include, but are not limited to, exclosure fencing, removal

or relocation of range improvements, decommissioning of facilities to eliminate animal congregating, removal of natural attractants, suspension of grazing, changes in the seasons of grazing, or other actions deemed suitable to protect the resource by the land manager and in consultation with SHPO. Typically, the greater the dispersion of livestock and other grazing animals across the landscape, the less likely a site will experience any significant negative consequences.

Paleontological Resources

The effects to paleontological resources are similar to those discussed for cultural resources. Breakage, displacement and the consequences related to biomass reduction are the primary areas of concern. Due to the absence of fossil bearing strata underlying any of the allotments and the subsequent complete lack of fossil sites in this group, no paleontological resources would be affected by this undertaking. Because this fundamental condition applies to all of the allotments, no further analysis will be given to paleontological resources.

3.2.10.1 Environmental Consequences of Alternative 1 Common to All Allotments

The Current Situation Alternative would renew grazing permits under the present terms and conditions of the expiring permits. This alternative would apply to all 19 allotments. Stocking levels and seasons of use would remain the same and no range improvements or other projects are proposed. Seasons of use and stocking levels vary per allotment. Grazing-related impacts to sites are more likely to occur during the spring when soil moisture is higher and could facilitate compaction, transport and other disturbances to artifacts and features. Any negative effects occurring to historic properties would probably continue unless corrective action is taken. Allotment-specific consequences to cultural resources under this alternative are discussed in Section 3.3.

3.2.10.2 Environmental Consequences of Alternative 2 Common to All Allotments

Alternative 2, for purposes of this analysis, is similar to Alternative 1 in terms of livestock numbers and seasons of use. Permitees in FFR allotments would be allowed to graze at their discretion throughout the year which could increase the possibility of negative effects to cultural sites. Risks and impacts to historic properties are the same as in Alternative 1. Allotment-specific consequences to cultural resources under this alternative are discussed in Section 3.3.

3.2.10.3 Environmental Consequences of Alternative 3 Common to All Allotments

Grazing seasons, stocking levels and other factors could be curtailed to allow pastures or allotments to make progress in meeting rangeland health standards. This strategy would be applied to individual allotments as needed. In general, cultural resources and historic properties could benefit from this alterntaive if livestock become more dispersed, the number of animals is reduced and/or the time spent on the allotment is curtailed. Any allotment-specific consequences to cultural resources under this proposal will be discussed in Section 3.3.

3.2.10.4 Environmental Consequences of Alternative 4 Common to All Allotments

This alternative is similar to Alternative 3, however, the constraints on duration, frequency of use, intensity, etc. could be greater. The potential for negative effects to cultural resources could be further reduced under this option and could better conserve and protect historic properties. Allotment-specific consequences to cultural resources under this alternative are discussed in Section 3.3.

3.2.10.5 Environmental Consequences of Alternative 5 Common to All Allotments

The no-grazing alternative would remove the possibility of livestock affecting known and undiscovered cultural sites. Sites would still be subject to weather, wildlife, fire, and other natural processes, but these types of impacts have been occurring since the sites were first formed and are generally minor in their

overall influence. Artifact collecting and other human-caused disturbances would continue, but if ground cover increased from the lack of foraging and trampling, cultural material could be better hidden and protected. There would be no grazing-related effects to cultural resources or historic properties under this alternative.

3.3 Allotment-specific Affected Environment and Environmental Consequences

3.3.1 Bachelor Flat FFR Allotment

3.3.1.1 Bachelor Flat FFR Allotment Affected Environment

3.3.1.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Bachelor Flat FFR allotment. Although soil stability is decreasing in pasture 2, making it at risk for future disturbance activities, all other indicators for productive native plants are maintained as appropriate to provide for proper nutrient cycling, hydrologic cycling, and energy flow in pasture 2. Pasture 1 shows evidence of historic grazing impacts that are present throughout the pasture, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail (*Elymus elymoides*)). Historic grazing, annual invasive plants, and the Flint Creek Fire in pasture 1 are causal factors in not meeting Standard 4, as evidenced by a shift in community composition to shallow-rooted bunchgrasses.

Qualitative rangeland health assessment data indicate that Standard 4 is not met in pasture 1, with poor soil surface structure and physical crusting in the RHAs dominated by shallow-rooted bunchgrass, in addition to a moderate to extreme departure in annual invasive plants, rather than ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pasture 1. Vegetation communities dominated by shallow-rooted bunchgrasses in pasture 1, with the expansion of annual invasive grasses, lead to a conclusion that the vegetation management objective is not met.

3.3.1.1.2 Soils

Past wildfires are the causal factors for not meeting upland watershed Standard 1 in pasture 1 of the Bachelor Flat FFR allotment; pasture 2 is not meeting due to current livestock grazing management. The reduction in soil and hydrologic function is associated with altered plant community composition, distribution from a decreased relative abundance of large, deep-rooted native perennial bunchgrasses, and dominance of invasive annuals.

Despite relatively stable soils, watershed conditions in pasture 1 are deteriorating due to the invasion of annual grasses and the resulting extreme departure from expected vegetative conditions. Annual invasive plants, such as cheatgrass and medusahead, dominate along a lesser component of shallow- and deep-rooted perennial bunchgrasses.

Parts of the allotment have already burned several times, and the lack of shrubs and their recruitment is contributing to an extreme departure in plant community distribution and associated hydrologic function.

This increases the potential to re-burn in much shorter fire intervals. Subsequently, the remaining adjacent unburned areas are at a greater risk from the spread of invasive annuals.

Conditions in pasture 2 are deteriorated due to commonly observed loss of soil surface horizon, active erosional features, and physical impacts from hoof action. The presence of erosion relics and the removal of surface soils have reduced vegetative cover, as bare soils and flow paths display variable stages of stabilization. With a decrease in cover from vegetation, litter, and organic matter, and the reduced presence of biological soil crusts, watershed function is reduced.

Declining ecological conditions and impaired soils indicate that soil and hydrologic function are compromised from the lack of species diversity and the localized invasion of annuals. Recent wildfires and past and current livestock management are the primary contributing factors for not meeting Standard 1 and ORMP soil management objectives for the Bachelor Flat FFR allotment.

3.3.1.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[46]

Standards 2 and 3 are being met in the Bachelor Flat FFR. Big Boulder and Rail Creeks are the named streams that occur within the allotment, and approximately 1.5 miles of Big Boulder were most recently observed in a geologically confined canyon with limited access by livestock. Approximately 0.5 mile of Rail Creek was most recently rated as PFC (Table RIPN-13). Similarly, the reach of stream occurs in a relatively deep canyon and is well armored with woody species and bedrock.

One spring was assessed as PFC in pasture 1. The lentic area had sufficient vegetation and soil moisture characteristics present to maintain the riparian-wetland area. However, there was a dam and some trampling present.

Table RIPN-13: Bachelor Flat allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Bachelor Flat-01**	**Assessment Issues/Impacts Identified**	**Total Miles**
Big Boulder Creek	1.5 (FARS-2001) (pictures only–2011)	2001: plants had low vigor/ inadequate hydric vegetation to protect stream banks 2011: geologically confined/ woody species protecting stream banks	1.5
Rail Creek	0.5 (FAR–2001) (PFC–2011)	2001: vegetation does not reflect maintenance of hydric soils/ noxious weeds present/ plants had low vigor 2011: geologically confined/ woody species protecting stream banks	0.5
Springs Assessed, Condition, & Issues Identified			

[46] For additional details on the current condition of the allotment, see *Rangeland Health Assessments, Evaluation Reports and Determinations, for the Morgan (0505), Combination Creek (0595), Boulder (0509), South Mountain Individual (0600), Bachelor Flat FFR (0640), Boulder Flat (0526), and Walt's Pond FFR (0659) Allotments* document in the project record or available from the Owyhee Field Office

Spring Name	Pasture/Assessment Year	PFC Condition	Assessment Issues/ Impacts Identified
0604-02-07S05W1A-2012	1/ 2012	PFC	a dam and some trampling present

For IDEQ water quality information associated with the Bachelor Flat allotment, see table RIPN-1.

3.3.1.1.4 Wildlife and Special Status Animals

Exiting Condition

Upland Habitat

Pasture 1 in the Bachelor Flat FFR allotment is managed as a native plant community and is determined to be not meeting Standard 4 due to annual invasive species and past fire. Evaluation of Standard 4 noted an increase in annual invasive grass species showing a transition in the plant community composition from native bunchgrasses to more grazing-tolerant exotic species. This information is also consistent with the vegetation data for sage-grouse habitat assessments that showed less-than-adequate (marginal) occurrences of large perennial grasses. Annual species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant community composition, structure, and function for sagebrush steppe-dependent species and therefore, these pastures are not meeting Standard 8 due to historic grazing practices and annual invasive species.

Pasture 2 in Bachelor Flat FFR allotment is managed as a native plant community and is determined to be meeting Standard 4 for basic proper nutrient cycling, hydrologic cycling, and energy flow requirements. This is inconsistent with other vegetation information collected by the 2012 sage-grouse habitat assessment that showed that this pasture is not providing adequate habitat conditions for sage-grouse due to unsuitable canopy cover of perennial grasses. This discrepancy is due to the transect location of the two vegetation collection methods. The rangeland health assessment was collected in a low sagebrush (Shallow Claypan site); one of the sage-grouse assessments was collected near a reservoir where low occurrence of perennial grasses would be expected to occur, and the other is located in a Wyoming big sagebrush site (Loamy inclusion) that is showing a low occurrence of perennial grasses as well. Because the loamy inclusion site is also not providing adequate sage-grouse habitat values, this site therefore is not providing adequate (unsuitable) cover conditions and is not meeting Standard 8 for upland wildlife due to historic grazing practices.

Riparian

Evaluation of Standard 7 found that waters within the Bachelor Flat allotment were not meeting Idaho water quality parameters due to mercury pollutants. These waters are not providing habitat quality for beneficial uses, which includes cold-water aquatic species. Because water quality standards are not being met, this allotment is failing to provide adequate aquatic habitat conditions for cold water species and is therefore not meeting Standard 8 due to mercury pollutants. However, livestock grazing practices are not identified as a contributing casual factor.

Focal Species

Sage-grouse

This allotment lies within mapped PPH habitat for sage-grouse (Table WDLF-4). No active leks are known to occur within this allotment, but leks are recorded within adjacent allotments. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse.

Table WDLF-4: Acres[1] and portions of preliminary priority and general priority habitat within the Bachelor Flat FFR allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	235 (18%)	84 (6%)	993 (76%)	0	1,313 (100%)
Pasture 2	865 (99%)	0 (0%)	11(1%)	0	876 (100%)
Allotment Total	1,100 (50%)	84 (4%)	1,005 (46%)	0	2,189 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat

Both sage-grouse breeding and upland summer habitat conditions in pasture 2 were found to be unsuitable. The habitat assessments recorded marginal sagebrush canopy cover and height and unsuitable canopy cover of large perennial grasses (i.e., bluebunch wheatgrass) and forbs, indicating that functional nesting, brood-rearing, escape, and hiding cover values are not being provided in this pasture. Overall, this allotment is failing to provide adequate (unsuitable) sage-grouse habitat conditions and therefore is not meeting Standard 8 due to historic grazing practices.

Columbia Redband Trout

Columbia River redband trout are known to occur within the Jordan Creek system (Map WDLF-2). Evaluation of Standard 7 identified streams not meeting water quality parameters due to mercury pollutants and elevated stream temperatures. Redband trout is a beneficial use within this watershed and requires cold, clean water. Because healthy water quality conditions are not providing beneficial uses in the Jordan Creek system, this allotment is not providing adequate aquatic conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8 due to mercury pollutants and elevated stream temperatures. Livestock grazing practices are not identified as a contributing casual factor.

Columbia Spotted Frog

This allotment is within the distribution of the Columbia spotted frog (Map WDLF-2). Evaluation of Standard 7 identified streams not meeting water quality parameters due to mercury pollutants and elevated stream temperatures. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because healthy water quality conditions are not being provided for beneficial uses in the Jordan Creek, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8 due to mercury pollutants and elevated stream temperatures and not caused by livestock grazing practices.

3.3.1.1.5 Visual Resources

As mentioned above in section 3.1.6 the Bachelor Flat FFR consists entirely of class II VRM. A description of the class II management classification can be found in that section as well.

3.3.1.1.6 Social and Economic Values

See Section 3.1.9 above.

3.3.1.1.7 Cultural Resources

There are no cultural sites or historic properties recorded in the allotment. Of the two potential livestock congregation areas identified in the Bachelor Flat FFR, one received a class III survey which resulted in no findings.

3.3.1.2 Bachelor Flat FFR Allotment Environmental Consequences

3.3.1.2.1 Alternative 1

3.3.1.2.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Bachelor Flat FFR allotment. Implementation of Alternative 1 would continue current conditions of the Bachelor Flat FFR allotment. Pasture 1 would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Bachelor Flat FFR allotment.

Repeated April through December grazing during the critical growing period with slight to light utilization and AUMs ranging from 51 to 207 (see Appendix B), on the Bachelor Flat FFR allotment has allowed pasture 2 to meet vegetation standards and ORMP objectives for vegetation health and conditions. However, the Flint Creek Fire in pasture 1 has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not a causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 1 of the Bachelor Flat FFR allotment.

3.3.1.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.1.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.1.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.1.1), the Bachelor Flat FFR allotment would be available to grazing year-round without rest or growing season deferment (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, and 9.7 mile of intermittent stream would be affected by the impacts associated with all seasons of grazing. Recent actual use reported (Appendix B) indicates that the FFR has primarily been used during the spring months with occasional summer and fall use added. Therefore, the impacts of spring grazing would likely continue to be most prevalent under Alternative 1.

The Bachelor Flat FFR allotment is meeting the Standards associated with the riparian-wetland resources under current management. Therefore, the allotment would continue to meet the riparian-wetland Standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.1.2.1.4 Wildlife and Special Status Animals

The Bachelor Flat FFR allotment is currently not meeting Standard 8 for upland habitat, riparian (water quality), sage-grouse habitat, Columbia redband trout habitat, and Columbia spotted frog habitat. Riparian habitat conditions (Standard 2 and 3) are meeting Standard 8. Habitat conditions for redband trout and spotted frogs not meeting Standard 8 is due to streams within the allotment not meeting IDEQ water quality standards. Livestock practices are not the cause for not meeting IDEQ water quality parameters.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.1.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.1.1.4, in Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.1.2.1.5 Visual Resources

Continuation of the present grazing systems could potentially degrade visual conditions of the area. Areas within the FFR have been identified as not meeting standards due to livestock grazing. This is relevant due to the fact that within VRM class II, the goals of these areas are to retain or preserve the existing character of the landscape, and the levels of change to the characteristic of the landscape should be low. Not meeting standards indicates a downward trend in a particular area regarding upland and/or riparian vegetation, these types of impacts would have a direct effect on visual resources in these areas where the goal is to preserve the existing character.

3.3.1.2.1.6 Social and Economic Values

See Section 3.2.9.2 above.

3.3.1.2.1.7 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.1.2.2 Alternative 2

3.3.1.2.2.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Bachelor Flat FFR allotment. Implementation of Alternative 2 would improve current conditions of the Bachelor

Flat FFR allotment. Pasture 1 would continue to not meet Standard 4 and ORMP objectives. This alternative would maintain or improve Pasture 2 already meeting Standards and ORMP objectives of vegetation communities.

Alternative 2 would prescribe April through June grazing in pasture 1 and June through November grazing in pasture 2 with maximum of 125 head of cattle and 127 AUMs (see Alternative 2 proposal for full details Section 2.4). The grazing is similar to Alternative 1 with increased deferment in pasture 2 in Bachelor Flat FFR allotment and would continue to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions in pasture 2. Despite the shorter season in pasture 1 livestock grazing currently not meeting standards would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 1 of the Bachelor Flat FFR allotment.

3.3.1.2.2.2 Soils

Under Alternative 2, livestock grazing in the Bachelor Flat FFR allotment would take place every year in the spring in pasture 1 and would not differ from Alternative 1 except for a more defined and shorter grazing season. Pasture 2 would be used from summer to late fall and would benefit from a yearly spring deferment under Alternative 2 as it would reduce physical impacts to soils during the wettest period. Both pastures would be used repetitively during the growing season, which would not contribute to increasing the ability of native plant communities to provide for soil stability. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 when compared to Alternative 1, though pasture 2 would benefit from spring use deferment (see Section 3.2.2.3).

3.3.1.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.1.2), pasture 1 of the Bachelor Flat FFR allotment would be available to grazing during the spring and early summer, and pasture 2 would be open during the summer and fall all years (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, and 9.7 mile of intermittent stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing.

The Bachelor Flat FFR allotment is meeting the Standards associated with the riparian-wetland resources under current management (Alternative 1/ year-round). Since the allotment would be utilized during the spring, summer, and fall months (grazing management similar to that described under Alternative 1), the riparian-wetland standards would be maintained and would continue to be met under Alternative 2.

3.3.1.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal is to implement an annual two pasture, 2-year grazing schedule. Pasture 1 would be grazed in the spring and pasture 2 in the late spring/summer/fall. Maximum stocking levels and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.1.1.4, in Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently, this allotment is not providing adequate sage-grouse breeding and upland summer habitat conditions (Section 3.3.1.1.4). Under Alternative 2, grazing would occur during the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April 1–June 30) 2 out of 2 years. This grazing strategy would continue to negatively impact sage-grouse habitat. The repeated spring grazing cycle in pastures 1 and 2 would not provide an adequate period for plants to recover vigor and health and habitat composition and structure would decline. Sage-grouse would not benefit because of the reduced availability of security and escape cover during the nesting/early brood-rearing period (April

1–June 30) and late brood-rearing period (July 1–August 31) and the increased vulnerability to predation from terrestrial and avian predators.

Currently adequate riparian habitat conditions are being provided in this allotment (Section 3.3.1.1.4). Under Alternative 2, the proposed grazing strategy would maintain current riparian habitat conditions in this allotment. Riparian habitat composition and structure would continue to function properly and provide adequate aquatic habitat conditions for Columbia redband trout and Columbia spotted frog. Columbia redband trout and Columbia spotted frog would benefit because of the adequate stream shade, woody debris, pool development, flow regulation, and less sediment delivery to the stream habitat.

Overall, under Alternative 2, repeated annual grazing in the spring/early summer would not improve upland and habitat conditions. Sage-grouse would not benefit because of the reduced habitat composition and structure and reduced cover elements during the nesting/early brood-rearing. Riparian habitat conditions would continue to provide adequate aquatic conditions for Columbia redband trout. Because upland and sage-grouse habitat conditions are not expected to improve, this allotment would continue to not make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.1.2.2.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those identified in alternative 1.

3.3.1.2.2.6 Social and Economic Values

See Section 3.2.9.3 above.

3.3.1.2.2.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.1.2.3 Alternative 3

3.3.1.2.3.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Bachelor Flat FFR allotment. Implementation of Alternative 3 would improve current conditions of the Bachelor Flat FFR allotment. Pasture 1 would have the opportunity to move toward meeting Standard 4 and ORMP objectives. This alternative would maintain or improve Pasture 2 already meeting Standards and ORMP objectives of vegetation communities.

Alternative 3 would authorize April through June grazing in pasture 1 for two out of three years and deferred to fall (i.e., September) of the third year of a three-year rotation. Pasture 2 would be repeated spring through summer grazing currently meeting standards with a maximum of 125 head of cattle and 127 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment in pasture 1 as compared to repeated spring grazing in Alternative 1 in the Bachelor Flat FFR allotment would have the opportunity to move toward meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management in pasture 1 would have the opportunity to improve unsatisfactory vegetation health and vigor compared to Alternative 1, Current Situation.

3.3.1.2.3.2 Soils

Alternative 3 3 would provide 1 out of 3 years of spring deferment in pasture 1 and yearly spring deferment in pasture 2 and would reduce physical impacts to soils during the wettest period for both pastures. The same timeframes would be applied for deferment from critical growing season use and provide opportunity to increase soil stability due to the ability of native plant communities to remain

healthy, vigorous, and productive during active growth. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better as compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.1.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.1.3), pasture 1 of the Bachelor Flat FFR allotment would be available to grazing during the spring and early summer for one year, during the spring and fall of the second year, and during the fall for the third year of a three year rotation. Pasture 2 would be open during the spring and early summer of the first year, during the summer one year, and during the summer and fall the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, and 9.7 mile of intermittent stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternately over the course of a three year rotation.

The Bachelor Flat FFR allotment is meeting the Standards associated with the riparian-wetland resources under current management (Alternative 1/ year-round). Under Alternative 3, the allotment would have a defined three-year grazing schedule with growing season deferment incorporated one of the three years, and the impacts associated with summer grazing during the one year per Table RIPN-7 and section 3.2.3.1 would be eliminated. Therefore, the riparian-wetland Standards would continue to be met under Alternative 2.

3.3.1.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that installs a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a two pasture, three-year grazing rotation would occur. Pasture 1 would be grazed in the spring 2 out of 3 years followed by a year of deferment and pasture 2 would be grazed 2 out of 3 years in the spring/summer/fall followed by a shorter grazing year in spring/summer. Maximum stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.1.1.4, in Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.1.1.4). Under Alternative 3, upland habitat and sage-grouse habitat conditions would benefit in pasture 1 by this grazing schedule and the incorporation of grazing deferment 1 out of 3 years out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). Deferment would modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve upland habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators. However, under Alternative 4, repeated spring grazing would be proposed in pasture 2. Although the turn-out date would be delayed, annual grazing on late spring forage at the end of the nesting/early brood-rearing period would remove security and escape cover and increase the vulnerability of late nesting hens and young chicks to detection and predation by terrestrial and avian predators.

Currently this allotment is providing adequate riparian habitat conditions (Section 3.3.1.1.4). Under Alternative 3, the proposed grazing strategy would maintain current riparian habitat conditions in this allotment. Riparian habitat composition and structure would continue to function properly and provide

adequate aquatic habitat conditions for Columbia redband trout and Columbia spotted frog. Both Columbia redband trout and Columbia spotted frog would benefit because of the adequate stream shade, woody debris, pool development, flow regulation, and less sediment delivery to the stream habitat.

Overall, Alternative 3 would improve current conditions in pasture 1 and show modest improvement of current conditions in pasture 2. Improvement in upland and sage-grouse habitat conditions is anticipated to progress toward meeting Standard 8 by implementation of this alternative because of the reduced spring grazing pressure and the improved health and vigor of the vegetation. Because upland and sage-grouse habitat conditions are expected to show improvement and current conditions in riparian areas will continue, this allotment is expected to make significant progress toward meeting standard 8 and ORMP objectives.

3.3.1.2.3.5 Visual Resources

Impacts to visual resources under this alternative would be more beneficial than those identified in Alternatives 1 and 2. Although livestock numbers and active AUMs are similar to those in Alternatives 1 and 2, the gazing system was developed to enhance upland vegetation communities and riparian areas by altering the season of use. This grazing system would provide some relief to upland vegetation communities during their critical growing periods, while at the same time continuing livestock grazing year to year. Riparian areas could also see some improvement in certain areas, especially in those areas that contain fall grazing. As areas improve throughout the allotment visual qualities would also begin to improve.

3.3.1.2.3.6 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and deferred grazing may require additional labor or feeding costs.

3.3.1.2.3.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.1.2.4 Alternative 4

3.3.1.2.4.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Bachelor Flat FFR allotment. Implementation of Alternative 4 would improve current conditions of the Bachelor Flat FFR allotment. Pasture 1 would have the opportunity to move toward meeting Standard 4 and ORMP objectives. This alternative would maintain or improve Pasture 2 already meeting Standard 4 and ORMP objectives of vegetation communities.

Alternative 4 would authorize April through June grazing in pasture 1 in year one, July through August grazing in year two and rested in year three. Pasture 2 would provide June through November grazing in year one, September through November in year two, and rest in year three of a three-year grazing rotation with a maximum of 120 head of cattle and 122 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and rest would result in a 33 percent reduction over a ten-year permit in both pastures compared to repeated spring grazing in Alternative 1. This would allow the Bachelor Flat FFR allotment the opportunity to move toward meeting vegetation Standards and ORMP objectives for vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management in pasture 1 would have the opportunity to improve unsatisfactory vegetation health and vigor as compared to Alternative 1 Current Situation.

3.3.1.2.4.2 Soils

Alternative 4 would provide 2 out of 3 years of spring deferment and rest in pasture 1 and yearly spring deferment or rest in pasture 2 and would reduce physical impacts to soils during the wettest period for both pastures. Using the same timeframes, additional benefits are provided from reduced critical growing season use that promotes the ability of native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, and lessen susceptibility to accelerated erosion. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.1.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.1.4), pasture 1 of the Bachelor Flat FFR allotment would be available to grazing during the spring and early summer for one year, during the summer of the second year, and rested for the third year of a three year rotation. Pasture 2 would be open during the summer and fall of the first year, during the fall one year, and rested the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, and 9.7 mile of intermittent stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternately over the course of a three-year rotation.

The Bachelor Flat FFR allotment is meeting the standards associated with the riparian-wetland resources under current management (Alternative 1/ year-round). The allotment would have a defined three-year grazing schedule that incorporates one year of grazing season deferment as well as one year of rest two of the three years. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated two of three years. Additionally, over the ten-year permit, the changes in season of use would result in a 33 percent reduction in active AUMS. Therefore, the riparian-wetland standards would continue to be met under Alternative 4.

3.3.1.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that installs a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a two pasture, 3 year grazing rotation would occur. Pasture 1 would be grazed in the spring 1 out of 3 years, followed by a year of deferment and a year of rest; and pasture 2 would have 2 years of deferred grazing with one year of rest. Maximum stocking would be reduced from 125 to 120 head and AUMs would be reduced 33 percent over a ten-year period. The direct and indirect effects are the same as those discussed in Section 3.3.1.1.4, in Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.1.1.4). Under Alternative 4, 100 percent rest from grazing in each pasture will occur 1 out of 3 years. Over a three-year period this equates to a 33 percent reduction in grazing use. Combined deferment and rest in pasture 1 would allow plants to grow through two critical growing periods (May 1–June30) without livestock grazing. This would result in improved plant vigor and health and improved habitat composition and structure. Sage-grouse would benefit by the improved leking (March 1–March 31), nesting/early brood-rearing (April 1–June 30), and late brood-rearing (July 1–August 31) security and escape cover available and reduced vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is providing adequate riparian habitat conditions (Section 3.3.1.1.4). Under Alternative 4, the proposed grazing strategy, including the 33 per cent reduction in AUMs, would continue to maintain and further improve current riparian habitat conditions in this allotment. Riparian habitat composition and structure would continue to function properly and provide adequate aquatic habitat conditions for Columbia redband trout and Columbia spotted frog. Both Columbia redband trout and Columbia spotted frog would benefit because of enhanced stream shade, woody debris, pool development, flow regulation, and less sediment delivery to the stream habitat and reduced livestock activity in the stream corridor.

Overall, Alternative 4 would considerably improve current upland and sage-grouse habitat conditions in pasture 1 and 2. Substantial improvement in upland and sage-grouse habitat conditions is anticipated because of the increase in security and escape cover available to leking, nesting, and early/late brood-rearing sage. Riparian habitat conditions are expected to continue and Columbia redband trout and Columbia spotted frog would further benefit by improved riparian function and improved stream habitat condition. Because upland and sage-grouse habitat conditions are expected to show substantial improvement and current conditions in riparian areas would further improve, this allotment is expected to make significant progress toward meeting standard 8 and ORMP objectives.

3.3.1.2.4.5 Visual Resources

This alternative would have the fewest impacts to visual resources in comparison to any of the other grazing alternatives. The grazing schedule under Alternative 4 would provide more opportunity for riparian function, as well as for the recovery of upland vegetation following active growing season grazing use and during years of rest. As conditions of the area improve due to the season-based use and a rest rotation, visual qualities would also begin to improve in all areas throughout the allotment.

3.3.1.2.4.6 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations and the requirement to rest the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.1.2.4.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.1.2.5 Alternative 5

3.3.1.2.5.1 Vegetation, including. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.1.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.1.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.1.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.1.2.5.5 Visual Resources

This alternative would provide the greatest benefit to visual resources, as the overall conditions of the area improve so would visual quality. There would be no effects to upland vegetation and riparian areas from livestock, thus improving the overall health and visual quality throughout the allotments.

3.3.1.2.5.6 Social and Economic Values

Removing authorized grazing on the allotment for the duration of the 10-year grazing permit could have substantial social and economic impacts to the permittees and the local community, as discussed in Section 3.2.9.6 above.

3.3.1.2.5.7 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.2 Berrett FFR Allotment

3.3.2.1 Berrett FFR Allotment Affected Environment

3.3.2.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is met in pastures 1 and 3 but is not met in pasture 4 of the four-pasture Berrett FFR allotment; pasture 2 is all private. Although soil disturbance and bare ground in pasture 1 (old pasture 1 split into pastures 1 and 4) are at moderate departure on the RHA site, leaving it at risk for future disturbance activities, all other indicators for productive native plants are maintained as appropriate to provide for proper nutrient cycling, hydrologic cycling, and energy flow in pasture 1. Evidence of historic grazing impacts are present throughout pasture 4, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions; historic grazing and invasive annuals are the causal factors in not meeting Standard 4.

Qualitative rangeland health assessment data indicate that Standard 4 is not met in pasture 4, with moderate departure of reproductive capability of perennial plants and litter amount in the RHAs and increases in annual invasive species. This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met in pasture 4. Vegetation communities shifting to dominance of shallow-rooted bunchgrasses and increased invasive annuals lead to a conclusion that the vegetation management objective is not met.

3.3.2.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting watershed Standard 1 in the Berrett FFR allotment in pastures 1 and 4 (formerly part of pasture 1); pasture 2 is private and pasture 3 is meeting. In pasture 1, relics from historic and active erosional processes are distinct. Abundant trailing has promoted a decline in deep-rooted perennial bunchgrasses and the pasture

shows a gradual shift to shallow-rooted species. As a result, increased bare ground and degraded soil structure has promoted soil surface loss and degradation.

In pasture 4, mechanical disturbance from hoof shearing and trampling has led to extensive pedestaling, leaving soils churned and exposed. Vegetative cover and biologic soils crusts are reduced, especially within interspatial areas, and contribute to reduced soil stability and hydrologic function.

The decreased ecological function, impaired soils, and use during the critical growing season in the absence of rest indicate that soil and hydrologic function are compromised. Current and past livestock management are the primary contributing factors for not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions in the Berrett FFR allotment.

3.3.2.1.3 Riparian/Water Quality

Common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[47]

Standards 2 and 3 are not being met in pastures 1 and 4 of the Berrett FFR allotment. A reach of Williams Creek that traverses pasture 4 was twice assessed as functional-at-risk (FAR) because there were areas where the channel was over-wide, the sinuosity was out of balance for the valley type, and some areas had vertical and lateral instability. Another short reach of Williams Creek that occurs in pasture 1 was visited in 2011. Photos were taken and the reach appears to be in PFC. Approximately 1.0 mile of Pole Bridge Creek was assessed as FAR in 2000 (Table RIPN-14) because the stream's sinuosity and width-to-depth ratios were out of balance for the valley type, there was an inadequate composition and age class of deep-rooted riparian species to protect streambanks, and vertical instability was noted along the reach.

Subsequent to the FAR assessment, one MMIM site (Table RIPN-14) was established on the same reach of Pole Bridge Creek in pasture 1. The median stubble height was 3.6 inches, woody use was 9.7 percent, and streambank alteration was 41 percent. The metrics for stubble height and streambank alteration exceed the standards appropriate for maintenance of healthy riparian areas and stream channels.

One spring that occurs in pasture 1 and one that occurs in pasture 2 were assessed in 2011 and 2012. The unnamed spring in pasture 1 was classified as PFC, but the unnamed spring in pasture 4 was assessed as not functioning (NF; Table RIPN-14). The spring had been heavily impacted by livestock from removal of both herbaceous and woody vegetation and trailing and trampling. Only mature and decadent woody species remain with no herbaceous understory and a high percent of bare ground present creating erosion and sedimentation.

Table RINP-14: Berrett FFR allotment riparian condition

	Allotment & Pasture Stream Miles & Condition			
Stream Name	**Berrett FFR-01 Miles**	**Berrett FFR-04**	**Assessment Issues/ Impacts Identified**	**Total Miles**
Williams Creek		0.3 (FARS-2001/ FAR-2012)	areas with vertical and lateral instability/ areas with overwide channel and out of balance sinuosity	0.8
	0.1 (pictures only- 2011)		not assessed based on proximity of road	0.1

[47] For additional details on the current condition of the allotment, see the *Berrett FFR (0609) Initial Allotment and Permit/Lease Review and Rangeland Health Assessment* document in the project record or available from the Owyhee Field Office

	Allotment & Pasture Stream Miles & Condition			
Stream Name	**Berrett FFR-01 Miles**	**Berrett FFR-04**	**Assessment Issues/ Impacts Identified**	**Total Miles**
Pole Bridge Creek	1.0 (FAR-2000)		sinuosity and W/D out of balance/ inadequate species and age class present to protect banks/ lack of species with binding roots/ vertical instability	

Springs Assessed, Condition, & Issues Identified			
Spring Name	**Pasture/Assessment Year**	**PFC Condition**	**Assessment Issues/ Impacts Identified**
0609-01-07s05w09b(EAST)	4/ 2012	PFC	
Unnamed Spring 2	1/2011	NF	mature and decadent woody species only- no herbaceous/ high % of bare ground/ altered flow patterns from trailing and trampling/ excessive sediments and erosion/ heavy livestock use

MIM Metrics						
Stream Name	**Pasture/ Assessment Year**	**Median Stubble Height (inches)**	**Woody Use (%)**	**Streambank Alteration (%)**	**Stable Bank (%)**	**Covered Bank (%)**
Pole Bridge Creek	1/ 2011	3.6	9.7	41	45	79

For IDEQ water quality information associated with the Berrett FFR allotment, see table RIPN-1.

3.3.2.1.4 Wildlife and Special Status Animals

Exiting Conditions

Upland Habitat

Pastures 1 and 3 in the Berrett FFR allotment are managed as native plant communities. Plant community information in Standard 4 shows a slight to moderate departure in expected plant community composition; in addition, vegetation productivity and diversity were being maintained adequately to meet Rangeland Health Standard 4. Sage-grouse assessment information in pasture 3 found conditions to be suitable and supports the summary for Standard 4. As evidenced by the favorable summaries of Standard 4 and sage-grouse assessments, this pasture is providing minimum composition and structure for sagebrush steppe-associated species.

Pasture 4 in the Berrett FFR allotment is managed as a native plant community and is determined to be not meeting Standard 4 due to past grazing and the increased dominance of annual invasive grass species. The plant community is transitioning from a dominance of large perennial grasses such as bluebunch wheatgrass to a community dominated by smaller, more grazing-tolerant species such as annual invasive species. These species do not have the robust growth form or stature such as bluebunch wheatgrass and

do not provide the plant composition, structure, and function for sagebrush steppe-dependent species. This allotment therefore is not providing adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic grazing practices and the increased dominance of annual invasive species.

Riparian Habitat
Evaluation of Standards 2, 3, and 7 determined that streams and springs within this allotment are not properly functioning and not meeting water quality parameters due to historic and current livestock grazing. Streams, springs, and wetlands that are NF or are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support productive riparian environments. Because Standards 2, 3, and 7 are not met, this allotment is not providing adequate riparian habitat conditions to support viable aquatic and terrestrial species populations, and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species
Sage-grouse
The Berrett allotment falls within PPH/GPH habitat for sage-grouse (Table WDLF-5 and Map WDLF-1). The Berrett FFR allotment is unique in that the pastures are not contiguous and range in elevation from approximately from 5,000 feet to over 7,000 feet. There are no active leks in this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. Pasture 1 is providing marginal breeding and upland summer habitat conditions and pasture 3 is providing suitable upper elevation summer habitat conditions.

Pasture 4 is not meeting Standard 8 for sage-grouse because of an overabundance and height of the sagebrush overstory with a mixed (spreading/columnar) shape, combined with a less-than-desirable canopy cover of perennial grasses, although the combined height of perennial grasses and forbs was favorable. These overstory/understory conditions have reduced nesting, hiding, and escape value for sage-grouse during the breeding and late brood-rearing periods. Because cover values are less than adequate, this allotment is therefore not meeting Standard 8 for sage-grouse due to historic and current livestock grazing practices.

Table WDLF-5: Acres[1] and portions of preliminary priority and general priority habitat within the Berrett FFR allotment

Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	253 (12%)	0	1,777 (83%)	98 (5%)	2,128 (100%)
Pasture 2	0	0	0	327 (100%)	327 (100%)
Pasture 3	0	0	0	662 (100%)	662 (100%)
Pasture 4	476 (69%)	0	213 (31%)	0	689 (100%)
Allotment Total	729 (14%)	0	1,990 (40%)	1,087 (22%)	3,806 (76%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Columbia River redband trout are known to occur within the Williams Creek system (Map WDLF-2). Evaluation of Standards 2 and 3 identified streams and springs within this system that are not properly functioning due to current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filter sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flows. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and is therefore not meeting Standard 8 due to historic and current grazing practices.

This allotment is not identified to fall within the modeled distribution of the Columbia spotted frog.

3.3.2.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.2.1.6 Cultural Resources

There are no cultural sites or historic properties recorded in the allotment. Staff conducted one new survey out of the four potential livestock congregation areas identified in the Berrett FFR. The inventory resulted in no new cultural site recordings.

3.3.2.2 Berrett FFR Allotment Environmental Consequences

3.3.2.2.1 Alternative 1

3.3.2.2.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is met in pastures 1 and 3 but is not met in pasture 4 of the four-pasture Berrett FFR allotment; pasture 2 is all private. Implementation of Alternative 1 would continue current conditions of the Berrett FFR allotment. Pasture 4 would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Berrett FFR allotment.

Repeated April through November grazing during the critical growing period with recent slight to light utilization and AUMs ranging from 31 to 114 (see Appendix B), on the Berrett FFR allotment has allowed pastures 1 and 3 to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions. However, historic grazing in pasture 4 has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 4 of the Berrett FFR allotment.

3.3.2.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and

site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.2.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.2.2.1.3 Riparian Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.2.1), the Berrett FFR allotment would be available to grazing year-round without rest or growing season deferment (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, 2.4 mile of intermittent stream, and one spring would be affected by the impacts associated with grazing year-round. Recent actual use reported (Appendix B) indicates that the FFR has been used during the spring, summer, and fall months. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The Berrett FFR allotment is currently not meeting the standards associated with the riparian-wetland resources. Since the allotment would be grazed during the same seasons and under the same terms as the current situation and the impacts associated with season-long grazing per Table RIPN-7 and section 3.2.3.1 would continue. Thus, the allotment would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.2.2.1.4 Wildlife and Special Status Animals

The Berrett FRR allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, sage-grouse habitat, and Columbia redband trout habitat. Pastures 1 and 3 are meeting Standard 8 for uplands habitat conditions for sagebrush steppe wildlife.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.2.1.4 would continue and not progress toward meeting Standard 8 and desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.2.1.4, in Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.2.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.2.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.2.2.2 Alternative 2

3.3.2.2.2.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is met in pastures 1 and 3 but is not met in pasture 4 of the four-pasture Berrett FFR allotment; pasture 2 is all private. Implementation of Alternative 2 would improve current conditions of the Berrett FFR allotment. Pasture 4 would move toward meeting Standard 4 and ORMP objectives. This alternative would maintain or improve pastures 1 and 3 already meeting standards and ORMP objectives of vegetation communities.

Alternative 2 would prescribe April through July grazing in pasture 1 and 2; June through October grazing in pasture 3; and deferred grazing until July through October in pasture 4 with maximum of 200 head of cattle and 114 AUMs (see Alternative 2 proposal for full details Section 2.4). The grazing schedule is similar to Alternative 1 with increased deferment in pasture 4; thus, would continue to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions in pastures 1 and 3. The deferred grazing during the critical growing period in pasture 4 would allow deferment every year to upland vegetation currently not meeting vegetation standards where currently there is repeated spring and summer grazing. Vegetation resources not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition slowly on all areas as compared to Alternative 1, Current Situation.

3.3.2.2.2.2 Soils

Under Alternative 2, livestock grazing in the Berrett FFR allotment would take place every year in the spring in pastures 1 and 3 (pasture 2 is private) and only differs from Alternative 1 by proposing a more defined and shorter grazing season. Physical impacts during the wettest period would continue and repetitive growing season use would not contribute to increase the ability of native plant communities to provide for soil stability. Pasture 4 would benefit from yearly spring and critical growing season use deferment that would reduce physical soil impacts and offer native plant communities an opportunity to recover. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 as compared to Alternative 1 except for season related benefits in pasture 4 (see Section 3.2.2.3).

3.3.2.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.2.2), grazing would be prescribed for April through July in pasture 1 and 2; June through October in pasture 3; and deferred July through October in pasture 4 (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, 2.4 mile of intermittent stream, and one spring would be affected by the impacts associated with the spring, summer, and fall seasons of grazing every year.

The Berrett FFR allotment is currently (under Alternative 1/year-round) not meeting the standards associated with the riparian-wetland resources. Since the allotment would be utilized during the spring, summer, and fall months every year without deferment or rest, the impacts would be the same as Alternative 1 and the riparian-wetland standards would continue to not be met under Alternative 2.

3.3.2.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal is to graze annually pasture 1 in the spring to early summer; (pasture 2 is private); pasture 3 annually in the spring/summer/fall; and pasture 4 would be annually deferred to the summer/fall. Maximum stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.2.1.4, in Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions in pasture 1 and 3 and is not meeting Standard 8 in pasture 4 (Section 3.3.2.1.4). Under Alternative 2, pastures 1 and 3 would be grazed under a defined schedule that would include annual critical growth period (May 1–June 30) use. Annual critical growth season grazing does not allow plants an adequate recovery period to restore vigor and health and reduced habitat composition and structure would follow. This pattern of use would be detrimental to sage-grouse because of reduced security and escape cover needed during the nesting/early brood-rearing period (April 1–June 30) and into the late brood-rearing period (July 1–

August 31) and would increase the vulnerability of hens and chicks to detection and predation by terrestrial and avian predators. In pasture 4, the current conditions would not improve. The effects of annual spring grazing discussed above would continue and would not improve security and escape cover elements for sage-grouse during the nesting/early brood-rearing and late brood-rearing periods.

Currently, this allotment is not providing adequate riparian habitat conditions (Section 3.3.2.1.4). Under Alternative 2, annual riparian critical growth season (July 1–Sept.31) grazing use would occur in pastures 1 and 4. This grazing schedule would continue annual grazing pressure on the riparian community and would not allow herbaceous and woody plants to recover vigor and health. Riparian habitat regeneration and establishment would be suppressed and reduced composition and structure would be maintained. These conditions would not benefit the Columbia redband trout because of annual grazing and trampling of livestock in the riparian zone and stream systems that would result in increased bank instability, increased erosion and sediment delivery, reduced shade and woody debris recruitment, and the trampling of spring spawning areas that would reduce egg and fry survival.

Overall, under Alternative 2, current upland habitat conditions in pasture 1 and 3 would be maintained and have a greater potential to decline because of the annual grazing cycle during the critical growth season. Sage-grouse would not benefit from this grazing pattern because of reduced cover elements that would not be available during the nesting/early brood-rearing period into the late brood-rearing period. Columbia redband trout would not benefit by this grazing schedule because of repeated grazing in riparian habitats during the critical growth season and trampling of spring spawning areas.
Overall, under Alternative 2, current conditions would not improve and would not make progress toward meeting Standard 8 and ORMP objectives.

3.3.2.2.2.5 Social and Economic Values

See Section 3.2.9.3 above.

3.3.2.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.2.2.3 Alternative 3

3.3.2.2.3.1 Vegetation, incl. Noxious Weeds

Rangeland Health Standard 4 is being met in pastures 1 and 3 but is not being met in pasture 4 of the four-pasture Berrett FFR allotment; pasture 2 is all private. Implementation of Alternative 3 would improve current conditions of the Berrett FFR allotment. Pasture 4 would move toward meeting Standard 4 and ORMP objectives. This alternative would maintain or improve Pastures 1 and 3 already meeting Standard 4 and ORMP objectives of vegetation communities.

Alternative 3 would prescribe April through July grazing in pasture 1 and 3 for two years and fall in year 3; July through October grazing in pasture 4 for two years and October through November the third year of a three-year grazing rotation. Pasture 2 is all private property and would be available year-round for all three years, with maximum of 200 head of cattle and 114 AUMs (see Alternative 3 proposal for full details Section 2.4). The grazing is similar to Alternative 2 with increased deferment in pastures 1, 3, and 4. This alternative would continue to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions in pasture 1 and 3. The deferment every year during the critical growing period in pasture 4 would allow the upland vegetation currently not meeting vegetation standards where currently there is repeated spring and summer grazing to improve. Vegetation resources not meeting ORMP vegetation management objectives would have the opportunity to improve

unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas as compared to Alternative 1.

3.3.2.2.3.2 Soils

Alternative 3 would provide a minimum of 1 out of 3 years of deferment from spring grazing and critical growing season use for pastures 1 and 3 (pasture 2 is private), and yearly deferment to benefit soil and plant communities in pasture 4. This would result in reduced physical impacts to soils during the wettest period of the year and increase the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.2.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.2.3), pasture 1 of the Berrett FFR allotment would be available to grazing during the spring and summer for two years, and during the fall for the third year of a three-year rotation. Since pasture two is all private property, it would be available year-round for all three years. Pasture 3 would be open during the spring, summer, and fall for two years, and during the fall of the third year. Finally, pasture 4 would be available during the summer and fall for two years, and during the fall of the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, 2.4 mile of intermittent stream, and one spring would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternately during the course of a three-year rotation. The riparian areas occur within pastures 1 and 4.

The Berrett FFR allotment is currently (under Alternative 1/year-round) not meeting the standards associated with the riparian-wetland resources. Under Alternative 3, the allotment would be managed under a defined three year grazing schedule that incorporates growing season deferment one of the three years in the pastures that contain riparian areas (1 and 4). Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated one of the years. Other mandatory terms and conditions of the permit under this alternative would include measures that would reduce impacts (stubble height, woody browse, and bank alteration) associated with the riparian areas condition. Monitoring would be required within pasture 4 where grazing would occur two out of three years during the riparian constraint period, and would add assurances that progress toward meeting riparian-wetland standards would be made. Therefore, the riparian-wetland standards would make progress toward being met under Alternative 2.

3.3.2.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that implements a minimum 1 out of 3 years deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Maximum stocking would be increased from 112 to 200 head and AUMs would remain the same. Under Alternative 3, a three pasture, three-year grazing rotation would occur. Pasture 1 and 3 would be grazed in the spring 2 out of 3 years and then deferred the third year; and pasture 4 would be deferred 3 out of 3 years. The direct and indirect effects are the same as those discussed in Section 3.3.2.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions in pastures 1 and 3 and is not meeting Standard 8 in pasture 4 (Section 3.3.2.1.4). Under Alternative 3, the incorporation of deferment into the grazing schedule would provide improvement to habitat composition and structure and further benefit sage-grouse because of the additional security and escape cover and forage elements available during the nesting/early brood-rearing period (April 1–June 30) and the reduced vulnerability of

detection and predation in pastures 1 and 3. In pasture 4, substantial upland and sage-grouse habitat improvement would occur because of the 3 out of 3 years of deferment during the critical growth period (May 1–June 30) and the resulting increased security and escape cover available during the nesting/early brood-rearing period. Vegetation would have an annual spring growth period prior to being grazed in the summer and fall. Sage-grouse habitat conditions would improve because of the increased security and escape cover elements available during the nesting/early brood-rearing period and the reduced vulnerability to detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian function and aquatic habitat conditions (Section 3.3.2.1.4). Under Alternative 3, reduced grazing pressure along with identified terms and conditions (i.e. stubble height, woody browse, and bank alteration; Section 2.4.2.3) would benefit the herbaceous and woody plant community in riparian areas and benefit Columbia redband trout because of the increased stream shade, woody debris, flow regulation, and less sediment delivery. As riparian habitat function improves, stream, wetland, and spring habitats would benefit by the regeneration and establishment of herbaceous and woody species. The quality of aquatic habitats would improve as banks stability improves, erosion is reduced and sediment delivery minimized. Columbia redband trout would further benefit because of the absence of livestock activity in aquatic habitats during the spring spawning period (March 15–June 15), allowing improved survival of eggs and fry.

Overall, under Alternative 3, current upland and sage-grouse habitat conditions would show improvement. All pastures would provide improved composition and structure. Sage-grouse would benefit by the increased security and escape during the nesting/early brood-rearing period. Columbia redband trout would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the spring spawning period. Under this Alternative, current upland and riparian habitat conditions would improve and significantly progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.2.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. Deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.2.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.2.2.4 Alternative 4

3.3.2.2.4.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is met in pastures 1 and 3 but is not met in pasture 4 of the four-pasture Berrett FFR allotment; pasture 2 is all private. Implementation of Alternative 4 would improve current conditions of the Berrett FFR allotment. Pasture 4 would move toward meeting Standard 4 and ORMP objectives. This alternative would maintain or improve pastures 1 and 3 already meeting Standards and ORMP objectives of vegetation communities.

Alternative 4 would prescribe two years of deferment/rest in pastures 1 and 3; deferred or rested all three years in pasture 4 of a three-year grazing rotation. Pasture 2 is all private property and would be available year-round for all three years, with maximum of 96 head of cattle and 98 AUMs (see Alternative 4 proposal for full details Section 2.4). The grazing is similar to Alternative 3 with increased deferment and rest in pastures 1, 3 and 4 and reduction of 40 percent AUMs over a ten-year permit in the Berrett FFR allotment. Under this alternative, vegetation standards and satisfactory ORMP objectives for vegetation

health and conditions in pasture 1 and 3 would continue and be maintained. The deferment or rest every year during the critical growing period in pasture 4 would allow the upland vegetation currently not meeting vegetation standards where currently there is repeated spring and summer grazing. Vegetation resources not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternative 1.

3.3.2.2.4.2 Soils

Alternative 4 would provide a minimum of 2 out of 3 years of spring deferment and rest for all pastures that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from reduced critical growing season use for a minimum of 2 out of 3 years for all pastures and summer riparian grazing for pastures 1 and 4. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated summer use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting, and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.2.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.2.4), pasture 1 of the Berrett FFR allotment would be available to grazing during the spring and summer for one year, during the fall of the second year, and rested for the third year of a three-year rotation. Pasture 2 would be available year-round since it is all private property. Pasture 3 would be open during the spring, summer, and fall of the first year, during the fall one year, and rested the third year. Pasture 4 would be open during the summer and fall for one year, during the fall of the second year, and rested for the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.2 miles of perennial, 2.4 mile of intermittent stream, and one spring would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternately over the course of a three-year rotation.

The Berrett FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management (Alternative 1/year-round). The allotment would have a defined three-year grazing schedule that incorporates one year of growing season deferment as well as one year of rest out of the three years. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Additionally, over the ten-year permit, the changes in season of use would result in a 40 percent reduction in active AUMS. Therefore, the riparian-wetland areas would be protected during the important riparian area growing season two of three years, and the riparian-wetland standards would be met under Alternative 4.

3.3.2.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is a proposed deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a three pasture, three–year grazing rotation would occur. Pasture 1 and 3 would be grazed in the spring 1 out of 3 years, deferred the second year, and rested the third year; and pasture 4 would be deferred 2 years out of 3 and rested the third year. Maximum stocking would decrease from 112 to 96 head and AUMs would decrease by 40 percent over a ten-year period. The direct and indirect effects are the same as those discussed in discussed in Section 3.3.2.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions in pasture 1 and 3 and is not meeting Standard 8 in pasture 4 (Section 3.3.2.1.4). Under Alternative 4, combined with a 40 percent reduction in AUMs and 100 percent rest from grazing 1 out of 3 years, upland and sage-grouse habitat conditions would benefit and show significant improvement. Incorporating deferment/rest into the grazing strategy would substantially modify the repeated spring grazing cycle and allow plants to grow without grazing during the critical growth season (May 1–June 30). Although conditions are meeting Standard 8 in pastures 1 and 3, all the pastures would experience improved plant vigor and health and upland habitat composition and structure. Sage-grouse would benefit because of the increased availability of security and escape cover and forage provided during the nesting/early brood-rearing period (April–June 30) and late brood rearing period (July 1–August 31) and the reduced vulnerability to detection and predation.

Currently this allotment is not providing adequate riparian habitat and aquatic habitat conditions (Section 3.3.2.1.4). Under Alternative 4, combined with a 40 percent reduction in AUMs and 100 percent rest from grazing 1 out of 3 years, riparian and aquatic habitats would benefit by the increased regeneration and establishment of herbaceous and woody vegetation and improved riparian habitat function. Columbia redband trout would benefit as the quality of stream habitat conditions improve because of the increased stream shade, woody debris, flow regulation, and less sediment delivery and reduced livestock trampling in the stream corridor during the spring spawning period (March 15–June 15) that would allow for improved egg and fry survival.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would show substantial improvement. All pastures would provide improved habitat composition and structure. Habitat conditions in pasture 1 would continue and improve and conditions in pasture 2 would begin to recover habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing and late brood-rearing periods. Columbia redband trout would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the spawning period. Under this Alternative, current upland and riparian conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.2.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. Resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.2.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1..

3.3.2.2.5 Alternative 5

3.3.2.2.5.1 Vegetation, incl. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.2.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole,

Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.2.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.2.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.2.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.2.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.3 Big Field FFR Allotment

3.3.3.1 Big Field FFR Allotment Affected Environment

3.3.3.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Big Field FFR allotment. Evidence of historic grazing impacts are present throughout the allotment, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions, a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail), juniper encroachment, and invasive annuals. Historic grazing is a causal factor in the failure to meet Standard 4.

Qualitative rangeland health assessment data indicate that Standard 4 is not being met due to moderate to extreme departure of plant mortality, decadence, and soil surface resistance to erosion in the RHAs, with moderate departure ratings in annual invasives, including juniper encroachment. This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not being met. Vegetation communities are shifting to shallow-rooted bunchgrasses, with the expansion of annual invasive grasses and juniper encroachment and moderate ratings of reproductive capabilities of perennial plants. Thus, the vegetation management objective is not being met.

3.3.3.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting watershed Standard 1 in the Big Field FFR allotment. Accelerated erosional processes and water flow patterns have caused an increase in bare ground and pedestaling of plants; trails and mechanical disturbance are common and have affected the biological soil crust component in the interspatial areas, have churned soils, and reduced soil stability.

Past and current grazing has caused a reduction in deep-rooted bunchgrasses and an increase in plant decadence and mortality. As a result, soil degradation associated with mechanical damage by livestock hoof action is common due to a reduction in protective vegetation. In addition, western juniper has been encroaching and is affecting hydrologic function and soil stability.

The decreased ecological function and physically impaired soils indicate that soil and hydrologic function are compromised. Current and historic livestock management is the primary contributing factor for not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions in the Big Field FFR allotment.

3.3.3.1.3 Riparian/Water Quality

Common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[48]

Standards 2 and 3 are not being met in the Big Field FFR allotment. Approximately 1.2 miles of Combination Creek were most recently assessed as FAR. The 0.9-mile reach that traverses BLM land along the western boundary of the allotment had areas of inadequate composition and inadequate age class of riparian species present to provide deep roots that aid in protecting the stream banks. The point bars were not re-vegetating and were scoured, and there were areas where the sinuosity and width-to-depth ratios were out of balance and areas with excessive erosion and deposition. There was a shorter 0.3-mile reach that was assessed as FAR in 2001 and was re-visited in 2011. Although the PFC protocol was not applied, according to the photos, the reach still appears to be FAR (Table RIPN-15).

Table RIPN-15: Big Field FFR allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Big Field FFR-01**	**Assessment Issues/ Impacts Identified**	**Total Miles**
North Boulder Creek	1.2 (FARU-2001/PFC-2011)	2001: invader and shallow rooted species were a component of the floodplain/ leafy spurge occupied over 35 percent of the riparian zone. A trace of Canada thistle was recorded. 2011: conditions had improved and vegetation was sufficient to protect stream banks	1.2
Combination Creek	0.9 (FAR- 2000)	areas of inadequate composition and age class of vegetation present/ lack of deep-rooted species to protect stream banks/ scoured point bars/ areas of erosion and deposition/ areas where sinuosity and W/D ratios were out of balance	0.9
	0.3 (FARS-2001/re-visit pictures only-2011)	2001: lack of floodplain inundation/ areas of inadequate composition and age class of vegetation present/ lack of deep-rooted species to protect stream banks 2011: factors outside BLM control made PFC assessment inappropriate; pictures appear to show FAR condition	0.3

[48] For additional details on the current condition of the allotment, see the *Big Field FFR (0594) Initial Allotment and Permit/Lease Review and Rangeland Health Assessment* document in the project record or available from the Owyhee Field Office

For IDEQ water quality information associated with the Big Field allotment, see table RIPN-1.

3.3.3.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat
Evaluation of Standard 4 determined that the Big Field FFR allotment is not meeting rangeland health standards due to past grazing practices. Currently, the plant community is transitioning from a dominance of large perennial grasses such as bluebunch wheatgrass to a community dominated by smaller, more grazing-tolerant species such as Sandberg bluegrass and squirreltail. These species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant composition, structure, and function for sagebrush steppe-dependent species. This situation allows for the further encroachment of juniper. Because upland plant community composition has not improved and Standard 4 is not being met, current upland resources in this allotment are not providing adequate upland habitat cover and forage values for sagebrush steppe species and is not meeting Standard 8 due to historic grazing practices.

Riparian Habitat
Evaluation of Standards 2 and 3 identified streams within this allotment that are not properly functioning due to historic and current grazing practices and therefore do not meet Standard 8. Streams, springs, and wetlands that are assessed as FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standard 2 and 3 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species
Sage-grouse
No sage-grouse habitat assessments have been conducted in this allotment. Limited PPH habitat occurs in this allotment (Table WDL-6 and Map WDLF-1), and advancing junipers are encroaching in this zone. GPH habitat is fragmented and largely occupied by juniper. The current value of this allotment for sage-grouse is further reduced when combined with the transition of the upland plant community to smaller-stature grasses from bluebunch wheatgrass to Sandberg. There are no active leks within this allotment. This allotment is not meeting Standard 8 for sage-grouse due to historic grazing practices that have contributed to the decline in the plant community composition and the expansion of junipers into once dominated sagebrush steppe habitats.

Table WDLF-1: Acres[1] and portions of preliminary priority and general priority habitat within the Big Field FFR allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Allotment Total	0	0	523 (19%)	1,107 (40%)	1,630 (59%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Columbia River redband trout are known to occur within the Combination Creek system (Map WDLF-2). Evaluation of Standard 2 identified Combination Creek as functioning-at-risk due to historic and current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters

sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8 due to historic and current grazing practices.

This allotment is not identified to fall within the modeled distribution of the Columbia Spotted Frog.

3.3.3.1.5 Visual Resources

As mentioned above in section 3.1.6 the Big Field FFR contains class II VRM in roughly 40% of the allotment. The remainder of the allotment is class IV VRM. A description of the management classifications can be found in section 3.1.6 as well.

3.3.3.1.6 Social and Economic Values

See Section 3.1.9 above.

3.3.3.1.7 Cultural Resources

There are no cultural sites or historic properties recorded in the Big Field FFR. Because no livestock congregation areas are identified on BLM administered land in the allotment, no new surveys occurred.

3.3.3.2 Big Field FFR Allotment Environmental Consequences

3.3.3.2.1 Alternative 1

3.3.3.2.1.1 Vegetation, incl. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Big Field FFR allotment. Implementation of Alternative 1 would continue current conditions of the Big Field FFR allotment. Big Field FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Big Field FFR allotment.

Alternating mid-June to July and August turn out dates through October grazing with recent slight to light utilization and AUMs ranging from 104 to 181 (see Appendix B) on the Big Field FFR allotment has occurred. However, juniper encroachment and historical livestock grazing has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses and juniper. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Big Field FFR allotment.

3.3.3.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be

maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.3.1.2, the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and the Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.3.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.3.1), the Big Field FFR allotment would be available to grazing year-round without rest or growing season deferment (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.9 miles of perennial, and 1.7 mile of intermittent stream would be affected by the impacts associated with all seasons of grazing. Recent actual use reported (Appendix B) indicates that the FFR has been primarily used during the summer, and early fall months. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The Big Field FFR allotment is currently not meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing year-round and the impacts associated with grazing season per Table RIPN-7, and section 3.2.3.1 would continue; thus, the allotment would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.3.2.1.4 Wildlife and Special Status Animals

The Big Field FRR allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, sage-grouse habitat, and Columbia redband trout habitat.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.3.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.1.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.1 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.3.2.1.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5.

3.3.3.2.1.6 Social and Economic Values

See Section 3.2.9.2 above.

3.3.3.2.1.7 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.3.2.2 Alternative 2

3.3.3.2.2.1 Vegetation, incl. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Big Field FFR allotment. Implementation of Alternative 2 would continue current conditions of the Big Field FFR allotment. Big Field FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Alternative 2 would prescribe June through October grazing with a maximum of 142 head of cattle and 168 AUMs (see Alternative 2 proposal for full details Section 2.4). The grazing is similar to Alternative 1 and would continue to not meet vegetation standards or to not maintain satisfactory ORMP objectives for vegetation health. The repeated grazing during the critical growing period would not allow ample recovery to upland vegetation currently not meeting vegetation Standards. Vegetation resources not meeting ORMP vegetation management would not have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas similar to Alternative 1, Current Situation.

3.3.3.2.2.2 Soils

Alternative 2 for the Big Field FFR allotment would provide yearly deferment from spring grazing that would reduce physical impacts to soils during the wettest period and differ little from Alternative 1. However, grazing would continue to occur within the critical growing season and further decline soil stability due to the reduced opportunity of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 as compared to the current condition (see Section 3.2.2.3).

3.3.3.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.3.2), the Big Field FFR allotment would be available to grazing during the summer and fall annually (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.9 miles of perennial, and 1.7 mile of intermittent stream would be affected by the impacts associated with the summer, and fall seasons of grazing every year.

The Big Field FFR allotment is currently (under Alternative 1/year-round) not meeting the standards associated with the riparian-wetland resources. Since the allotment would be utilized during the summer and fall months every year without deferment or rest, the riparian-wetland standards would continue to not be met under Alternative 2, and the impacts would be the same as those described under Alternative 1, in Table RIPN-7, and in section 3.2.3.1.

3.3.3.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal is to graze annually in the late spring/summer/fall. Maximum stocking would increase from 142 to 168 head and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.3.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Sections 3.3.2.5.2 and 3.2.5.3 Environmental Consequences of Alternatives 1 and 2 Common to All Allotments.

Currently this allotment is not providing adequate upland habitat and sage-grouse habitat conditions (Section 3.3.3.1.4). Under Alternative 2, this grazing strategy is the same as Alternative 1 and therefore would continue the current conditions under Alternative 1 and would not improve upland habitat and sage-grouse habitat conditions (see Section 3.3.3.1.5).

Currently this allotment is not providing adequate riparian habitat and aquatic habitat conditions (Section 3.3.3.1.4). Under Alternative 2, this grazing strategy is the same as Alternative 1 and therefore would continue the current conditions under Alternative 1 and would not improve riparian habitat and aquatic habitat conditions (see Section 3.3.3.1.5).

Overall, because current conditions would be maintained, this grazing strategy would not progress this allotment toward meeting Standard and ORMP objectives.

3.3.3.2.2.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5.

3.3.3.2.2.6 Social and Economic Values

See Section 3.2.9.3 above.

3.3.3.2.2.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.3.2.3 Alternative 3

3.3.3.2.3.1 Vegetation, incl. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Big Field FFR allotment. Implementation of Alternative 3 would improve current conditions of the Big Field FFR allotment. The Big Field FFR allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would prescribe June through October grazing two out of three years and deferment from October through November in year three of a three-year grazing rotation with a maximum of 142 head of cattle and 168 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment as compared to repeated grazing during the critical growing period in Alternatives 1 and 2 in the Big Field FFR allotment would improve vegetative health and vigor moving toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternatives 1 and 2.

3.3.3.2.3.2 Soils

Alternative 3 would provide yearly deferment from spring grazing that would result in reduced physical impacts to soils during the wettest period and would be similar to Alternatives 1 and 2. The benefits of Alternative 3 would arise during 1 of 3 years where the season of use is limited to the fall and would not only exclude spring grazing, but also provide deferment from critical growing season use and summer riparian grazing. This would provide native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated use on upland soils that surround riparian areas. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.3.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.3.3), the Big Field FFR allotment would be available to grazing during the summer and fall for two years, and during the fall only for the third year of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.9 miles of perennial, and 1.7 mile of intermittent stream would be affected by the impacts associated with the summer and fall seasons of grazing alternating over the course of a three year schedule.

The Big Field FFR allotment is currently (under Alternative 1/year-round) not meeting the standards associated with the riparian-wetland resources. Under alternative 3, the allotment would have a defined three year grazing schedule that would implement growing season deferment one of the three years. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would

be eliminated for one year. Other mandatory terms and conditions of the permit under this alternative would include measures that would reduce impacts (stubble height, woody browse, and bank alteration associated with the riparian areas condition. Monitoring would be required during the years that the riparian areas are grazed during the constraint period, and would add assurances that progress would be made toward meeting standards. Therefore, the riparian-wetland standards would make progress toward being met under Alternative 3.

3.3.3.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that implements a grazing system that would create a minimum of 1 out of 3 years deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a one pasture, three-year grazing rotation would occur. Grazing would occur spring/summer/fall for 2 out of 3 years followed by fall deferment. Maximum stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.3.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.3.1.4). Under Alternative 3, upland habitat and sage-grouse habitat conditions would benefit by this grazing schedule and the incorporation of grazing deferment 1 out of 3 years outside of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). Deferment would modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season and recover vigor and health. As habitat composition and structure improves, sage-grouse would benefit by the increased security and escape cover being provided during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.3.1.4). Under Alternative 3, the incorporation of deferment would reduce grazing during the riparian critical growth period (July 15–Sept. 30) 1 out of 3 years. The improved regeneration and establishment of herbaceous and woody plants in the riparian zone would function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia redband trout would benefit because of the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function. Additionally, reduced occurrence of livestock trampling in the stream corridor during the spawning season (March 15–June 15) would improve egg and fry survival.

Overall, under Alternative 3, current upland and sage-grouse habitat conditions would show considerable improvement to habitat composition and structure. Sage-grouse would benefit by the increased security and escape during the nesting/early brood-rearing period. Columbia redband trout would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function and reduced livestock access and tramping of stream habitat during the spawning period. Under this Alternative, current upland and riparian conditions would improve and progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.3.2.3.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.3.5.

3.3.3.2.3.6 Social and Economic Values

See Section 3.2.9.4 above. Deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.3.2.3.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.3.2.4 Alternative 4

3.3.3.2.4.1 Vegetation, incl. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Big Field FFR allotment. Implementation of Alternative 4 would improve current conditions of the Big Field FFR allotment. Big Field FFR allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe June through October grazing one out of three years, deferment from October through November in one out of three years, and rest one out of three years of a three-year grazing rotation with a maximum of 142 head of cattle and 168 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and rest and 5 percent reduction in AUMs over the ten-year permit as compared to repeated grazing during the critical growing period in Alternatives 1 and 2 in the Big Field FFR allotment would improve vegetative health and vigor moving toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternatives 1 and 2.

3.3.3.2.4.2 Soils

Alternative 4 would provide yearly deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided through deferment and rest from critical growing season use and from limited summer riparian grazing. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated summer use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and, improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.3.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.3.4), the Big Field FFR allotment would be available to grazing during the summer and fall for one year, during the fall only for the third year, and rested for the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.9 miles of perennial, and 1.7 mile of intermittent stream would be affected by the impacts associated with the summer and fall seasons of grazing alternately over the course of a three year schedule.

The Big Field FFR allotment is currently (under Alternative 1/year-round) not meeting the standards associated with the riparian-wetland resources. Under this Alternative, the allotment would have a defined three-year grazing schedule that would implement one year of growing season deferment as well as one year of rest over the three years. Thus, the impacts associated with grazing during the summer per

Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Since grazing would be restricted in the riparian-wetland areas during the important growing season, the riparian-wetland standards would be met under Alternative 4.

3.3.3.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years of deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a one pasture, three-year grazing rotation would occur. Grazing would occur spring/summer/fall 1 out of 3 years followed by a year of fall deferment and then a year of rest. Maximum stocking levels would decrease from 142 to 135 head and AUMs would be reduced by 5 percent. The direct and indirect effects are the same as those discussed in Section 3.3.3.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.3.1.4). Under Alternative 4, upland and sage-grouse habitat conditions would benefit by the100 percent rest from grazing 1 out of 3 years and would show significant improvement. Incorporating deferment/rest into the grazing strategy would substantially modify the repeated spring grazing cycle and allow plants to grow without grazing pressure during the critical growth season (May 1–June 30). Upland habitats would experience improved plant vigor and health and improved composition and structure. Sage-grouse would benefit by the increased availability of security and escape cover and forage available during the nesting/early brood-rearing period (April–June 30) and late brood rearing period (July 1–August 31), and the reduced vulnerability to detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat and aquatic habitat conditions (Section 3.3.3.1.4). Under Alternative 4, riparian and aquatic habitats would benefit considerably by the 100 percent rest from grazing 1 out of 3 years and the increased regeneration and establishment of herbaceous and woody vegetation and improved riparian function. Columbia redband trout would benefit as the quality of stream habitat conditions improve because of the increased stream shade, woody debris, flow regulation, and less sediment delivery, in addition to reduced livestock trampling in the stream corridor during the spring spawning period (March 15–June 15) that would allow for improved egg and fry survival.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would show substantial composition and structural improvement. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing and late brood-rearing periods. Columbia redband trout would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function in addition to the reduced livestock access and tramping of stream habitat during the spawning period. Under this Alternative, current upland and riparian conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.3.2.4.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.4.5.

3.3.3.2.4.6 Social and Economic Values

See Section 3.2.9.5 above. Deferred grazing and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.3.2.4.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.3.2.5 Alternative 5

3.3.3.2.5.1 Vegetation, including. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.3.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.3.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.3.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.3.2.5.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.5.5.

3.3.3.2.5.6 Social and Economic Values

See Section 3.2.9.6 above.

3.3.3.2.5.7 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.4 Bogus Creek FFR Allotment

3.3.4.1 Bogus Creek FFR Allotment Affected Environment

3.3.4.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Bogus Creek FFR allotment. Evidence of historic grazing impacts are present throughout the allotment, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by sagebrush and juniper encroachment; historic grazing and invasive annuals are the causal factors in failing to meet Standard 4.

Qualitative rangeland health assessment data indicate that Standard 4 is not being met due to moderate departure of structural functional group and plant community composition with increases in annual invasives and juniper encroachment. This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not being met. Vegetation communities shifting to dominance of sagebrush, juniper encroachment, and moderate departure of structural functional group in the plant community composition all lead to a conclusion that the vegetation management objective is not being met.

3.3.4.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in the Bogus Creek FFR allotment. Elevated bare ground and associated impacts from mechanical hoof action on abundant trails and within interspaces have left soils churned and exposed.

Non-mechanical impacts are associated with altered plant community composition and distribution from a decrease in relative abundance of large, deep-rooted native perennial bunchgrasses. Although soil surface loss is minimal thus far, the reduction in small-scale variations of height and roughness of the ground surface resulting from absent vegetation and persistent cover increases the susceptibility to erosion, especially when soils are churned and bare.

The encroachment of western juniper also contributes to altered hydrologic function and to the deviation in functional structural groups expected within this sagebrush community. Limited vegetation found in interspatial areas and trace amounts of scattered grasses have resulted in the departure from reference conditions and affect infiltration and runoff. Taken together, the decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised. Current and past livestock management are the primary causal factor in failing to meet Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health conditions in the Bogus Creek FFR allotment.

3.3.4.1.3 Riparian/Water Quality

Common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[49]

Approximately 1.3 miles of Nip and Tuck Creek and 0.25 mile of an unnamed tributary (previously named Indian Creek) traverse BLM lands within the Bogus Creek allotment. Nip and Tuck Creek is an ephemeral swale; thus, the PFC protocol was not applied. Information associated with the area is covered under Standard 1. The 0.25 mile of the unnamed tributary was a headwater wet meadow and was rated FAR (Table RIPN-16). The area had been compacted, causing drying, hummocking, and surface erosion. Because the soils are compacted, spring flows occur quickly and an incised, scoured channel has formed. The riparian vegetation has been grazed and is affecting plant vigor, composition, and age class.

[49] For additional details on the current condition of the allotment, see the *Bogus Creek Field FFR (0577) Initial Allotment and Permit/Lease Review and Rangeland Health Assessment* document in the project record or available from the Owyhee Field Office

Table RIPN-16: Bogus Creek FFR allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Bogus Creek FFR- 01**	**Assessment Issues/ Impacts Identified**	**Total Miles**
Nip and Tuck Creek	1.3 (NA- 2013)	ephemeral- PFC protocol not applied	1.3
Unnamed Trib/ Wet Meadow	0.25 (FAR- 2013)	headwater compaction/ surface erosion occurring/ channel forming and scouring/ veg removal high	0.25

For IDEQ water quality information associated with the Bogus Creek allotment, see table RIPN-1.

3.3.4.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat

Evaluation of rangeland trend information determined that the Bogus Creek FFR allotment is not meeting Standard 4 due to past livestock grazing and an increase of annual invasive species. The increase in annual invasive species and juniper and the decrease in bluebunch wheatgrass suggest that community composition is transitioning to more grazing-tolerant species. Primarily, the annual invasive species lack the robust growth form or stature of bluebunch wheatgrass and do not provide the understory plant composition, structure, and function for sagebrush steppe-dependent species. The encroachment of junipers will overtime become a dominant species and further drive a change in the community as well. Because the plant community transition can be anticipated to deteriorate further overtime, this allotment is not providing adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic grazing practices, the increase in annual invasive species, and the encroachment of junipers.

Riparian Habitat

Evaluation of Standards 2 and 3 determined that a headwater wet meadow on an unnamed tributary to Nip and Tuck Creek was functioning-at-risk and that historic and current livestock grazing is a casual factor. Streams, springs, and wetlands that are functioning-at-risk are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2 and 3 are not being met, this allotment is failing to provide adequate riparian habitat conditions to support viable aquatic and terrestrial species populations, and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

This allotment does not fall within modeled PPH/GPH habitat for sage-grouse (Map WDLF-1).

Columbia Spotted Frog

This allotment is within the mapped distribution of the Columbia spotted frog (Map WDLF-2). Evaluation of Standards 2 and 3 identified an unnamed headwater spring that is functioning-at-risk. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation

corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because the unnamed headwater spring habitat characteristics are functioning-at-risk, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs, and therefore is not meeting Standard 8 due to historic and current livestock grazing practices.

No Columbia redband trout waters are documented or known to occur within this allotment.

3.3.4.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.4.1.6 Cultural Resources

There are no cultural sites recorded on BLM administered land in the allotment. There are two potential livestock congregation areas identified in the Bogus Creek FFR, but no new surveys occurred.

3.3.4.2 Bogus Creek FFR Allotment Environmental Consequences

3.3.4.2.1 Alternative 1

3.3.4.2.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Bogus Creek FFR allotment. Implementation of Alternative 1 would continue current conditions of the Bogus Creek FFR allotment. Bogus Creek FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Bogus Creek FFR allotment.

General season of use between June through September grazing with recent slight utilization and AUMs ranging from 21 to 25 (see Appendix B), on the Bogus Creek FFR allotment has occurred. However, juniper encroachment and historical livestock grazing has caused the vegetation communities to have increased annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation Standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Bogus Creek FFR allotment.

3.3.4.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.4.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.4.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.3.1), the Bogus Creek FFR allotment would be available to grazing year-round without rest or growing season deferment (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.3 mile of intermittent stream, and one spring would be affected by the impacts associated with all seasons of grazing. Recent actual use reported (Appendix B) indicates that the FFR has been primarily used during the summer, and early fall months. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The Bogus Creek FFR allotment is currently not meeting the standards associated with the riparian-wetland resources under current livestock management. Therefore, since the allotment would be open to livestock grazing year-round, it would continue to not meet the riparian-wetland standards under this alternative, and the impacts associated with season-long grazing per Table RIPN-7 and section 3.2.3.1 would continue. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.4.2.1.4 Wildlife and Special Status Animals

The Bogus Creek FRR allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, and Columbia spotted frog habitat (Section 3.3.4.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.4.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.1.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.1 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.4.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.4.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.4.2.2 Alternative 2

3.3.4.2.2.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Bogus Creek FFR allotment. Implementation of Alternative 2 would improve current conditions of the Bogus Creek FFR allotment. Bogus Creek FFR allotment would move toward meeting Standard 4 and ORMP objectives.

Alternative 2 would prescribe yearly spring deferment with every third year after October grazing with a maximum of 350 head of cattle and 24 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of deferment compared to Alternative 1 in the Bogus Creek FFR allotment would allow recovery to upland vegetation communities and progress toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.4.2.2.2 Soils

Alternative 2 in the Bogus Creek FRR allotment would provide yearly deferment from spring grazing and result in reduced physical impacts to soils during the wettest period and would be similar to Alternative 1.

The benefits of Alternative 2 would arise during 1 of 3 years where the season of use is limited to the fall and would not only exclude spring grazing, but also provide deferment from critical growing season use and summer riparian grazing. This would provide native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated use on upland soils that surround riparian areas. As a whole, improvements proposed with Alternative 2 are therefore expected to be better as compared with Alternative 1, though not as rapid as Alternatives 4 and 5 (see Sections 3.2.2.3 and 3.2.2.4).

3.3.4.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.3.2), the Bogus Creek FFR allotment would be available to grazing during the summer and fall for two years, and during the fall only for the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.3 mile of intermittent stream, and one spring would be affected by the impacts associated with the summer and fall seasons of grazing alternately over the course of a three year rotation.
The Bogus Creek FFR allotment is currently (under Alternative 1/year-round) not meeting the standards associated with the riparian-wetland resources. Under this Alternative, the allotment would be managed under a defined three-year grazing schedule that would incorporate one out of three years of growing season deferment. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated for one year. Therefore, the riparian-wetland standards would make progress toward being met under Alternative 2.

3.3.4.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal is to implement a deferred grazing management strategy that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a one pasture, three-year grazing rotation would occur. Grazing would occur spring/summer/fall 2 out of 3 years followed by fall deferment. Maximum stocking levels would increase from 24 to 350 head and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.4.1.4, in Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland habitat conditions (Section 3.3.4.1.4). Under Alternative 2, upland habitat conditions would benefit by this grazing schedule and the incorporation of grazing deferment 1 out of 3 years out of the critical growth period (May 1–June 30). Deferment would modify the repeated spring grazing cycle and allow plants a period to grow during the critical growth season (May 1–June 30). This would improve plant vigor and health and improve habitat composition and structure. Sagebrush steppe species would benefit by the availability of increased security and escape cover and forage.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.4.1.4). Under Alternative 2, reduced grazing pressure would benefit the herbaceous and woody plant community in riparian areas and benefit Columbia spotted frog because of the increased stream shade, woody debris, flow regulation, and less sediment delivery. The quality of aquatic habitats would improve as bank stability improves, erosion is reduced and sediment delivery minimized. Columbia spotted frogs would further benefit because of the absence of livestock activity in aquatic habitats during the breeding/egg mass laying period (May 1–June 30) and would allow improved survival of eggs and larvae in the spring.

Overall, under Alternative 2, current upland and sagebrush steppe habitat conditions would improve because of improved composition and structure as plant vigor and health recovers. Sagebrush steppe wildlife would benefit by the increased security and escape cover and forage elements that would be

available. Columbia spotted frogs would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the breeding/egg laying period. Under this Alternative, current upland and riparian habitat conditions would improve and progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.4.2.2.5 Social and Economic Values

See Section 3.2.9.3 above.

3.3.4.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.4.2.3 Alternative 4

3.3.4.2.3.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in the Bogus Creek FFR allotment. Implementation of Alternative 4 would improve current conditions of the Bogus Creek FFR allotment. Bogus Creek FFR allotment would move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe one in three years of spring deferment, one in three years after October grazing, and one in three years of rest with a maximum of 24 head of cattle and 24 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and rest and a reduction of 30 percent in AUMs over a ten-year permit as compared to Alternatives 1 and 2 in the Bogus Creek FFR allotment would allow recovery to upland vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition as compared to Alternatives 1 and 2.

3.3.4.2.3.2 Soils

Alternative 4 would provide yearly deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from 2 out of 3 years of deferment or rest from critical growing season use and riparian grazing that promotes the ability of native plant communities. This would provide an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated use on upland soils that surround riparian areas. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.4.2.3.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.3.4), the Bogus Creek FFR allotment would be available to grazing during the summer and fall for one year, and during the fall only for one year, and rested the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.3 miles of intermittent stream, and one spring would be affected by the impacts associated with the summer and fall seasons of grazing alternately over the course of a three-year rotation.

The Bogus Creek FFR allotment is currently (under Alternative 1/year-round) not meeting the standards associated with the riparian-wetland resources. Under this Alternative, the allotment would be managed under a defined three-year grazing schedule that incorporates one year of growing season deferment as well as one year of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7

and section 3.2.3.1 would be eliminated those two years. Additionally, over the ten-year permit, the changes in season of use would result in a 30 percent reduction in active AUMS. Therefore, the riparian-wetland standards and the ORMP objectives would be met under Alternative 4.

3.3.4.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years of deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a one pasture, three-year grazing rotation would occur. Grazing would occur spring/summer/fall 1 out of 3 years followed by a year of fall deferment and then a year of rest. Maximum stocking levels would remain the same and AUMs would be reduced by 30 percent. The direct and indirect effects are the same as those discussed in Section 3.3.4.1.4, in Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is not providing adequate upland habitat conditions (Section 3.3.4.1.4). Under Alternative 4, combined with the 30 percent reduction in AUMs, upland habitat conditions would benefit by the100 percent rest from grazing 1 out of 3 years and would show significant improvement. Incorporating deferment/rest into the grazing strategy would substantially modify the repeated spring grazing cycle and allow plants to grow without grazing during the critical growth season (May 1–June 30). Upland habitats would experience improved plant vigor and health and improved habitat composition and structure. Sagebrush steppe wildlife would benefit by the increased availability of security and escape cover and forage and protection from predation.

Currently this allotment is not providing adequate riparian habitat and aquatic habitat conditions (Section 3.3.4.1.4). Under Alternative 4, combined with a 30 percent reduction in AUMs, riparian and aquatic habitats would benefit considerably by the by the100 percent rest from grazing 1 out of 3 years and the increased regeneration and establishment of herbaceous and woody vegetation. As riparian habitat conditions improve, aquatic habitat conditions would improve as well as bank stability improves, erosion is reduced and sediment delivery minimized. Columbia spotted frogs would further benefit because of the absence of livestock activity in aquatic habitats during the breeding/egg mass laying period (May 1–June 30) and would allow improved survival of eggs and larvae in the spring.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would show substantial improvement in composition and structure. Sagebrush steppe wildlife would benefit by the increased security and escape cover and forage elements that would be available. Columbia spotted frogs would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the breeding/egg laying period. Under this Alternative, current upland and riparian habitat conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.4.2.3.5 Social and Economic Values

See Section 3.2.9.5 above. Deferred grazing and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.4.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.4.2.4 Alternative 5

3.3.4.2.4.1 Vegetation, including. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.4.2.4.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.4.2.4.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.4.2.4.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.4.2.4.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.4.2.4.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.5 Boulder Allotment

3.3.5.1 Boulder Allotment Affected Environment

3.3.5.1.1 Vegetation, incl. Noxious Weeds

Rangeland Health Standard 4 is not met in the Boulder allotment. Annual invasives are increasing. The allotment shows evidence of historic grazing impacts are present, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue less than 10 percent) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and North African grass). Current grazing and invasive annuals are causal factors in not meeting Standard 4, due to repeated moderate utilization during spring use.

Qualitative rangeland health assessment data indicate that Standard 4 is not being met, with moderate to extreme departure of functional/structural groups and plant mortality/decadence in the RHAs. The allotment is dominated by shallow-rooted bunchgrass and invasive annuals rather than ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

Overall interpretations of trend data in pastures 1 and 2 suggest that the continuous deterioration of biotic conditions due to decrease of deep-rooted bunchgrasses and increasing annual invasives has compromised the biotic integrity of the community.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met. Vegetation communities shifting to shallow-rooted bunchgrasses, with the expansion of annual invasive grasses lead to a conclusion that the vegetation management objective is not met.

3.3.5.1.2 Soils

Current and historic livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1, 2, and 3 of the Boulder Creek allotment. The reduction in soil and hydrologic function is associated with physical soil disturbance and an altered plant community composition and distribution from decreased relative abundance of large, deep-rooted native perennial bunchgrasses.

Mechanical damage, impacts from trails, and pugging have impaired soils along with widespread erosion relics from past and current livestock grazing management where spring and growing season use has been ongoing and utilization has been moderate to heavy. Over time, altered plant community composition and distribution and loss of surface soils have reduced vegetation cover in interspaces. As a result, soil surface loss and degradation is present in the form of water flow paths and associated extensive pedestaling that are in various stages of stabilization.

Invasive annuals are also the cause for considering all pastures at risk for declining soil conditions. Pasture 2 is the most affected with shallow-rooted and deep-rooted perennial bunchgrasses declining and the latter being practically absent. The biotic integrity has been compromised by invasive annuals that, over the long term, have long-lasting negative impacts to hydrologic function and soil productivity.

The declining ecological condition and impaired soils indicate that soil and hydrologic function are compromised. Current and past livestock management is the primary contributing factor for not meeting. The ability for proper nutrient cycling, hydrologic cycling, and energy flow is impaired so that Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions are not being met in the Boulder allotment.

3.3.5.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[50]

Standards 2 and 3 are not being met in the Boulder allotment. There are two named streams that occur within pastures 2 and 3 of the allotment: Rail and Cattle Creeks. Additionally, one unnamed spring occurs in pasture 1 and two occur in pasture 3. A total of 1.6 miles of stream have been assessed and were rated FAR. Rail Creek was twice rated FAR (2001 and 2004) because there were inadequate riparian species present and noxious weeds were increasing in the area. Approximately 0.5 mile of Cattle Creek was assessed as part of a longer reach of stream and was FAR (Table RIPN-17) because there was a lack of deep-rooted stabilizing species to protect the stream banks during times of high flow, there were downcut banks and the channel was incised, and there were unstable beaver dams present.

All three springs were rated FAR (Table RIPN-17). The spring in pasture 1 had altered flow patterns and compacted soils from livestock trailing and trampling, subsequent erosion and deposition occurring, and the area was losing extent. Minear Creek Spring that occurs in pasture 1 was previously developed and

[50] For additional details on the current condition of the allotment, see *Rangeland Health Assessments, Evaluation Reports and Determinations, for the Morgan (0505), Combination Creek (0595), Boulder (0509), South Mountain Individual (0600), Bachelor Flat FFR (0640), Boulder Flat (0526), and Walt's Pond FFR (0659) Allotments* document in the project record or available from the Owyhee Field Office

had been deserted leaving a non-functioning riparian-wetland area. A second unnamed spring that occurs in pasture 3 had a high percent of bare ground, a lack of hydric species composition, and upland species were encroaching on the wetland area.

Table RIPN-17: Boulder allotment riparian condition

	Allotment & Pasture Name Stream Miles & Condition			
Stream Name	**Boulder 02**	**Boulder 03**	**Assessment Issues/ Impacts Identified**	**Total Miles**
Rail Creek	1.1 (FARS–2001/ FARD–2004)		lack of hydric species diversity/ inadequate large woody material/ noxious weeds present	1.1
Cattle Creek		0.5 (FARU–2000)	unstable beaver dam/ plants had low vigor/ vertical instability/ unstable stream banks	0.5

Springs Assessed, Condition, & Issues Identified

Spring Name	**Pasture/Assessment Year**	**PFC Condition**	**Assessment Issues/ Impacts Identified**
Unnamed Spring 1 0509	1/2012	FAR	livestock trailing/ erosion and deposition/ soil compaction/ area losing extent
Minear Creek Spring	3/2004	FAR	non-functioning development
Unnamed Spring 2 0509	3/2011	FAR	sedimentation/ upland species encroaching/ bare ground/ inadequate riparian species present

MIM Metrics

Stream Name	**Pasture/Assessment Year**	**Mean Stubble Height (inches)**	**Woody Use (%)**	**Streambank Alteration (%)**	**Stable Bank (%)**	**Covered Bank (%)**
Rail Creek	2/ 2011	15.6	10	9	83	100

For IDEQ water quality information associated with the Boulder allotment, see table RIPN-1.

3.3.5.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat

Pastures 1, 2, and 3 are managed as native plant communities and are determined to be not meeting Standard 4 due to past and current livestock grazing practices and annual invasive species. Currently, the herbaceous understory component is transitioning from basin big sagebrush/bluebunch wheatgrass reference community to a basin big sagebrush/Sandberg bluegrass-North African grass community. The downward trend in the plant community composition is favoring more grazing-tolerant, shallow-rooted grass species. These species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant composition, structure, and function for sagebrush steppe dependent species. Due to the downward trend and transition in the plant community, it can be anticipated that upland habitat conditions would deteriorate further overtime; therefore this allotment is failing to provide adequate

upland habitat conditions for sagebrush steppe species, and therefore is not meeting Standard 8 due to historic and current livestock practices.

Riparian Habitat

Evaluation of Standards 2 and 3 identified streams and springs within this allotment that are not properly functioning due to historic and current grazing practices and therefore do not meet Standard 8. Evaluation of Standard 7 identified streams that are not meeting IDEQ water quality standards due to mercury pollutants; livestock grazing was not a casual factor. Streams, springs, and wetlands that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2 and 3 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

The Boulder allotment falls within modeled PPH/GPH habitat for sage-grouse (Table WDLF-7 and Map WDLF-1). There are no active leks identified within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse.

Table WDLF-7: Acres[1] and portions of preliminary priority and general priority habitat within the Boulder allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	722	0	0	0	722 (100%)
Pasture 2	691	0	0	0	691 (100%)
Pasture 3	580	0	0	0	580 (100%)
Allotment Total	1,993	0	0	0	1,993 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Pastures 1 and 3 showed unsuitable to marginal breeding and upland summer habitat conditions. The primary cause for not meeting sage-grouse habitat criteria is driven by reduced canopy cover of large deep-rooted perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) in the understory, indicating that functional nesting, brood-rearing, escape, and hiding cover values are not adequate and therefore are not meeting Standard 8 due to past and current grazing practices.

Pasture 2 showed suitable breeding habitat conditions for sage-grouse. This rating appears to be inconsistent with the determination in Standard 4 that showed a reduced abundance of perennial grasses and failed to meet the standard because of an increased dominance of Sandberg bluegrass and North African grass. The sage-grouse habitat assessment showed that adequate (suitable) perennial grasses were occurring in this pasture. However, suitable occurrence of perennial grasses identified by the habitat assessment does not equate to optimum conditions but rather that the minimum canopy cover for sage-

grouse nesting and early brood-rearing are being provided. In addition, the 18 percent canopy cover of perennial grasses shown in the sage-grouse assessment is at the lower scale of the habitat indicator. Consistent information between the rangeland health assessment and the sage-grouse assessment is the increase in invasive annuals in the community. Overall, because pastures 1 and 3 are not providing desirable sage-grouse habitat conditions, and pasture 2 is failing Standard 4 because of invasive annuals, this allotment is therefore not meeting Standard 8 due to historic and current grazing practices and invasive annuals.

Columbia Redband Trout and Columbia Spotted Frog
No Columbia redband trout waters are documented within this allotment.

This allotment is within the distribution of the Columbia spotted frog (Map WDLF-2). Evaluation of Standards 2 and 3 identified streams and springs that are not properly functioning due to current grazing practices and Standard 7 identified that water quality parameters were not being met but the current grazing practices were not the causal factor (see Standard 2, 3, and 7). Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8 due historic and current grazing practices.

3.3.5.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.5.1.6 Cultural Resources

There are four recorded cultural sites on BLM administered land in the Boulder allotment. Sites 10OE1414, 10OE1415, 10OE1416, and 10OE7680 are prehistoric locations for which NRHP eligibility has not been determined. None of the sites are within a 100-meter radius of a recognized livestock congregation area and none received a monitoring visit. All 11 of the identified potential livestock congregation areas received survey coverage, but no new cultural site recordings resulted.

3.3.5.2 Boulder Allotment Environmental Consequences

3.3.5.2.1 Alternative 1

3.3.5.2.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in all three pastures of the Boulder allotment. Implementation of Alternative 1 would continue current conditions of the Boulder allotment. The Boulder allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Boulder allotment.

Three pasture rest-rotation grazing from April through June during the critical growing period with moderate to heavy utilization and AUMs ranging from 201 to 244 (see Appendix B), has allowed the Boulder allotment to not meet vegetation standards or maintain satisfactory ORMP objectives for

vegetation health and conditions. Current livestock grazing at moderate to heavy use levels has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Boulder allotment.

3.3.5.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.5.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.5.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.5.1), the Boulder allotment would be available to grazing during the spring and early summer for two years, and rested for the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 5.3 miles of perennial, 4.2 miles of intermittent stream, and one spring would be affected by the impacts associated with the spring and summer seasons of grazing. Recent actual use reported (Appendix B) that the allotment has been primarily used during the spring for 2 years, and rested for the third year alternating among the three pastures. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The Boulder allotment is not meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, it would continue to be affected by the impacts per Table RIPN-7 and section 3.2.3.1, and the allotment would not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.5.2.1.4 Wildlife and Special Status Animals

The Boulder allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, sage-grouse habitat, and Columbia spotted frog habitat (Section 3.3.5.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.5.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.5.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.1 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.5.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.5.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.5.2.2 Alternative 2

3.3.5.2.2.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in all three pastures of the Boulder allotment. Implementation of Alternative 2 would improve current conditions of the Boulder allotment. Boulder allotment would move toward meeting Standard 4 and ORMP objectives.

Alternative 2 would prescribe April through June grazing with a three-year rest rotation grazing system and a maximum of 125 head of cattle and 225 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of rest in pastures 1 and 3 compared to Alternative 1 in the Boulder allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.5.2.2.2 Soils

Alternative 2 in the Boulder allotment would provide 1 out of 3 years of rest from spring grazing that would reduce physical impacts to soils during the wettest period along with rest from critical growing season use during the same timeframe. While that is somewhat similar to the current situation for pastures 1 and 3, and especially pasture 2, Alternative 2 would have increased use as it was primarily grazed in a two-year rest rotation under the current situation. Alternative 2 would not provide added protection for soils from spring grazing use and would allow increased critical growing season use that would decrease the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 when compared to the current condition (see Section 3.2.2.3).

3.3.5.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.5.2), the permittee proposes to graze the Boulder allotment during the spring and early summer for two years, and rest it for the third year of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). The application requests the same terms as the current situation; therefore, the impacts would be the same as those described above under Alternative 1 (section 3.3.5.2.1.4), and the standards would continue to not be met.

3.3.5.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposes to implement a defined three pasture, three-year rotation incorporating rest 1 out of every 3 years. Maximum stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.5.1.5, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently this allotment is not providing adequate upland habitat and sage-grouse habitat conditions (Section 3.3.5.1.4). Generally, the grazing dates proposed under Alternative 2 are the same as those applied in Alternative 1, however, under Alternative 2, frequency of rest would occur with more predictability under a defined schedule that would eliminate extended annual years of grazing pressure. The defined grazing schedule would allow for 100 percent absence of grazing 1 out of 3 years. This grazing schedule would exclude grazing during the critical growth period (May 1–June 30) and from the sage-grouse nesting/early brood-rearing period (April 1–June 30) every 1 out of 3 years. This grazing strategy would modify the annual spring grazing schedule and allow plants to regain vigor and health. As habitat composition and structure improve, sage-grouse would benefit by the increased security and

escape cover being provided during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.5.1.4). Generally, the grazing dates proposed under Alternative 2 are the same as those applied in Alternative 1, however, under Alternative 2, frequency of rest would occur with more predictability under a defined schedule that would eliminate extend annual years of grazing pressure. The defined grazing schedule would allow for 100 percent absence of grazing 1 out of 3 years. This would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia spotted frogs would benefit because of the increased stream shade, woody debris, flow regulation, and less sediment delivery. The quality of aquatic habitats would improve as banks stability improves, erosion is reduced and sediment delivery minimized. Columbia spotted frogs would further benefit because of the absence of livestock activity in aquatic habitats during the breeding/egg mass laying period (May 1–June 30) and would allow improved survival of eggs and larvae in the spring.

Overall, under Alternative 2, because of the similarities of this proposal to Alternative 1and current upland habitat and riparian habitat conditions are not benefitting sage-grouse and Columbia spotted frogs, the progress that could be expected is uncertain. Application of 1 out of 2 years of rest meets the resource constraints used to develop Alternative 3 which is considered to improve upland and riparian habitat conditions. Applying the theory used to develop Alternative 3 and considering the defined grazing schedule that would modify the grazing schedule and eliminate extended repeated years of annual grazing pressure, it is anticipated that upland and riparian habitat conditions would improve and make progress toward meeting Standard 8 and ORMP objectives.

3.3.5.2.2.5 Social and Economic Values

See Section 3.2.9.3 above.

3.3.5.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.5.2.3 Alternative 3

3.3.5.2.3.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in all three pastures of the Boulder allotment. Implementation of Alternative 3 would improve current conditions of the Boulder allotment. Boulder allotment would move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would prescribe May through July grazing with a three-year rest rotation grazing system and a maximum of 125 head of cattle and 160 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment or rest allow opportunity to make significant progress toward meeting upland vegetation health and vigor. Reductions of 26 percent AUMs over a ten-year permit are based on adjustments in stocking rates by pasture; would allow adequate recovery to upland vegetation. Increased years of rest in pastures 1 and 3 compared to Alternative 1 in the Boulder allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.5.2.3.2 Soils

Alternative 2 would provide 2 out of 3 years of deferment or rest from spring grazing along with 1 out of 3 years of rest from critical growing season use for all pastures. This would reduce physical impacts to soils during the wettest period and provide native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, and reduced susceptibility to accelerated erosion. Additional benefits are provided from a reduction in stocking rates and active AUMs. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.5.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.5.3), the Boulder allotment would be available to grazing during the spring one year, during the summer one year, and rested for the third year of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 5.3 miles of perennial, 4.2 miles of intermittent stream, and one spring would be affected by the impacts associated with the spring and summer seasons of grazing. Recent actual use reported (Appendix D) that the allotment has been primarily used during the spring for 2 years, and rested for the third year alternating among the three pastures, and the standards are not being met.

The Boulder allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be open to livestock grazing for similar season; however, the changes in stocking rate would result in a 26 percent reduction in active AUMs over the 10-year permit. In addition, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated two years of the rotation. Therefore, the allotment would make progress toward meeting the riparian-wetland standards under this alternative.

3.3.5.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to implement a deferred grazing management strategy and execute a grazing system that would create a minimum of 1 out of 3 years of deferment from livestock use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a three pasture, 3 year spring-rest rotation grazing schedule would occur. All pastures would be grazed 2 out of 3 years in the spring followed by 1 year of rest. Maximum stocking levels would remain the same and a 26 percent reduction in AUMs over a 10-year period would occur. The direct and indirect effects are the same as those discussed in Section 3.3.5.1.5, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland habitat and sage-grouse habitat conditions (Section 3.3.5.1.4). Generally, the grazing dates proposed under Alternative 3 are the same as those applied in Alternative 1, however, under Alternative 3, frequency of rest would occur with more predictability under a defined schedule that would eliminate extended annual years of grazing pressure and AUMs would be reduced 26 percent. Under Alternative 3, combined with a defined grazing schedule that would allow for 100 percent absence of grazing 1 out of 3 years and a with 26 percent reduction in AUMs, upland habitat and sage-grouse habitat conditions would improve. This grazing schedule would exclude grazing during the critical growth period (May 1–June 30) and from the sage-grouse nesting/early brood-rearing period (April 1–June 30) every 1 out of 3 years. This grazing strategy would modify the annual spring grazing schedule and allow plants to regain vigor and health. As habitat composition and structure improved, sage-grouse would benefit by the increased security and escape cover being provided during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.5.1.4). Generally, the grazing dates proposed under Alternative 3 are the same as those applied in Alternative 1, however, under Alternative 3, frequency of rest would occur with more predictability under a defined schedule that would eliminate extend annual years of grazing pressure and would include a 26 percent reduction in AUMs. The defined grazing schedule would allow for 100 percent absence of grazing 1 out of 3 years and combined with a 26 percent reduction in AUMs, riparian habitat conditions would improve. This grazing schedule would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia spotted frogs would benefit because of the increased stream shade, woody debris, flow regulation, and less sediment delivery. The quality of aquatic habitats would improve as bank stability improves, erosion is reduced and sediment delivery minimized. Columbia spotted frogs would further benefit because of the absence of livestock activity in aquatic habitats during the breeding/egg mass laying period (May 1–June 30) and would allow improved survival of eggs and larvae in the spring.

Overall, under Alternative 3, although grazing dates are similar to Alternative 1, this grazing schedule defines a grazing/rest schedule with predictability that would eliminate extended repeated years of grazing pressure and when combined with a 26 percent reduction in AUMs, upland and riparian habitat conditions would respond favorably. Sage-grouse would benefit because of the increased security and hiding cover available. Columbia spotted frogs would benefit because of improved riparian function and the reduced occurrence of livestock occurrence and trampling in aquatic habitats. Under Alternative 3, it is expected that upland and riparian habitat conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.5.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and alternating rest for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.5.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.5.2.4 Alternative 4

3.3.5.2.4.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in all three pastures of the Boulder allotment. Implementation of Alternative 4 would improve current conditions of the Boulder allotment. Boulder allotment would move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe April through September grazing with a three-year rest rotation grazing system (at least 2 years of deferment or rest during critical growing period) and a maximum of 125 head of cattle and 160 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment or rest allow opportunity to make significant progress toward meeting upland vegetation health and vigor. Reductions of 26 percent AUMs over a ten-year permit are based on adjustments in stocking rates by pasture; would allow adequate recovery to upland vegetation. Increased years of rest and deferment in all pastures compared to Alternative 1 in the Boulder allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternative 1, Current Situation.

3.3.5.2.4.2 Soils

Alternative 4 would provide a minimum of 2 out of 3 years of deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from a minimum of 2 out of 3 years of reduced critical growing season use and summer riparian grazing that promotes the ability of native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing and adjustment in stocking rates would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.5.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.5.4), pastures 1 and 2 of the Boulder allotment would be available to grazing during the spring one year, during the fall one year, and rested for the third year of a three-year rotation. Pasture 3 would be open during the summer of the first year, the fall of the second year, and rested the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 5.3 miles of perennial, 4.2 miles of intermittent stream, and one spring would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternately over the course of the three-year schedule. Recent actual use reported (Appendix D) that the allotment has been primarily used during the spring for 2 years, and rested for the third year alternating among the three pastures, and the standards are not being met.

The Boulder allotment is not meeting the standards associated with the riparian-wetland resources under current management. If Alternative 4 were implemented, the allotment would be managed under a defined three-year rotation with one year of growing season deferment and one year of rest incorporated over the three years. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Additionally, the changes in the season of use and stocking rate would result in a 26 percent reduction in active AUMs over the 10-year permit. Therefore, the allotment would meet the riparian-wetland standards and attain the OMRP objectives under this alternative.

3.3.5.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that would install a grazing system with a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a three pasture, three-year grazing rotation would be implemented. Pasture 1 would be grazed spring/rest/late summer, pasture 2 would be grazed spring/late summer/rest, and pasture 3 would be grazed rest/summer/fall. The direct and indirect effects are the same as those discussed in Section 3.3.5.1.5, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions in all three pastures (Section 3.3.5.1.4). Under Alternative 4, combined with a 26 percent reduction in AUMs and 100 percent rest from livestock use 1 out of 3 years, upland and sage-grouse habitat conditions would benefit and should show significant improvement. Incorporating deferment/rest into the grazing strategy and reducing grazing pressure would substantially modify the repeated spring grazing cycle and allow plants to grow without grazing pressure during the critical growth season (May 1–June 30). All the pastures would experience improved plant vigor and health and upland habitat composition and structure.

Sage-grouse would benefit by the increased availability of security and escape cover and forage provided during the nesting/early brood-rearing period (April–June 30) and late brood rearing period (July 1–August 31) and the reduced vulnerability to detection and predation.

Currently this allotment is not providing adequate riparian habitat and aquatic habitat conditions (Section 3.3.5.1.4). Under Alternative 4, combined with a 26 percent reduction in AUMs and 100 percent rest from livestock use 1 out of 3 years, riparian and aquatic habitat conditions would improve. Under this grazing schedule, increased regeneration and establishment of herbaceous and woody vegetation along with improved riparian and aquatic habitats would improve as bank stability improves, erosion is reduced and sediment delivery minimized. Columbia spotted frogs would further benefit because of the absence of livestock activity in aquatic habitats during the breeding/egg mass laying period (May 1–June 30) and would allow for improved survival of eggs and larvae in the spring.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would show substantial improvement in habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover and forage elements that would be available. Columbia spotted frogs would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the breeding/egg laying period. Under this Alternative, current upland and riparian habitat conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.5.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations, deferred use, and alternating rest for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.5.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.5.2.5 Alternative 5

3.3.5.2.5.1 Vegetation, incl. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.5.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.5.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.5.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.5.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.5.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.6 Boulder Flat Allotment

3.3.6.1 Boulder Flat Allotment Affected Environment

3.3.6.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Boulder Flat allotment. Although soil stability is decreasing in pasture 2, making it at risk for future disturbance activities, all other indicators for productive native plants are maintained as appropriate to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Pasture 1 shows evidence of historic grazing impacts throughout the pasture, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail). Historic grazing in pasture 1 is the causal factor in not meeting Standard 4, as evidenced by a shift in community composition to shallow-rooted bunchgrasses and juniper encroachment.

Qualitative rangeland health assessment data indicate that Standard 4 is not being met in pasture 1, with poor soil surface structure and physical crusting in the RHAs dominated by shallow-rooted bunchgrass, rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

Overall interpretations of trend data in pasture 1 suggest that the biotic conditions due to significant reductions in Idaho fescue and dominance of shallow-rooted bunchgrasses on the site has compromised the biotic integrity of the site. In addition, 2012 sage-grouse monitoring data showed 40 percent canopy cover of annual invasives.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pasture 1. Vegetation communities dominated by shallow-rooted bunchgrasses in pasture 1, with the expansion of annual invasive grasses and juniper encroachment, lead to a conclusion that the vegetation management objective is not being met.

3.3.6.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 2 of the Boulder Flat allotment. The reduction in soil and hydrologic function is primarily associated with historic and active accelerated erosional processes that have increased pedestaling of plants and have altered soil infiltration and runoff through elevated water flow. Soil loss is in various stages of stabilization.

The reduction in soil and hydrologic function is associated with an altered plant community composition and distribution from decreased relative abundance of large, deep-rooted native perennial bunchgrasses. Livestock grazing continues to affect the biological soil crust component, especially in the interspatial areas, adding to a reduction in soil stability.

A static ground cover trend and a recent increase in bare ground coincide with declining biotic conditions in pasture 1, where deep-rooted bunchgrasses have been on a steady decline. Pasture 2 shows some progress due to deep-rooted bunchgrasses that are increasing within the otherwise dominating shallow-rooted species. However, soil stability and hydrologic function are lagging and continue to impact watershed health as the ground cover trend shows recent slight increases in bare ground and ongoing active signs of erosion in some areas of the pasture.

Taken together, soil and hydrologic function are compromised and decrease the ability for proper nutrient cycling, hydrologic cycling, and energy flow as grazing occurs during the spring and active growing season. Current and historic livestock management is the primary contributing factor for not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions for the Boulder Flat allotment.

3.3.6.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[51]

The Boulder Flat allotment is not currently meeting Standards 2 and 3. The named streams that occur within the allotment include Big Boulder, Jordan, Old Man, Rail, a tributary to Rail, and South Mountain Creeks. A total of 9.5 miles of stream have been assessed at least once. Based on the most current assessment, 7.2 miles are FAR and 2.3 miles are in PFC (Table RIPN-18). Generally, the issues related to those reaches of stream that are FAR include an inadequate amount of hydric vegetation to stabilize and protect banks during high flows, noxious weed presence, erosion occurring, and plants with low vigor.

Additionally, a MMIM (Table RIPN-18) site was established in pasture 2 in 2011 on the reach of South Mountain Creek that had previously been assessed FAR using the PFC protocol. The modified version of MIM collects the short-term indicators (stubble height, woody browse, and stream bank alteration). The metrics indicated that the stream is not meeting ORMP objectives and is not functioning at the minimal level.

Table RIPN-18: Boulder Flat allotment riparian Condition

	Allotment & Pasture Name Stream Miles & Condition			
Stream Name	**Boulder Flat 01**	**Boulder Flat 02**	**Assessment Issues/Impacts Identified**	**Total Miles**
Jordan Creek	0.5 (FAR–2001)		lack of bank stabilizing species to protect stream banks/point bars are not revegetating/noxious weeks present	0.5
Old Man Creek	0.5 (PFC–2000 pictures only/ephemeral–2011)		2000: inadequate age class 2011: ephemeral/armored with boulders	0.5
Rail Creek	1.8 (FARS–2000/FAR–		2000: vegetation does not reflect maintenance of riparian	1.8

[51] For additional details on the current condition of the allotment, see *Rangeland Health Assessments, Evaluation Reports and Determinations, for the Morgan (0505), Combination Creek (0595), Boulder (0509), South Mountain Individual (0600), Bachelor Flat FFR (0640), Boulder Flat (0526), and Walt's Pond FFR (0659) Allotments* document in the project record or available from the Owyhee Field Office

	Allotment & Pasture Name Stream Miles & Condition			
Stream Name	**Boulder Flat 01**	**Boulder Flat 02**	**Assessment Issues/Impacts Identified**	**Total Miles**
	2001/FARD–2004/PFC–2011)		soils/vegetation was in low vigor/noxious weeds present 2004: overwide channel/ inadequate composition and age class of hydric vegetation to stabilize stream banks/channel was braided/flood plain not developed 2011: 50% protected by boulders and woody vegetation/improved condition	
Rail Creek Trib	0.3 (FAR–2004)		eroded banks/upland species encroaching/ overwide channel/inadequate stabilizing species present	0.3
Big Boulder Creek		4.7 (FARS–2001)	noxious weeds present/inadequate bank stabilizing species/lack of plant vigor on upstream reach	4.7
South Mountain Creek		1.7 (FARS–2000)	portions of the reach had inadequate composition and age class of hydric species to stabilize and protect stream banks/plants had low vigor/point bars were not revegetating	1.7

MIM Metrics						
Stream Name	**Pasture/Assessment Year**	**Mean Stubble Height (inches)**	**Woody Use (%)**	**Streambank Alteration (%)**	**Stable Bank (%)**	**Covered Bank (%)**
South Mountain Creek	2/2011	4.4	25.9	19	70	94

For IDEQ water quality information associated with the Boulder Flat allotment, see table RIPN-1.

3.3.6.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat

Pastures 1 is managed as native plant community and has been determined to be not meeting Standard 4 due to past grazing practices, dominance of invasive annuals, and juniper encroachment. Currently, the herbaceous component is transitioning from a bluebunch wheatgrass reference community to a Sandberg bluegrass-dominated understory. The downward trend and transition in the plant community composition are favoring more grazing-tolerant, shallow-rooted grass species and an increase in annual invasive

species. These dominant species do not have the robust growth form or stature and do not provide the habitat composition, structure, and function for sagebrush steppe-dependent species. Due to the downward trend and transition in the plant community, it can be anticipated that upland habitat conditions would deteriorate further overtime; therefore, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe species, and therefore is not meeting Standard 8 due to historic and current grazing practices and invasive annuals.

Pasture 2 is managed as a native plant community and is identified as meeting Standard 4. This conflicts with the sage-habitat assessment that showed unsuitable sage-grouse habitat conditions largely due to the unsuitable low abundance of large perennial grasses. This difference in monitoring results is because the rangeland trend sites are located in shallow claypan, low sagebrush, sites; and the sage-grouse habitat assessment was completed in a loamy, Wyoming sagebrush site.

Riparian Habitat

Evaluation of Standards 2 and 3 identified streams and springs within this allotment that are not properly functioning due to historic and current grazing practices and therefore do not meet Standard 8. Water quality parameters set by IDEQ were also found to be not being met due to mercury pollutants; livestock grazing practices were not a casual factor. Streams, springs, and wetlands that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2 and 3 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

The Boulder Flat allotment falls within modeled PPH/GPH habitat for sage-grouse (Table WDLF-8 and Map WDLF-8). There are four documented active leks within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. Pastures 1 and 2 showed marginal to unsuitable breeding and upland summer habitat conditions for sage-grouse. The primary cause for not meeting sage-grouse habitat criteria is driven by reduced canopy cover of large, deep-rooted perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) in the understory, indicating that functional nesting, brood-rearing, escape, and hiding cover values are not being provided in these pastures and therefore are not meeting Standard 8 due to historic and current livestock grazing practices.

Table WDLF-8: Acres[1] and portions of preliminary priority and general priority habitat within the Boulder Flat allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	1,956 (88%)	0	266 (12%)	0	2,221 (100%)
Pasture 2	1,089 (49%)	0	1,010 (46%)	97	2,099 (95%)
Allotment Total	3,044 (69%)	0	1276 (29%)	97	4,417 (98%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat

Pastures 1 and 2 showed marginal to unsuitable breeding and upland summer habitat conditions for sage-grouse. The primary cause for not meeting sage-grouse habitat criteria is driven by reduced canopy cover

of large, deep-rooted perennial grasses (i.e., bluebunch wheatgrass, Idaho fescue) in the understory, indicating that functional nesting, brood-rearing, escape, and hiding cover values are not being provided in these pastures and therefore are not meeting Standard 8 due to historic and current livestock grazing practices.

Columbia Redband Trout
Columbia River redband trout are known to occur within the Big Boulder, Jordan, Old Man, and South Mountain Creek systems (Map WDLF-2) and have been identified as functioning-at-risk due to historic and current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8 due to historic and current grazing practices.

Columbia Spotted Frog
This allotment is within the distribution of the Columbia spotted frog (Map WLF-2). Evaluation of Standards 2 and 3 identified streams and springs that are not properly functioning or meeting water quality parameters due to historic and current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8 due to historic and current grazing practices.

3.3.6.1.5 Visual Resources

As mentioned above in section 3.1.6 the Boulder Flat Allotment consists of class II VRM in roughly 15% of pasture 1 and 80% of pasture 2. A description of the class II management classification can be found in that section as well.

3.3.6.1.6 ACECs

The affected environment for this area was described in section 3.1.8 of this EA.

3.3.6.1.7 Social and Economic Values

See Section 3.1.9 above.

3.3.6.1.8 Cultural Resources

There are four recorded cultural sites in the allotment. Sites 10OE1175, 10OE1410, 10OE1411, and 10OE1413 are all prehistoric locations of undetermined eligibility. None of the sites falls within 100-meters of an identified livestock congregation area and none received monitoring visits. Of the seven potential congregation areas in the allotment, five received surveys, but no new cultural site recordings resulted.

3.3.6.2 Boulder Flat Allotment Environmental Consequences

3.3.6.2.1 Alternative 1

3.3.6.2.1.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Boulder Flat FFR allotment. Implementation of Alternative 1 would continue current conditions of the Boulder Flat FFR allotment. Pasture 1 would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Boulder Flat FFR allotment.

General season of use between April through July grazing during the critical growing period and rest periods with light utilization and AUMs ranging from 214 to 344 (see Appendix B), on the Boulder Flat FFR allotment has allowed pasture 2 to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions. However, juniper encroachment and historical livestock grazing in pasture 1 has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 1 of the Boulder Flat FFR allotment.

3.3.6.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.6.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.6.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.6.1), the Boulder Flat allotment would be available to grazing during the spring, summer, and fall annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.4 miles of perennial streams, and 15.4 miles of intermittent stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing.

The Boulder Flat allotment is not meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, the impacts associated with grazing during the spring, summer, and fall seasons per Table RINP-7 and section 3.2.3.1 would continue, and the allotment would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.6.2.1.4 Wildlife and Special Status Animals

The Boulder Flat allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, sage-grouse habitat, Columbia redband trout habitat, and Columbia spotted frog habitat (Section 3.3.6.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.6.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.6.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.1 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.6.2.1.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5.

3.3.6.2.1.6 ACECs

Overall, continuation of the present grazing systems would not be in conformance with the ORMP. While upland vegetation standards are being met in pasture 2 of the Boulder Flat Allotment, standards for riparian areas and wetlands are not being met and would continue to be impacted under current management. Not meeting standards indicates a downward trend in a particular area regarding upland and/or riparian vegetation, these types of impacts would have a direct effect on the ACECs resources values, which is an area where the goal is to maintain or enhance these values.

3.3.6.2.1.7 Social and Economic Values

See Section 3.2.9.2 above.

3.3.6.2.1.8 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.6.2.2 Alternative 2

3.3.6.2.2.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Boulder Flat allotment. Implementation of Alternative 2 would improve current conditions of the Boulder Flat allotment. Pasture 1 would move toward meeting Standard 4 and ORMP objectives while pasture 2 would continue to meet standards and ORMP objectives.

Alternative 2 would prescribe April through June grazing with a two-year rotation grazing system and a maximum of 152 head of cattle and 344 AUMs (see Alternative 2 proposal for full details Section 2.4). Critical growing season would be used in one year and only two weeks in the second year of a two year rotation. Shortened critical growing season use and four months of shortened season of use compared to Alternative 1 in the Boulder Flat allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management in pasture 1 would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.6.2.2.2 Soils

Under Alternative 2, livestock grazing in the Boulder Flat allotment would consist of a two-year rotation that uses pasture 1 in the spring 1 out of 2 years and pasture 2 in the spring both years. Grazing would occur during the critical growing season every year, which decreases the ability of native plant communities to remain healthy, vigorous, and productive during active growth. In turn, soils would continue to be susceptible to reduced stability, especially with spring grazing during the wettest period. Use may also continue in the fall when water is available and if AUMs are not exceeded. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 when compared to the current condition (see Section 3.2.2.3).

3.3.6.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.6.2), the Boulder Flat allotment would be available to grazing during the spring one year, and during the summer the second year of a two year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.4 miles of perennial stream, and 15.4 miles of intermittent stream would be affected by the impacts associated with the spring and summer seasons of grazing.

The Boulder Flat allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined two year schedule with one year of growing season deferment incorporated. Over the course of the 10-year permit, the pastures would have growing season deferment for five years, and the impacts associated with the summer season of use per Table RIPN-7 and section 3.2.3.1 would be eliminated those years. Therefore, the condition of the riparian areas would improve and the allotment would make progress toward meeting the riparian-wetland standards under this alternative.

3.3.6.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee is proposing a defined two pasture, 2-year rotation grazing schedule from April through June. The number of head would increase from 64 to 152 and the AUMs would stay the same. Upland and riparian grazing deferment during the critical growing season for vegetation and riparian resources would occur (Section 3.3.6.2.2.1 and 3.3.6.2.2.3). The direct and indirect effects are the same as those discussed in Section 3.3.6.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently, this allotment is not providing adequate sage-grouse habitat conditions (Section 3.3.6.1.4) Under Alternative 2, grazing would occur during the sage-grouse nesting/early brood-rearing period (April 1–June 30). The increased number of head for a shorter duration would not benefit nesting/early brood-rearing sage-grouse. The increased number of head grazing in the early spring (April 15–May 15) would remove the same amount of AUMs in 30 days as was consumed in 180 days compared to Alternative 1 and removing a substantial amount of security and hiding cover early in the nesting period making nesting hens vulnerable to terrestrial and avian predators. Although, every other year, livestock would be removed by May 15 allowing an opportunity for late spring re-growth to occur and improve herbaceous structure and improve security and hiding cover. In years when turn-out is delayed to June 1, grazing would occur late in the nesting/early brood rearing period for the duration of 30 days and livestock would be removed prior to summer. Prior to grazing, grasses would grow naturally in the early spring without grazing pressure and improved height and structure of perennial grasses available for nesting sage-grouse. However, once grazing begins June 1, spring forage would be removed and structural cover for nesting/early brood-rearing period would be reduced making individuals and broods vulnerable to predators. Reduced structure would also continue into the late brood-rearing period because re-growth would be minimized as the growing season transitions into summer.

Currently the allotment is not providing adequate riparian habitat conditions for Columbia redband trout and Columbia spotted frog in both pastures (Section 3.3.6.1.4). Over the course of the 10-year permit, the pastures would have riparian growing season deferment for five years each. Under Alternative 2, riparian function would improve due to the increase in herbaceous and woody plants that would dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). These species would benefit by the improved riparian function because of the decreased erosion and sediment loading, enhanced shade and woody debris delivery, greater channel structure and flow regulation, and improved water quality (Section 3.1.3 and 3.1.5). However, spring grazing would occur during the spawning period for Columbia redband trout (March 15–June 15) and the egg mass depositing stage (May 1–June 15) for Columbia spotted frog most notably from April 15 through May 15 every other year. During this period, livestock have access to streams, wetlands, and springs and can trample spawning and egg laying areas impacting fry and larvae survival. Under this grazing strategy, livestock would have reduced access to stream, wetland, and spring habitats at the peak of spawning and egg laying periods every other year.

Overall, upland habitat conditions would improve and would benefit sage-grouse and other sagebrush steppe species. However, concentrated grazing and forage removal during the nesting/brood-rearing period would put nesting hens and chicks at increased risk of predation due to the reduction of herbaceous cover and structure and would not significantly progress habitat conditions for sage-grouse toward meeting Standard 8. Columbia redband trout and Columbia spotted frog would benefit by the improved riparian function and reduced livestock access to aquatic habitats and would significantly progress riparian habitat conditions toward meeting Standard 8.

3.3.6.2.2.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5 for upland vegetation in pasture 1. However, riparian areas and wetlands not meeting standards within the allotment would begin to progress, thus improving scenic quality in these areas.

3.3.6.2.2.6 ACECs

Implementation of the grazing system under this alternative would seem to be in conformance with the ORMP. Upland vegetation standards would continue to be met in pasture 2 of the allotment, additionally riparian areas and wetlands would also begin to improve. This is due to the fact that over the over the course of the 10-year permit, the pastures would have growing season deferment for five years, which would be beneficial to riparian areas and wetlands.

3.3.6.2.2.7 Social and Economic Values

See Section 3.2.9.3 above.

3.3.6.2.2.8 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.6.2.3 Alternative 3

3.3.6.2.3.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Boulder Flat allotment. Implementation of Alternative 3 would improve current conditions of the Boulder Flat allotment. Pasture 1 would move toward meeting Standard 4 and ORMP objectives while pasture 2 would continue to meet standards and ORMP objectives.

Alternative 3 would prescribe April through September grazing with one in three years of critical growth period deferment in a three-year rotation grazing system and a maximum of 152 head of cattle and 344 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment and shortened season of use compared to Alternative 1 in the Boulder Flat allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management in pasture 1 would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.6.2.3.2 Soils

Alternative 3 would provide a minimum of 1 out of 3 years of deferment that would reduce physical impacts to soils during the wet spring and decrease critical growing season use for both pastures. This would provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.6.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.6.3), the Boulder Flat allotment would be available to grazing during the spring one year, and during the summer for two years of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.4 miles of perennial, and 15.4 miles of intermittent stream would be affected by the impacts associated with the spring and summer seasons of grazing.

The Boulder Flat allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year schedule with one year of growing season deferment incorporated over the course of the three years. Over the 10-year permit, the pastures would have growing season deferment for four of the years, and the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.1.3 would be eliminated those years. Therefore, the condition of the riparian areas would improve and the allotment would make progress toward meeting the riparian-wetland standards under this alternative.

3.3.6.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to implement a deferred grazing management strategy and execute a grazing system that would create a minimum of 1 out of 3 years of deferment from livestock use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a two pasture, three-year spring-rest rotation grazing schedule would occur. Both pastures would be grazed 2 out of 3 years in the spring followed by 1 year of rest. The number of head would increase from 64 to 152 and the AUMs would stay the same. The direct and indirect effects are the same as those discussed in Section 3.3.6.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently, this allotment is not providing adequate sage-grouse habitat conditions in both pastures (Section 3.3.6.1.4). Under Alternative 3, grazing would occur 2 out of 3 years during the sage-grouse nesting/early brood-rearing period (April 1–June 30) compared to Alternative 1 that grazed during this period annually. The third year, grazing would be deferred to the summer. By incorporating deferment 1 out of 3 years, the repeated cycle of spring grazing is interrupted allowing plants the opportunity to recover vigor and health. As upland habitat composition and structure improves, sage-grouse would subsequently benefit by the increased abundance and availability of security and escape cover accessible

to avoid terrestrial and avian predators during the nesting/early brood-rearing period. However, the effects and concerns of increasing cattle numbers and concentrating grazing over a shorter duration during the spring period is the same as those discussed for Alternative 2. Initially, sage-grouse would not benefit by this strategy because of the increased numbers of cattle would consume the same amount of AUMs in a shorter timeframe and remove nesting and escape cover during the nesting/early brood-rearing period. However, because deferment is incorporated into the schedule, as habitat composition and distribution improves, habitat conditions for sage-grouse would improve because of the increased abundance and structure of perennial grasses.

Currently the allotment is not providing adequate riparian habitat conditions for Columbia redband trout and Columbia spotted frogs in both pastures (Section 3.3.6.1.4). Over the course of the 10-year permit, the pastures would have growing season deferment for 4 years each. Under Alternative 3, riparian function would improve due to the increase in herbaceous and woody plants that would dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Focal species would benefit by the improved riparian function because of the decreased erosion and sediment loading, enhanced shade and woody debris delivery, greater channel structure and flow regulation, and improved water quality (Section 3.1.3 and 3.1.5). Spring grazing would occur during the spawning period for Columbia redband trout (March 15–June 15) and the egg mass depositing stage (May 1–June 15) for Columbia spotted frog 2 out 3 years most notably from April 15 through May 15. During this period, livestock have access to streams, wetlands, and spring habitats and could trample spawning and egg laying areas impacting fry and larvae survival. However, under this grazing strategy, these species would benefit because livestock access to stream, wetland, and spring habitats at the peak of spawning and egg laying period would occur 2 out of 3 years.

Overall, under Alternative 3, upland habitat conditions would improve and would benefit sage-grouse and other sagebrush steppe species. However, concentrated grazing and forage removal during the nesting/brood-rearing period would put nesting hens and chicks at increased risk of predation due to the reduction of herbaceous cover and structure. However, although improved upland habitat conditions would be slow initially, significant progress toward meeting Standard 8 for sage-grouse would occur as habitat composition and structure improves. Columbia redband trout and Columbia spotted frog would benefit by the improved riparian function and reduced livestock access to aquatic habitats, which would significantly progress riparian habitat conditions toward meeting Standard 8.

3.3.6.2.3.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.3.5.

3.3.6.2.3.6 ACECs

Impacts to the Boulder Creek ACEC associated with this alternative would be similar to those described in Alternative 2. The management system would be in conformance with the ORMP. Over the course of the 10-year permit, the pastures would have growing season deferment for four of the years. Other mandatory terms and conditions of the permit under this alternative would include measures that would reduce impacts (stubble height, woody browse, and bank alteration) associated with the riparian areas condition.

3.3.6.2.3.7 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.6.2.3.8 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.6.2.4 Alternative 4

3.3.6.2.4.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 but is being met in pasture 2 of the Boulder Flat allotment. Implementation of Alternative 4 would improve current conditions of the Boulder Flat allotment. Pasture 1 would move toward meeting Standard 4 and ORMP objectives while pasture 2 would continue to meet standards and ORMP objectives.

Alternative 4 would prescribe April through September grazing with one in three years of critical growth period deferment in a three-year rotation grazing system and a maximum of 136 head of cattle and 305 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and rest with shortened season of use and a reduction of 38 percent AUMs over the ten-year permit, based on average actual use and rest, compared to Alternatives 1, 2 and 3 in the Boulder Flat allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management in pasture 1 would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition as compared to Alternative 1, Current Situation.

3.3.6.2.4.2 Soils

Alternative 4 would provide a minimum of 2 out of 3 year deferment and rest for both pastures that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from reduced critical growing season grazing that promotes the ability of native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, and would lessen susceptibility to accelerated erosion. Subsequently, the reduced spring and critical-growth-period grazing and adjustment in stocking rates would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting, and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.6.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.6.4), the Boulder Flat allotment would be available to grazing during the spring one year, during the fall for one year, and rested the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.4 miles of perennial, and 15.4 miles of intermittent stream would be affected by the impacts associated with the spring and fall seasons of grazing alternating among the years and pastures.

The Boulder Flat allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year schedule with one year of growing season deferment and one year of rest incorporated over the course of the three years, and the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.1.3 would be eliminated those years. Additionally, the changes in the season of use would result in a 38 percent reduction in the active AUMs over the 10-year permit. Therefore, the condition of the riparian areas would improve and the allotment would meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.6.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to implement a deferred/rest grazing management strategy that installs a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a 3 year, two pasture grazing rotation would occur. Both pastures would be grazed in the spring 1 out of 3 years, followed by a year of deferment and a year of rest. The number of head would increase from 64 to 136 and the AUMs would be reduced 38 percent over 10 years. The direct and indirect effects are the same as those discussed in Section 3.3.6.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently, this allotment is not providing adequate sage-grouse breeding and upland summer habitat conditions in both pastures (Section 3.3.6.1.4). Under Alternative 4, 100 per cent rest from grazing would occur 1 out of 3 years. Under this strategy, critical growing season (May 1–June 30) and the sage-grouse nesting/early brood-rearing (April 1–June 30) and late brood-rearing (July–August 31) periods grazing would not occur 2 out of 3 years. Upland habitat conditions would improve as plant vigor and health are restored as well as habitat composition and structure because of the incorporation of deferment/rest into the grazing schedule compared to the annual spring grazing cycle that occurred under Alternative 1. Sage-grouse subsequently would benefit by the increased abundance and availability of security and escape cover accessible to avoid terrestrial and avian predators during the nesting/early brood-rearing and late brood-rearing periods. In addition, the 38 percent reduction in AUMs would lessen forage consumption and leave a greater amount of vegetation structure during periods of grazing and better allow upland habitats to withstand the effects of increased stocking and lessen the impacts of grazing during the nesting/early brood-rearing (April 1–June 30) and late brood-rearing periods (July–August 31).

Currently the allotment is not providing adequate riparian habitat conditions for Columbia redband trout and Columbia spotted frog in both pastures (Section 3.3.6.1.4). Under Alternative 4, although stocking numbers would be increased, reduced grazing activity and reduced AUMs over the course of a 10-year permit would improve riparian function because of the increased establishment of herbaceous and woody vegetation. Columbia redband trout and Columbia spotted frogs would benefit because of improved riparian habitat function and the decreased erosion and sediment loading, enhanced shade and woody debris delivery, greater channel structure and flow regulation, and improved water quality (Section 3.1.3 and 3.1.5). The incorporation of deferment and rest would significantly reduce livestock access and trampling to streams, wetlands, and springs further reducing cattle activity 2 out of 3 years during the spawning period for Columbia redband trout (March 15–June 15) and the egg mass depositing stage (May 1–June 15) for Columbia spotted frog that would allow greater opportunity of survival for eggs, fry, and larvae.

Overall, under Alternative 4, upland habitat and riparian habitat conditions would show considerable improvement. Sage-grouse would benefit by the increased composition and structure of the vegetation community and the increased availability of cover and forage during the nesting/early brood-rearing and late brood-rearing periods. Columbia redband trout and Columbia spotted frog would benefit by Alternative 4, because of improved riparian function and reduced livestock access to aquatic habitats. Under Alternative 4, upland and riparian habitat conditions in the allotment would substantially improve and make significant progress toward meeting Standard 8 and achieving ORMP objectives.

3.3.6.2.4.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.4.5.

3.3.6.2.4.6 ACECs

Much like Alternatives 2 and 3, this grazing schedule would be in conformance with the ORMP. This alternative would have the fewest impacts to the Boulder Creek ACEC in comparison to any of the other grazing alternatives. The grazing schedule under Alternative 4 would provide more opportunity for riparian function, as well as for upland vegetation following active growing season grazing use and during years of rest, thus enhancing resource values within the ACEC.

3.3.6.2.4.7 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations, deferred grazing, and resting both pastures together every 1 in 3 years may require additional labor or feeding costs.

3.3.6.2.4.8 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.6.2.5 Alternative 5

3.3.6.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.6.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function and allow for upward trend and improvement over the life of the permit compared to the previous alternatives.

3.3.6.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.6.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.6.2.5.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.5.5.

3.3.6.2.5.6 ACECs

This alternative would provide the greatest benefit to resource values in the Boulder Creek ACEC. There would be no effects to upland vegetation and riparian areas from livestock, thus improving the overall health and enhancing the resource values throughout the allotment.

3.3.6.2.5.7 Social and Economic Values

See Section 3.2.9.6 above.

3.3.6.2.5.8 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.7 Combination Creek Allotment

3.3.7.1 Combination Creek Allotment Affected Environment

3.3.7.1.1 Vegetation, including Noxious Weeds

Rangeland health Standard 4 is being met in the Combination Creek allotment. Although soil stability is not improving on the site, making it at risk for future disturbance activities, all other indicators for productive native plants are maintained as appropriate to provide for proper nutrient cycling, hydrologic cycling, and energy flow on the allotment.

Qualitative rangeland health assessment data indicate that Standard 4 is being met on two of the three sites, with moderate departure on one sight for plant mortality and increased water flow patterns, as concluded on the RHAs. This supports the conclusion that the allotment is meeting the standard.

Overall interpretations of trend data suggest that grass frequency is primarily static with a short-term increase in Idaho fescue; biotic conditions are maintained with a shift to shallow-rooted bunchgrasses from historic livestock grazing. However, bluebunch wheatgrass remains at 29 percent occurrence on the trend site and Idaho fescue is increasing and co-dominating the trend site.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also met. Static and short-term upward trend recorded in the vegetation communities lead to a conclusion that the vegetation management objective is being met.

3.3.7.1.2 Soils

The Combination Creek allotment is not meeting Standard 1 due to past livestock grazing management practices. The reduction in soil and hydrologic function is associated with soil surface loss and degradation that continues to be displayed due to the presence of water erosion relics. These are in various stages of stabilization as most are covered by biological soil crusts and mosses. Past grazing management altered plant community composition and distribution that now contains a high component of shallow-rooted bunchgrasses, though deep-rooted native perennial bunchgrasses are maintained.

With the vegetation cover reduced from moderate to heavy utilization in the past, abundant rock and gravel now fill much of the interspaces and provide stability. Ground cover and frequency trend show a long-term static to slightly upward trend though not quite conclusive enough to show significant progress toward meeting the standard. Western juniper is scattered throughout the allotment and in some places are heavy enough to consider them at risk for potential deteriorating watershed function.

The localized reduction in ecological function from impaired soils indicates that soil and hydrologic function are compromised. Past livestock management is the primary contributing factor for not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions for the Combination Creek allotment.

3.3.7.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[52]

The named streams that occur within the Combination Creek allotment include Bogus, Combination, North Boulder, and South Boulder Creeks. The allotment is not meeting Standards 2 and 3 because reaches totaling 4.7 miles of Bogus, Combination, and South Boulder Creeks were most recently rated FAR (Table RIPN-19). Similar issues were identified for all reaches and included an inadequate amount of hydric species to stabilize stream banks, riparian plants had low vigor, and there was a lack of large woody material that aids in dissipating energy during high flows. On one reach of Combination Creek, there were noxious weeds present, and on the reaches of South Boulder Creek, there was undesirable herbaceous species encroaching (i.e., Kentucky Blue Grass).

The NHD does not identify any springs within the allotment.

Table RIPN-19: Combination Creek allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Bogus Creek 01**	**Assessment Issues/Impacts Identified**	**Total Miles**
Bogus Creek	1.1 (FARD–2001) 0.5 (FARS–2001)	inadequate composition of hydric species to stabilize stream banks during high flows/plants had low vigor/lack of large woody material present/point bars were not revegetation	1.6
	2.2 (FARS–2000)	inadequate composition and age class of hydric species to stabilize stream banks during high flows/plants had low vigor/a lack of large woody material/noxious weeds present	2.2
Combination Creek	1.0 (FAR–2011)	inadequate hydric species/cutbanks and active erosion/ heavy use of both woody and herbaceous vegetation	1.0
North Boulder Creek	1.1 (PFC–2001) (pictures only–2011)	noxious weeds present	1.1
	0.5 (FARS–2001) (PFC–2011)	2001: presence of KBG/inadequate composition of hydric species to stabilize stream banks/plants had low vigor/lack of large woody material/point bars not revegetating	0.5
South Boulder Creek	0.4 (FARS–2001)	2001: presence of KBG/inadequate composition of hydric species to stabilize stream banks/plants had low vigor/lack of large woody material/point bars not revegetating	0.4

For IDEQ water quality information associated with the Combination Creek allotment, see table RIPN-1.

[52] For additional details on the current condition of the allotment, see *Rangeland Health Assessments, Evaluation Reports and Determinations, for the Morgan (0505), Combination Creek (0595), Boulder (0509), South Mountain Individual (0600), Bachelor Flat FFR (0640), Boulder Flat (0526), and Walt's Pond FFR (0659) Allotments* document in the project record or available from the Owyhee Field Office

3.3.7.1.4 Wildlife and Special Status Animals

Upland Habitat
The Combination Creek allotment is meeting native vegetation standards for Rangeland Health. Evaluation of Standard 4 identified an increase in Idaho fescue and bluebunch wheatgrass; however, Sandberg bluegrass has become a co-dominant species. Based on the vegetation information used to evaluate and determine that Standard 4 is being met, it was determined in the 2013 Determination that uplands in this allotment are providing minimal composition, structure and forage for most sagebrush steppe-dependent species.

Riparian Habitat
Evaluation of Standards 2 and 3 identified streams within this allotment that are not properly functioning due to historic and current grazing practices and therefore do not meet Standard 8. Streams, springs, and wetlands that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2 and 3 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species
Sage-grouse
Only GPH habitat is modeled within this allotment (Table WDLF-9 and Map WDLF-1). A breeding habitat assessment was conducted in 2004. The assessment showed that breeding habitat conditions were unsuitable in the Combination Creek allotment (see 2004 assessment). However, PPH habitat is not identified and the values of this allotment are the islands of sagebrush and habitat connectivity to areas of PPH. Because upland habitat conditions are shown to be meeting Standard 4 (see Standard 4) and there is not any current sage-grouse habitat information available, based on upland vegetation information used to determine Standard 4 is being met, upland habitat conditions are providing minimum cover values for sage-grouse and other sagebrush steppe species in this allotment.

Table WDLF-9: Acres[1] and portions of preliminary priority and general priority habitat within the Combination Creek allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Allotment Total	0	0	0	949 (23%)	949 (23%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Columbia River redband trout are known to occur within the Big Boulder, Jordan, Old Man, and South Mountain Creek systems (Map WDLF-2) and have been identified as functioning-at-risk due to historic and current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8 due to historic and current grazing practices.

This allotment is not identified within the modeled distribution of the Columbia spotted frog.

3.3.7.1.5 Visual Resources

As mentioned above in section 3.1.6 the Combination Creek Allotment consists of class II VRM in roughly 25% of the allotment. A description of the class II management classification can be found in that section as well.

3.3.7.1.6 Social and Economic Values

See Section 3.1.9 above.

3.3.7.1.7 Cultural Resources

There are two recorded cultural sites in the Combination Creek allotment. Site 10OE1408 is a structural remains location and 10OE1409 is a prehistoric lithic scatter. There are no eligibility determinations for either site. Neither site is within 100 meters of two identified potential livestock congregation areas in the allotment nor did either receive a monitoring visit. The two potential congregation areas did not receive survey coverage.

3.3.7.2 Combination Creek Allotment Environmental Consequences

3.3.7.2.1 Alternative 1

3.3.7.2.1.1 Vegetation, including. Noxious Weeds

Rangeland health Standard 4 is being met in the Combination Creek allotment. Implementation of Alternative 1 would continue current conditions of the Combination Creek allotment. Combination Creek allotment would continue to meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Combination Creek allotment.

Repeated June through October grazing during the critical growing period with recent light to moderate utilization and AUMs ranging from 285 to 410 (see Appendix B), on the Combination Creek allotment has allowed the allotment to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions. The effects of current livestock grazing would continue to meet Standard 4 and maintain or improve ORMP objectives vegetation health and condition in the Combination Creek allotment.

3.3.7.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of meeting Standard 1 (Section 3.1.2) and maintain ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would be retained. Current conditions would continue to affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.2.1.2, in the

Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.7.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.7.1), the Combination Creek allotment would be available to grazing during the summer and fall annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 7.1 miles of perennial, and 5.3 miles of intermittent stream would be affected by the impacts associated with the summer and fall seasons of grazing. Recent actual use (Appendix B) identifies that the allotment has been used annually during the summer and fall months consistent with the use proposed under the alternative.

The Combination Creek allotment is not meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation and the impacts of annual summer use per Table RIPN-7 and section 3.2.3.1 would continue, the allotment would continue to not meet the riparian-wetland Standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.7.2.1.4 Wildlife and Special Status Animals

The Combination Creek allotment is currently not meeting Standard 8 for riparian habitat and Columbia redband trout habitat. This allotment is meeting Standard 8 for upland habitat and sage-grouse habitat (Section 3.3.7.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.7.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.7.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.1 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.7.2.1.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5.

3.3.7.2.1.6 Social and Economic Values

See Section 3.2.9.2 above.

3.3.7.2.1.7 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.7.2.2 Alternative 2

3.3.7.2.2.1 Vegetation, includig. Noxious Weeds

Rangeland health Standard 4 is being met in the Combination Creek allotment. Implementation of Alternative 2 would improve current conditions of the Combination Creek allotment. Combination Creek allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 2 would prescribe June through October grazing two years and fall grazing one year of a three-year grazing system with a maximum of 350 head of cattle and 410 AUMs (see Alternative 2

proposal for full details Section 2.4). Increased years of deferment as compared to repeated spring and summer grazing in Alternative 1 in the Combination Creek allotment would allow improvement in upland vegetation communities currently meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management the Combination Creek allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.7.2.2.2 Soils

Alternative 2 in the Combination Creek allotment would provide yearly spring deferment and result in reduced physical impacts to soils during the wet spring and would be similar to Alternative 1. The benefits of Alternative 2 would arise during 1 of 3 years where the season of use is limited to the fall and would not only exclude spring grazing, but also provide deferment from critical growing season and riparian use. This would enhance the plant community and decrease concentrated use on upland soils that surround riparian areas. As a whole, improvements proposed with Alternative 2 are therefore expected to be better compared with Alternative 1, though not as rapid as Alternatives 3, 4, and 5 (see Section 3.2.2.3 and 3.2.2.4).

3.3.7.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.7.2), the Combination Creek allotment would be available to grazing during the summer and fall for two years, and during the fall only for the third year of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 7.1 miles of perennial, and 5.3 miles of intermittent stream would be affected by the impacts associated with the summer and fall seasons of grazing. Recent actual use identifies that the allotment has been used annually during the summer and fall months.

The Combination Creek allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year schedule with one year of growing season deferment incorporated; thus, over the course of the 10-year permit, grazing in the allotment would be deferred for four of the 10 years, and the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated one year. Therefore, the allotment would make progress toward meeting the riparian-wetland standards under this alternative.

3.3.7.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal created a three-year rotation schedule. Grazing would occur 2 out of 3 years in the late spring/summer/fall and then deferred to the fall in the third year. Maximum number of head would increase from 103 to 350 and the AUMs would remain the same. Because this proposal meets the criteria used to develop alternative 3, a grazing schedule under Alternative 3 was not created. The direct and indirect effects are the same as those discussed in Section 3.3.7.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently, this allotment is providing adequate sage-grouse habitat conditions (Section 3.3.7.1.4). The permittees proposal meets the 1 out of 3 year deferred grazing strategy and resource constraints used for Alternative 3. Upland habitats (although already meeting Standard 8) would benefit by the 1 in 3 year deferred grazing schedule outside of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April 1–June 30) and 3 out 3 years out of the late brood-rearing period (July 1–August 31). The one year of grazing relief would allow perennial grasses to grow during the critical growth period without livestock grazing pressure. Plant vigor and health would improve along with habitat composition and structure further benefiting sage-grouse because of the increased cover and

sagebrush habitat patch connectivity. Because the AUMS would remain the same and cattle would be removed once the forage consumption limit is met, the 70 percent increase in stocking would not overly affect current conditions and effect sage-grouse cover and habitat connectivity.

Currently the allotment is not providing adequate riparian habitat conditions for Columbia spotted frog (Section 3.3.7.1.4). Over the course of the 10-year permit, the allotment would have 4 years of growing season deferment. Under Alternative 2, riparian function will improve due to the interrupted spring grazing cycle that would improve the regeneration and establishment of herbaceous and woody plants that would dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia spotted frog would benefit by the improved riparian function because of the decreased erosion and sediment loading, enhanced shade and woody debris delivery, greater channel structure and flow regulation, and improved water quality (Section 3.1.3 and 3.1.5). Spring grazing would occur during the egg mass depositing stage (May 1–June 15) 2 out 3 years. During this period, livestock have access to streams, wetlands, and springs and can trample in aquatic habitats impacting egg and larvae survival. However, incorporating a year of grazing deferment during the egg mass deposition period combined with delayed spring grazing would reduce livestock access to streams, wetland, and would further benefit Columbia spotted frog habitat and egg and larvae survival.

Overall, under Alternative 2, current upland habitat conditions would be maintained and would show moderate improvement in community composition and structure. Sage-grouse would benefit because of improved hiding and escape cover and habitat patch connectivity. Upland conditions and sage-grouse habitat values would continue to meet Standard 8. Columbia spotted frog would benefit by Alternative 2 because of improved riparian function and reduced livestock access to aquatic habitats and would significantly progress riparian habitat conditions toward meeting Standard 8 and ORMP objectives.

3.3.7.2.2.5 Visual Resources

Under this alternative riparian areas and wetlands not meeting standards within the allotment would begin to progress, thus improving scenic quality in these areas.

3.3.7.2.2.6 Social and Economic Values

See Section 3.2.9.3 above. Deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.7.2.2.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.7.2.3 Alternative 4

3.3.7.2.3.1 Vegetation, including. Noxious Weeds

Rangeland health Standard 4 is being met in the Combination Creek allotment. Implementation of Alternative 4 would improve current conditions of the Combination Creek allotment. Combination Creek allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 4 would prescribe June through November grazing and spring to summer grazing in year one, fall grazing in year two, and rest in year three of in a three-year grazing system (2 years deferment or rest during critical growing period) with a maximum of 103 head of cattle and 354 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and rest and reduction of 40 percent AUMs over the ten-year permit as compared to Alternative 1 in the Combination Creek allotment would

allow improvement in upland vegetation communities currently meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management objectives in the Combination Creek allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition compared to Alternatives 1 and 2.

3.3.7.2.3.2 Soils

Alternative 4 would provide yearly deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits from 2 out of 3 years of deferment or rest from critical growing season use and summer riparian grazing would provide native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and lessen concentrated use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.7.2.3.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.7.4), the Combination Creek allotment would be available to grazing during the summer and fall for one year, and during the fall only for one year, and rested for the third year of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 7.1 miles of perennial, and 5.3 miles of intermittent stream would be affected by the impacts associated with the summer and fall seasons of grazing. Recent actual use identifies that the allotment has been used annually during the summer and fall months.

The Combination Creek allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year schedule with one year of growing season deferment as well as one year of rest incorporated; thus, over the course of the 10-year permit, grazing in the allotment would be deferred or rested for six of the 10 years. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated two years. Additionally, the changes in season of use would result in a 40 percent reduction in the active AUMs over the 10-year permit. Therefore, the allotment would meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.7.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to implement a deferred/rest grazing management strategy that installs a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a one pasture, three-year grazing rotation would be implemented. The number of head would remain the same but the AUMs would be reduced 40 percent over a ten-year period. The direct and indirect effects are the same as those discussed in Section 3.3.7.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently, this allotment is providing adequate sage-grouse habitat conditions (Section 3.3.7.1.4). Under Alternative 4, 100 percent rest from grazing would occur 1 out of 3 years. Combined with a year of critical growing season (May 1–June 30) deferment from grazing 1 out of 3 years. Upland habitat conditions would improve as plant vigor and health are restored as well as habitat composition and structure because of modifications to the annual spring grazing cycle that occurred under Alternative 1. Sage-grouse subsequently would benefit by the increased abundance and availability of security and

escape cover elements and the improved habitat patch connectivity. In addition, the 40 percent reduction in AUMs would lessen forage consumption and retain a greater amount of vegetation structure that would allow upland habitat conditions to better withstand the effects of grazing in scheduled years of use and leave a greater amount of herbaceous structure during the nesting /early brood-rearing (April 1–June 30) and late brood-rearing periods (July 1–August 31).

Currently the allotment is not providing adequate riparian habitat conditions for Columbia spotted frog (Section 3.3.7.1.4). Under Alternative 4, riparian function would improve due to the interrupted annual spring grazing cycle that would significantly improve the establishment of herbaceous and woody plants that would dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia spotted frog would benefit by the improved riparian function because of the decreased erosion and sediment loading, enhanced shade and woody debris delivery, greater channel structure and flow regulation, and improved water quality (Section 3.1.3 and 3.1.5). Spring grazing would occur during the egg mass depositing stage (May 1–June 15) 1 out 3 years. During this period, livestock have access to streams, wetlands, and springs and can trample in aquatic habitats impacting egg and larvae survival. However, incorporating 2 out of 3 years of grazing deferment/rest during the egg mass laying period would reduce livestock access to streams, wetland, and would further benefit Columbia spotted frog habitat and egg and larvae survival.

Overall, under Alternative 4, upland habitat and riparian habitat conditions would show considerable improvement. Sage-grouse would benefit by the increased composition and structure of the vegetation community and the improved habitat connectivity. Columbia spotted frog would benefit by Alternative 4, because of improved riparian function and reduced livestock access to aquatic habitats. Under Alternative 4, upland and riparian habitat conditions in the allotment would substantially improve and make significant progress toward meeting Standard 8 and achieving ORMP objectives.

3.3.7.2.3.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.4.5.

3.3.7.2.3.6 Social and Economic Values

See Section 3.2.9.5 above. Deferred grazing and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.7.2.3.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.7.2.4 Alternative 5

3.3.7.2.4.1 Vegetation, incl. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.7.2.4.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.7.2.4.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.7.2.4.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.7.2.4.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.5.5.

3.3.7.2.4.6 Social and Economic Values

See Section 3.2.9.6 above.

3.3.7.2.4.7 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.8 Feltwell Allotment

3.3.8.1 Feltwell Allotment Affected Environment

3.3.8.1.1 Vegetation, including. Noxious Weeds

Rangeland health Standard 4 is not being met in pasture 4 of the Feltwell allotment; the standard is being met in pastures 1 and 3. Pastures 2 and 5 are private. Although evidence of historic grazing impacts are present throughout the allotment with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) away from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail), historic grazing and invasive annuals are the causal factors in not meeting Standard 4.

Qualitative rangeland health assessment data indicate that Standard 4 in pasture 4 is not being met due to departure of functional-structural groups in three RHAs dominated by shallow-rooted bunchgrass and invasive annuals (rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pasture 4. Vegetation communities dominated by shallow-rooted bunchgrasses in pasture 4, with the expansion of annual invasive grasses lead to a conclusion that the vegetation management objective is not being met.

3.3.8.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 4 in the Feltwell FFR allotment; pasture 3 is meeting and pastures 2 and 5 are private.

Both past and active accelerated erosional processes have resulted in pedestaling of plants, water flow patterns, and widespread physical soil impacts by livestock hoof action from a large network of trails. Biological soil crusts are variable, ranging from being present to being greatly reduced or absent,

especially in interspatial areas. Repeated spring and early summer season use by cattle under wet conditions have promoted mechanical damage to the soil surface and bare ground.

Non-mechanical impacts are associated with altered plant community composition and distribution from a decrease in relative abundance of large, deep-rooted native perennial bunchgrasses. Although soil surface loss varies across the landscape, the reduced protection resulting from absent vegetation and persistent cover increases the susceptibility to erosion, especially when soils are churned and bare. Where pugging occurs, soil structure and hydrologic function is altered and vegetation is impacted or removed.

Degraded ecological conditions have resulted in the departure from reference conditions, affect infiltration and runoff, and do not project improvement in watershed health, especially with spring grazing and limited rest. Taken together, the decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised. Current and past livestock management is the primary causal factor in not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions in the Feltwell allotment.

3.3.8.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[53]

Standards 2 and 3 are currently not being met in pastures 1–4 of the Feltwell allotment. However, pastures 1, 2, and 4 contain short reaches of stream that are currently used as water gaps.

Within pastures 1, 2, and 4; approximately 0.2 mile of Minear Creek, Owl Creek, and a tributary of Owl Creek were rated FAR because there were unstable banks, the channel was incised, and sedimentation was occurring. Approximately 0.2 mile of Owl Creek and 0.7 mile of a tributary to Owl Creek that occur in pasture 3 were also assessed FAR (Table RIPN-20) because there was inadequate riparian vegetation present to stabilize and protect the stream banks and channels.

Table RIPN-20: Feltwell allotment riparian condition

	Allotment and Pasture Stream Miles & Condition					
Stream Name	**Feltwell 01**	**Feltwell 02**	**Feltwell 03**	**Feltwell 04**	**Assessment Issues/Impacts Identified**	**Total Miles**
Minear Creek	0.2 (**water gap** FAR–2000)				areas of insufficient soil moisture/hydric species and age distribution/unstable banks/ erosion occurring	0.2
Owl Creek		0.2 (**water gap** FAR–2000)	0.2 (FARS–2000		incised channel/ ~70% of stream accessed by livestock/unstable beaver dam/ overwide channel/ inadequate age class of riparian veg/inadequate veg to protect stream banks/areas of vertical and lateral instability	0.4
Owl Creek Tributary			0.7 (FARS–	0.2 (**water**	disturbed and unstable channel and banks/inadequate plants to bind	0.9

[53] For additional details on the current condition of the allotment, see the *Rangeland Health Assessment, Final Rangeland Health Standards and Guidelines Assessment for the Feltwell Allotment (0544)* document in the project record or available from the Owyhee Field Office

	Allotment and Pasture Stream Miles & Condition					
Stream Name	**Feltwell 01**	**Feltwell 02**	**Feltwell 03**	**Feltwell 04**	**Assessment Issues/Impacts Identified**	**Total Miles**
			2000)	**gap** FAR–2000)	banks/sedimentation/sinuosity and w/d ratios out of balance	

For IDEQ water quality information associated with the Feltwell allotment, see table RIPN-1.

3.3.8.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat

Pastures 1 and 3

Pastures 1 and 3 are managed as native plant communities. Plant community information in Standard 4 identified these pastures are meeting Rangeland Health Standards. Sage-grouse habitat assessment data collected in 2012 supports the evaluation of Standard 4. Therefore, the plant community composition and structure are providing adequate upland habitat condition for sagebrush steppe dependent species.

Pasture 4

Pasture 4 in the Feltwell FFR allotment is managed as a native plant community and is determined to be not meeting Standard 4. Evaluation of Standard 4 noted an increase in annual invasive grass species, showing a transition in the plant community composition from native bunchgrasses to more grazing-tolerant exotic species. Annual species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant community composition, structure, and function for sagebrush steppe-dependent species. Because of the undesirable transition in plant community composition identified by Standard 4 and the absence of any other vegetation information (e.g., sage-grouse habitat assessment data), this allotment therefore is not providing adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic livestock practices and increased dominance of invasive annuals.

Riparian Habitat

Evaluation of Standards 2, 3, and 7 determined that streams within this allotment are not properly functioning and not meeting water quality parameters due to historic and current livestock grazing. Streams, springs, and wetlands that are functioning-at-risk are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian habitat conditions to support viable aquatic and terrestrial species populations, and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

Modeling results indicate that all (100 percent) of the Feltwell allotment lies within PPH (Table WDLF-10 and Map WDLF-1). No active leks are known to occur within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. Overall, sage-grouse habitat assessments showed that this allotment is providing suitable overstory/understory conditions for breeding, upland summer, and winter habitat conditions for sage-grouse.

Table WDLF-1: Acres[1] and portions of preliminary priority and general priority habitat within the Feltwell allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	153 (100%)	0	0	0	153 (100%)
Pasture 2	209 (100%)	0	0	0	209 (100%)
Pasture 3	548 (72%)	0	216 (28%)	0	764 (100%)
Pasture 4	529 (100%)	0	0	0	529 (100%)
Pasture 5	137 (100%)	0	0	0	137 (100%)
Pastures 6	29 (100%)	0	0	0	29 (100%)
Allotment Total	1,604 (88%)	0	216 (12%)	0	1,820 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Habitat for the Columbia redband trout and the Columbia spotted frog are not documented to occur within this allotment.

3.3.8.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.8.1.6 Cultural Resources

There are no cultural sites recorded on BLM administered land in the Feltwell allotment. Four potential livestock congregation areas are identified on BLM administered land, but none have been surveyed for cultural resources.

3.3.8.2 Feltwell Allotment Environmental Consequences

3.3.8.2.1 Alternative 1

3.3.8.2.1.1 Vegetation, including. Noxious Weeds

Rangeland health Standard 4 is not met in pasture 4 of the Feltwell allotment; the standard is being met in pastures 1 and 3. Pastures 2 and 5 are private. Implementation of Alternative 1 would continue current conditions of the Feltwell allotment. Pasture 4 would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Feltwell allotment.

Repeated May through August grazing during the critical growing period with recent light to moderate utilization and AUMs ranging from 71 to 283 (see Appendix B), on the Feltwell allotment has allowed pastures 1 and 3 to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions. However, historic grazing in pasture 4 has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 4 of the Feltwell allotment.

3.3.8.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide little to no improvement to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.8.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.8.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.8.1), the Feltwell allotment would be available to grazing during the spring and summer annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 1.1 miles of perennial, and 3.9 miles of intermittent stream would be affected by the impacts associated with the spring and summer seasons of grazing. Pastures 1 and 3 contain the riparian-wetland areas.

The Feltwell allotment is not meeting the Standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, the impacts of annual summer use per Table RIPN-7 and section 3.2.3.1 would continue, and the allotment would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.8.2.1.4 Wildlife and Special Status Animals

The Feltwell allotment is currently not meeting Standard 8 for upland habitat and riparian habitat (Section 3.3.8.1.5). Pastures 1 and 3 are meeting Standard 8 for upland and sage-grouse habitat.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.8.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.8.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.8.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.8.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.8.2.2 Alternative 2

3.3.8.2.2.1 Vegetation, including. Noxious Weeds

Rangeland health Standard 4 is not being met in pasture 4 of the Feltwell allotment; the standard is met in pastures 1 and 3. Pastures 2 and 5 are private. Implementation of Alternative 2 would improve current conditions of the Feltwell allotment. Pasture 4 would move toward meeting Standard 4 and ORMP objectives.

Alternative 2 would prescribe April through September grazing with a three-year rotation grazing system and a maximum of 80 head of cattle and 279 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of deferment out of the critical growing season for upland vegetative communities compared to repeated spring and summer use in Alternative 1 in the Feltwell allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management in pasture 4 would have the opportunity to improve unsatisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.8.2.2.2 Soils

Alternative 2 in the Feltwell allotment would incorporate a minimum of 1 out of 3 years of spring grazing and critical growing season deferment for all but pasture 3 where yearly spring deferment would occur. This would reduce physical impacts during the wet spring and also provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, the allotment would make progress toward improving soil and hydrologic function with Alternative 2 compared to the current condition, though not as rapid as Alternatives 3, 4, and 5 (see Section 3.2.2.3).

3.3.8.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.8.2), pastures 1, 2, and 4 of the Feltwell allotment would be available to grazing during the spring and summer for two years, and during the summer the third year of a three-year rotation. Pasture 3 would be open during the summer for two years, and during the summer and fall for the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 1.1 miles of perennial, and 3.9 miles of intermittent stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing. Pastures 1–4 contain the riparian-wetland areas.

The Feltwell allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 2, pasture 1 would be managed under a defined three-year grazing schedule; however, grazing would continue during similar seasons as the current situation and used annually during the riparian area growing season.. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would continue. Therefore, pastures 1–4 would continue to not meet the riparian-wetland standards under this alternative.

3.3.8.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee submitted a proposal to implement a four pasture, three-year rotation schedule from April through September. Pastures 1 and 2 would be grazed during the spring 2 out of 3 years with 1 year of deferment; Pasture 3 would defer spring grazing 3 out of 3 years; and Pasture 4 would graze 1 spring followed by 2 years of deferment. Stocking would be increased from 69 to 80 head and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.8.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 and 3.2.5.4 Environmental Consequences of Alternative 2 and 3 Common to All Allotments.

Currently, this allotment is providing adequate upland and sage-grouse habitat conditions in pastures 1 and 3 and not providing adequate upland and sage-grouse habitat conditions in pasture 4 (Section 3.3.8.1.4). Under Alternative 2, current conditions in pastures 1 and 3 (although already meeting) would benefit by the increased deferment outside the critical growing season (May 1–June 30) further improving plant vigor and health and habitat composition and structure. Sage-grouse would also benefit because of the increased abundance of security and hiding cover during the nesting/early brood-rearing periods (April 1–June 30). Upland and sage-grouse habitat conditions in pasture 4 would also improve because of the 2 out of 3 years of deferment. Plant vigor and health would improve along with habitat composition and structure. Nesting/early brood-rearing sage-grouse would benefit because of the increased security and hiding cover that would reduce detection and predation by terrestrial and avian predators.

Currently the allotment is not providing adequate riparian habitat conditions in pastures 1 and 3 (Section 3.3.8.1.4). Under Alternative 2, riparian function would not improve in pasture s 1 or 4 due to critical growing season (July 1–Sept. 30) grazing use similar to Alternative 1. This grazing schedule would not promote regeneration and establishment of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Because riparian habitat conditions would not improve, terrestrial and aquatic wildlife would not benefit because of continued livestock access to stream, wetland, and spring habitats that would maintain current conditions of erosion and sediment loading, reduced shade and woody debris delivery, reduced channel structure and flow regulation, and degraded water quality (Section 3.1.3 and 3.1.5). Because of the reduced riparian function, the quality of aquatic habitats would suffer and subsequently reduce the availability of cover and forage for terrestrial and aquatic wildlife.

Overall, under Alternative 2, current upland habitat conditions would be maintained and improved and would show moderate improvement in habitat composition and structure. Sage-grouse would benefit because of improved hiding and escape cover during nesting/early brood-rearing periods. Upland conditions and sage-grouse habitat values would continue to meet Standard 8. However, riparian habitat and aquatic habitat conditions would be maintained and are not expected to improve. Therefore, this allotment would not progress toward meeting Standard 8 or ORMP objectives.

3.3.8.2.2.5 Social and Economic Values

See Section 3.2.9.3 above. New pasture rotations and deferred grazing for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.8.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.8.2.3 Alternative 3

3.3.8.2.3.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 4 of the Feltwell allotment; the standard is being met in pastures 1 and 3. Pastures 2 and 5 are private. Implementation of Alternative 3 would improve current conditions of the Feltwell allotment. Pasture 4 would move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would prescribe May through October grazing with a three-year rotation grazing system (2 out of 3 years of deferment in the critical growing season pastures 1, 2 and 4; 1 out of three years pasture 3) and a maximum of 80 head of cattle and 224 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment out of the critical growing season for upland vegetative communities

and AUM reduction of 27 percent in a ten-year permit, based on average actual use as compared to Alternative 1 in the Feltwell allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management in pasture 4 would have the opportunity to improve unsatisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.8.2.3.2 Soils

Alternative 3 would provide a minimum of 2 out of 3 years of deferment from spring grazing for all pastures and critical growing season use for the same timeframe except pasture where deferment in 1 out of 3 years would occur. This would reduce physical impacts during the wet spring and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Additional deferment of summer riparian area use would also be beneficial in reducing livestock congregation to surrounding upland soils in 1 out of 3 years in all pastures. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers, active AUMs, and stocking rates. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.8.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.8.3), pastures 1 and 2 of the Feltwell allotment would be available to grazing during the spring for one year, during the summer for one year, and during the fall the third year of a three-year rotation. Pasture 3 would be open to grazing during the summer and fall for two years, and during the fall for the third year, and pasture 4 would be open during the spring for one year, and during the fall the second and third years (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 1.1 miles of perennial, and 3.9 miles of intermittent stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternating among the years and pastures. Pastures 1–4 contain the riparian-wetland areas.

The Feltwell allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 3, the allotment would be managed under a defined three-year grazing schedule that would incorporate at least one out of three years growing season deferment. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated for at least one year. Other mandatory terms and conditions of the permit under this alternative would include measures that would reduce impacts (stubble height, woody browse, and bank alteration) associated with the riparian areas condition. Monitoring would be required within pasture 3 where use would occur two of the three years during the riparian constraint period, and would add assurance that standards would make progress toward being met. Additionally, the changes in season of use would result in a 27 percent reduction in the active AUMs over the 10-year permit. Therefore, pastures 1 and 3 would make progress toward meeting the standards under this alternative.

3.3.8.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that implements a grazing system that would create a minimum of 1 out of 3 years deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a four pasture, three-year grazing rotation would be implemented. Stocking would be increase from 69 to 80 head and AUMs would be reduced by 27 percent decrease over 10 years. Pasture 1, 2, and 4 would be grazed in the spring 1 out of 3 years and then deferred 2 out of 3 years; and pasture 3 would be grazed in the spring 2 out 3 years with 1 year of deferment. The direct and indirect effects are the same as those

discussed in Section 3.3.8.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.
Currently, this allotment is providing adequate upland and sage-grouse habitat conditions in pastures 1 and 3 and not providing adequate upland and sage-grouse habitat conditions in pasture 4 (Section 3.3.8.1.4). Under Alternative 3, current conditions in pastures 1 and 3 (although already meeting) would benefit by the increased deferment and 27 percent reduction in AUMs further improving plant vigor and health and habitat composition and structure. Sage-grouse would also benefit because of the reduced grazing pressure during the critical growing season that would prompt an increased abundance of security and hiding cover during the nesting/early brood-rearing periods. Upland and sage-grouse habitat conditions in pasture 4 would also improve because of the 2 out of 3 years of deferment, delayed turn-out date, and reduced AUMs. Plant vigor and health would improve along with habitat composition and structure. Nesting/early brood-rearing habitat would benefit because of the increased security and hiding cover that would reduce detection and predation by terrestrial and avian predators.

Currently the allotment is not providing adequate riparian habitat conditions in pastures 1 and 3 (Section 3.3.8.1.4). Under Alternative 3, riparian function would improve in pastures 1 and 3 due to incorporation of critical growing season (July 1–Sept. 30) deferment; this would offer grazing relief 1 out of 3 years. Combined with a 27 percent reduction in AUMs along with identified terms and conditions (i.e. stubble height, woody browse, and bank alteration; Section 2.4.2.3), this grazing schedule would improve the regeneration and establishment of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). As riparian habitat conditions improve, terrestrial and aquatic wildlife would benefit by the reduced access of livestock to stream, wetland, and spring habitats as the habitat recovers and provides an improved abundance an availability of cover and forage.

Overall, under Alternative 3, current upland habitat conditions would be maintained and improved and would show considerable improvement in habitat composition and structure. Sage-grouse would benefit because of improved hiding and escape during the nesting/early brood-rearing periods. Under Alternative 3, current upland and sage-grouse habitat conditions would be maintained and improved and continue to meet Standard 8 and ORMP objectives. As well, riparian function would improve and subsequently improve aquatic habitat conditions for wildlife and make progress toward meeting Standard 8 and ORMP objectives.

3.3.8.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and deferred grazing for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.8.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.8.2.4 Alternative 4

3.3.8.2.4.1 Vegetation, including. Noxious Weeds

Rangeland health Standard 4 is not met in pasture 4 of the Feltwell allotment; the standard is met in pastures 1 and 3. Pastures 2 and 5 are private. Implementation of Alternative 4 would improve current conditions of the Feltwell allotment. Pasture 4 would move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe June through November grazing with a three-year rotation grazing system (at least 2 out of 3 years of deferment or rest in the critical growing season) and a maximum of 69 head

of cattle and 188 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment out of the critical growing season for upland vegetative communities and AUM reduction of 53 percent in a ten-year permit, based on average actual use and rest as compared to Alternative 1 in the Feltwell allotment would allow recovery to upland vegetation communities and move toward meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources not meeting ORMP vegetation management in pasture 4 would have the opportunity to improve unsatisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.8.2.4.2 Soils

Alternative 4 would provide yearly deferment or rest from spring grazing for all pastures that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from a minimum of 2 out of 3 years of deferment or rest from critical growing season use and summer riparian grazing. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated summer use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing and adjustment in stocking rates would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting, and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.8.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.8.4), pastures 1 and 2 of the Feltwell allotment would be available to grazing during the summer for one year, during the fall for one year, and rested the third year of a three-year rotation. Pasture 3 would be open to grazing during the summer and fall for one year, and during the fall for two years, and pasture 4 would be open during the fall for two years, and rest the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 1.1 miles of perennial, and 3.9 miles of intermittent stream would be affected by the impacts associated with the summer and fall seasons of grazing alternating among the years and pastures. Pastures 1–4 contain the riparian-wetland areas.

The Feltwell allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 4, the allotment would be managed under a defined three-year grazing schedule with two out of three years growing season deferment and/or rest incorporated. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated two years. Therefore, the allotment would meet the standards and attain the ORMP objectives under this alternative.

3.3.8.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years of deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a four pasture, three-year grazing rotation would occur. Deferred grazing would occur 2 out 3 years with a year of rest in pastures 1, 2, and 4; and pasture 3 would be grazed 1 year in the spring followed by a year of deferment and then a year of rest. Stocking levels would remain the same and AUMs would be reduced 53 percent decrease over 10 years. The direct and indirect effects are the same as those discussed in Section 3.3.8.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently, this allotment is providing adequate upland and sage-grouse habitat conditions in pastures 1 and 3 and not providing adequate upland and sage-grouse habitat conditions in pasture 4 (Section 3.3.8.1.4). Under Alternative 4, current conditions in pastures 1 and 3 (although already meeting) would benefit by the increased deferment/rest and 59 percent decrease in AUMs further improving plant vigor and health and habitat composition and structure. Sage-grouse would also benefit because of the reduced grazing pressure during the critical growing season (May 1–June 30) that would prompt an increase in abundance of security and hiding cover during the nesting/early brood-rearing (April 1–June 30) and late brood-rearing (July 1–August 31) periods. Upland and sage-grouse habitat conditions in pasture 4 would significantly improve because of the 2 out of 3 years of deferment/rest and reduced AUMs. Plant vigor and health would improve along with habitat composition and structure. Nesting/early brood-rearing and late brood-rearing period sage-grouse would benefit because of the increased security and hiding cover that would reduce detection and predation by terrestrial and avian predators.

Currently the allotment is not providing adequate riparian habitat conditions in pastures 1 and 3 (Section 3.3.8.1.4). Under Alternative 4, riparian function would substantially improve in pastures 1 and 3 due to incorporation of critical growing season (July 1–Sept 30) deferment/rest. Combined with a 59 percent reduction in AUMs, this grazing schedule would offer grazing relief 2 out of 3 years. This would recover the vigor and health of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). As riparian habitat conditions improve, terrestrial and aquatic wildlife would benefit by the reduced access of livestock and improve stream, wetland, and spring habitat conditions with the subsequent improved availability of cover and forage.

Overall, under Alternative 4, current upland habitat conditions would be maintained and improved and would show considerable improvement in habitat composition and structure. Sage-grouse would benefit because of improved hiding and escape cover during nesting/early brood-rearing and late brood-rearing periods and the increased availability of forage. Under Alternative 4, current upland and sage-grouse habitat conditions would be maintained and improved and continue to meet Standard 8 and ORMP objectives. Riparian function would also improve and subsequently improve aquatic habitat conditions for wildlife and show significant progress toward meeting Standard 8 and ORMP objectives.

3.3.8.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations, deferred grazing, and alternating rest for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.8.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.8.2.5 Alternative 5

3.3.8.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.8.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.8.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.8.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.8.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.8.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.9 Glass Creek Allotment

3.3.9.1 Glass Creek Allotment Affected Environment

3.3.9.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 2 of the Glass Creek allotment; pasture 1 is a seeding and is meeting the standard, but is evaluated below Standard 5. Evidence of historic grazing impacts are present throughout the allotment, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail), including invasive annuals. However, current repeated spring grazing in pasture 2 during the active growing season (April 11–June 6) is a causal factor for not meeting Standard 4. Idaho fescue no longer occurs at the trend site, possibly due to heavy utilization, as recorded in 1999.

Qualitative RHA data indicate that Standard 4 is not being met due to the departure of functional-structural groups in three RHAs dominated by shallow-rooted bunchgrass and invasive annuals, rather than the ecological reference site conditions with dominance by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

Overall interpretations of trend data suggest that the continuing deterioration of biotic conditions due to the near-absence of deep-rooted bunchgrasses and increasing annual invasive plants on the site has compromised the biotic integrity of the site.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pasture 2. Trend data show a lack of improvement in vegetation communities dominated by shallow-rooted bunchgrasses in pasture 2, along with the expansion of annual invasive grasses, which has led to a conclusion that the vegetation management objective is not met.

3.3.9.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 2 of the Glass Creek allotment; a lack of post-fire recovery from past seeding efforts in pasture 1, and invasive annuals, especially in pasture 2, also contribute to not meeting the standard.

Localized soil impacts were recorded in pastures 1 and 2 and include mechanical impacts from hoof action associated with current spring grazing. In pasture 1, however, this is not the only determining factor for impaired upland watershed integrity. Where past drill seeding occurred, bare ground continues to be elevated and flow paths and pedestaling have increased. Long-term ground cover shows no improvement and does not meet ORMP objectives.

The reduction in soil and hydrologic function is associated with post-fire altered plant community composition and distribution due to decreased relative abundance of large, deep-rooted native perennial bunchgrasses, and an increase in invasive species. Sagebrush has established after the seeding but has a relatively low presence in this prescribed burned area. Cheatgrass has been on a significant increase and contributes to an ongoing decline in hydrologic function and nutrient availability.

Invasive annuals are also the cause for a decline in soil conditions in pasture 2. Frequency trend data displays the continuous deterioration of biotic conditions due to the near absence of deep-rooted bunchgrasses and invasion of annuals. Over the long term, the long-lasting negative impacts of invasive annuals to hydrologic function and soil productivity cause a decline in soil and do not meet ORMP objectives.

The decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised due to mechanical impacts from spring grazing, a lack of post-fire soil recovery within the seeding, and declining biotic conditions from the continued spread of invasive annuals. The ability for proper nutrient cycling, hydrologic cycling, and energy flow is impaired so that Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions are not met in the Glass Creek allotment.

3.3.9.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[54]

Standards 2 and 3 are being met in the Glass Creek allotment. There is a short reach (0.9 mile) of Cattle Creek that traverses pasture 2 of the Glass Creek allotment. The stream has been assessed twice. In 2000 it was FAR with an upward trend; there were areas along the stream that did not have adequate vegetation present to protect the stream banks and some lateral instability was observed. In 2011, the reach was in PFC (Table RIPN-21) because there was a functional floodplain, the riparian species were adequate and vigorous, and there was woody species regeneration.

Table RIPN-21: Glass Creek allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Glass Creek 02**	**Assessment Issues/Impacts Identified**	**Total Miles**
Cattle Creek	1.0 (FARU–2000) (PFC–2011)	2000: inadequate vegetation to protect stream banks/lateral instablity	1.0

[54] For additional details on the current condition of the allotment, see the *Rangeland Health Assessments, Evaluation Reports and Determinations, for Glass Creek (0552), Gluch (0553), Gluch FFR (0466), West Maher (0567), and Warn (0596) Allotments* document in the project record or available from the Owyhee Field Office

For IDEQ water quality information associated with the Glass Creek allotment, see table RIPN-1.

3.3.9.1.4 Wildlife and Special Status Animals

Upland Habitat

Pasture 1

Pasture 1 is managed as a seeded plant community. The pasture was re-seeded after a prescribed fire in 1981. Dominant grass species are crested wheatgrass, Sandberg bluegrass, and cheatgrass. Functioning wildlife habitat in the low sagebrush habitat type requires an overstory/understory interface of sagebrush and perennial grasses that create vegetation composition and structure to provide small and large mammals and birds security cover and forage resources. However, re-seeded communities inherently do not sustain the diversity of species associated with native plants communities. As a surrogate, the low sagebrush overstory and the crested wheatgrass understory are providing adequate (although not fully adequate) composition and structure that can be expected for a pasture seeded with an exotic species of perennial grass. At a minimum, habitat structure and function are meeting Standard 8 for wildlife. The co-dominance of cheatgrass is a concern and habitat conditions can be expected to decline as this species increases.

Pasture 2

Pasture 2 is managed as native plant community and has been determined to be not meeting Standard 4 due to past and current livestock grazing practices. Currently, the herbaceous understory component is transitioning from a bluebunch wheatgrass reference community to a Sandberg bluegrass-cheatgrass community. These species do not have the robust growth form or stature and do not provide the plant composition, structure, and function for sagebrush steppe dependent species. Due to the downward trend in the plant community, and the lack of larger bunchgrasses, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to past and current livestock practices.

Riparian Habitat

Evaluation of Standard 7 determined that 0.7 miles of streams within this allotment are not meeting water quality standards for Rangeland Health Standards. Beneficial uses of these streams include water quality parameters that support cold-water aquatic species. Because Standard 7 has identified streams that are not meeting water quality parameters and that livestock grazing is a casual factor, these riparian conditions are therefore not meeting Standard 8 for wildlife due to historic and current grazing practices.

Focal Species

Sage-grouse

This allotment lies within mapped PPH habitat for sage-grouse (Table WDLF-11 and Map WDLF-1). There is one active lek known to occur within pasture 1 and another active lek is documented adjacent to the boundary fence of pasture 2 and the Morgan allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. Breeding and upland summer habitat conditions for sage-grouse in the Glass Creek allotment were found to be unsuitable. Both habitat assessments showed that marginal conditions exist in pasture 1 (a seeding) and unsuitable conditions exist in pasture 2 (a native plant community) due to the decreased occurrence of perennial grasses that are a critical component to understory structure and function during all phases of the year. Because of the reduced occurrence and absence of perennial grasses in pastures 1 and 2, this allotment is not providing adequate nesting, hiding, and escape cover for sage-grouse during the breeding and late-brood rearing periods and is therefore not meeting Standard 8 due to past and current livestock grazing practices.

Table WDLF-11: Acres[1] and portions of preliminary priority and general priority habitat within the Glass Creek allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	833 (>99%)	0	0	1 (<1%)	834 (100%)
Pasture 2	932 (100%)	0	0	0	932 (100%)
Allotment Total	1,755 (>99%)	0	0	1 (<1%)	1,756 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
No documented redband trout waters or modeled distribution of the Columbia spotted frog occur within this allotment.

3.3.9.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.9.1.6 Cultural Resources

There are three previously recorded cultural sites, 10OE2828, 10OE2829, and 10OE10364, on BLM administered land in the Glass Creek allotment. All are historic trash dumps and are not eligible for the NRHP. They received no monitoring visits. Three of the four potential livestock congregation areas identified for the Glass Creek allotment received a survey and field personnel recorded one new cultural site (temporary number 13-O-18-H001). The site, which extends into the Morgan allotment, is a historic trash scatter and is determined to be not eligible for inclusion in the NRHP.

3.3.9.2 Glass Creek Allotment Environmental Consequences

3.3.9.2.1 Alternative 1

3.3.9.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 2 of the Glass Creek allotment; pasture 1 is a seeding and is meeting the standard and is evaluated under Standard 5. Implementation of Alternative 1 would continue current conditions of the Glass Creek allotment. Pasture 2 would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Glass Creek allotment.

Repeated April through May grazing during the critical growing period with rest and recent light to moderate utilization and AUMs ranging from 62 to 148 (see Appendix B), on the Glass Creek allotment has allowed pasture 1 to meet vegetation Standards 5 and maintain satisfactory ORMP objectives for

vegetation health and conditions. However, current grazing with heavy utilization in 1999 in pasture 2 has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing in pasture 2 is the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 2 of the Glass Creek allotment.

3.3.9.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide little to no improvement to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.9.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.9.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.9.1), the Glass Creek allotment would be available to grazing during the spring and early summer annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 0.9 mile of perennial, and 4.9 miles of intermittent stream would be affected by the impacts associated with the spring and summer seasons of grazing. Pasture 2 contains the riparian-wetland areas. Recent actual use reported (Appendix B) that the allotment has primarily been used either during the spring or rested.

The Glass Creek allotment is meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, it would continue to meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.9.2.1.4 Wildlife and Special Status Animals

The Glass Creek allotment is currently not meeting Standard 8 for upland habitat and sage-grouse habitat (Section 3.3.9.1.5). Standard 8 is being met for upland habitat conditions in pasture 1 and riparian habitat.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.9.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.9.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.9.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.9.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.9.2.2 Alternative 2

3.3.9.2.2.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not met in pasture 2 of the Glass Creek allotment; pasture 1 is a seeding and is meeting and is evaluated under Standard 5. Implementation of Alternative 2 would improve current conditions of the Glass Creek allotment. Pasture 2 would move toward meeting Standard 4 and ORMP objectives.

Alternative 2 would prescribe April through June grazing with a three-year rest rotation grazing system and a maximum of 100 head of cattle and 139 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased 2 years of rest in every three years of grazing during the critical growing period in pasture 2 as compared to repeated spring and summer grazing in Alternative 1 in the Glass Creek allotment would allow opportunity to make significant progress toward meeting upland vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.9.2.2.2 Soils

Alternative 2 in the Glass Creek allotment would incorporate 1 out of 3 years of spring grazing and critical growing season deferment in pasture 1 and 1 and 2 out of years of deferment in pasture 2. This would reduce physical impacts during the wettest period and also provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, the allotment would make progress toward improving soil and hydrologic function with Alternative 2 compared to the current condition, though not as rapid as Alternatives 3, 4, and 5 (see Sections 3.2.2.3 and 3.2.2.4).

3.3.9.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.1 and 2.4.9.2), pasture 2 of the Glass Creek allotment would be available to grazing during the spring and early summer for one year, and rested for two years of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 0.9 mile of perennial, and 4.9 miles of intermittent stream would be affected by the impacts associated with the spring and summer seasons of grazing. Pasture 2 contains the riparian-wetland areas, and recent actual use report identifies that the pasture has primarily been used either during the spring or rested.

The Glass Creek allotment is meeting the standards associated with the riparian-wetland resources under current management. If Alternative 2 were implemented, pasture 2 that contains the riparian-wetland areas would be managed under a defined three-year grazing schedule with two out of three years of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated two years. Therefore, the allotment would continue to meet the riparian-wetland standards under this alternative.

3.3.9.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal is to implement a schedule that allows 2 years of spring grazing followed by a year of rest in pasture 1 and 1 year of spring grazing with 2 years of rest in pasture 2. Stocking levels would increase from 98 to 100 head and the AUMs would stay the same. Because this proposal would meet the criteria for Alternative 3 and would progress habitat conditions toward meeting Standard 8, a grazing schedule for Alternative 3 was not created. The direct and indirect effects are the same as those discussed in Section 3.3.9.1.4, Section 3.2.5.1 Impacts Common to All Grazing

Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently, this allotment is providing adequate upland habitat conditions for wildlife in pasture 1 (a seeding) and not in pasture 2 (a native plant community; Section 3.3.9.1.4). For sage-grouse, pastures 1 and 2 were found not to be providing adequate habitat conditions for nesting/early brood-rearing and late brood-rearing sage-grouse. Further, riparian and aquatic habitat conditions in pasture 2 are providing adequate composition and structure for terrestrial and aquatic wildlife.

In pasture 1, the seeded community is providing less than favorable nesting/early brood-rearing conditions for sage-grouse but is generally providing adequate conditions for wildlife (Section 3.3.9.1.4). Inherently, seeded communities do not support the vegetation diversity and structure associated with native plant communities and subsequently provides reduced cover and forage resources for sage-grouse and other shrub steppe associated species. However, under Alternative 2, sage-grouse would benefit by incorporation of 100% rest 1 out of 3 years from grazing deferment outside the critical growth period (May 1–June 30), nesting/early brood-rearing (April 1–June 30), and late brood-rearing (July 1–August 31). As in native communities, plant vigor and health would improve and improved habitat composition and structure would follow. Sage-grouse and other wildlife would benefit by the reduced livestock activity and the increased availability of cover and forage.

In pasture 2, the native plant community is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.9.1.4). Under Alternative 3, current conditions in pasture 2 would benefit by the incorporation of two years of repeated rest into the grazing schedule outside the critical growth period (May 1–June 30). This would substantially modify the spring grazing cycle and would allow for improve plant vigor and health and habitat composition and structure. Sage-grouse would also benefit because of the increased abundance of security and hiding cover during the nesting/early brood-rearing periods (April 1–June 30) and late brood-rearing (July 1–August 31) that would reduce detection and predation by terrestrial and avian predators.

Currently the allotment is providing adequate riparian habitat conditions (Section 3.3.9.1.4). Under Alternative 2, current conditions would be maintained and would further benefit by the incorporation of rest 1 out of 3years in pasture 1 and 2 out of 3 years in pasture 2 outside the critical growing season (July 1–Sept. 30). Riparian function would be maintained and further improved. Terrestrial and aquatic wildlife would further benefit by the increase in cover and forage resulting from reduced livestock utilization and access to riparian and aquatic habitats.

Overall, upland sage-grouse habitat conditions would be improved and would show considerable improvement in community composition and structure. Sage-grouse would benefit because of improved hiding and escape during the nesting/early brood-rearing and late brood-rearing periods. Under Alternative 2, upland and sage-grouse habitat conditions would improve and continue to meet Standard 8 and ORMP objectives. Riparian function and aquatic habitat conditions would also be maintained and further benefit by Alternative 2 and would continue to meet Standard 8 and ORMP objectives.

3.3.9.2.2.5 Social and Economic Values

See Section 3.2.9.3 above. New pasture rotations and alternating rest for each pasture every 1 or 2 in 3 years may require additional labor or feeding costs.

3.3.9.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.9.2.3 Alternative 4

3.3.9.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 2 of the Glass Creek allotment; pasture 1 is a seeding and is meeting the standard and is evaluated under Standard 5. Implementation of Alternative 4 would improve current conditions of the Glass Creek allotment. Pasture 2 would move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe April through August grazing with a three-year rest rotation grazing system and a maximum of 73 head of cattle and 73 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased 2 years of rest in every three years of grazing during the critical growing period in pasture 2 and a reduction of 48 percent AUMs based on average actual use by pasture and rest as compared to repeated spring and summer grazing in Alternative 1 in the Glass Creek allotment would allow opportunity to make significant progress toward meeting upland vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternatives 1 and 2.

3.3.9.2.3.2 Soils

Alternative 4 would provide a minimum of 2 out of 3 years of deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest period. Additional benefits are provided from reduced critical growing season use during the same timeframe, which promotes the ability of native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, and would lessen susceptibility to accelerated erosion. Subsequently, the reduced spring and critical-growth-period grazing and adjustment in stocking rates would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action and utilization of plants. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.9.2.3.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.9.4), pasture 2 of the Glass Creek allotment would be available to grazing during the spring and early summer for one year, and rested for two years of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 0.9 mile of perennial, and 4.9 miles of intermittent stream would be affected by the impacts associated with the spring and summer seasons of grazing. Pasture 2 contains the riparian-wetland areas, and recent actual use report identifies that the pasture has primarily been used either during the spring or rested.

The Glass Creek allotment is meeting the standards associated with the riparian-wetland resources under current management. If Alternative 4 were implemented, pasture 2 that contains the riparian-wetland areas would be managed under a defined three-year grazing schedule with two out of three years of rest incorporated. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Additionally, the changes in season of use would result in a 48 percent reduction in the active AUMs over the 10-year permit. Therefore, the allotment would continue to meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.9.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that installs a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during

the critical growing season and identified resource constraints (Section 2.2.4). Stocking levels would decrease from 98 to 73 head and the AUMs would be reduced 48 percent over 10 years. Under Alternative 4, a 3 year, 2 pasture grazing rotation would be implemented. This alternative is the same as Alternative 2 except for one less year of spring grazing in pasture 1. The direct and indirect effects are the same as those discussed in Section 3.3.9.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently, this allotment is providing adequate upland habitat conditions for wildlife (in general) in pasture 1 (a seeding) and not in pasture 2 (a native plant community; Section 3.3.9.1.4). For sage-grouse, pastures 1 and 2 were found not to be providing adequate habitat conditions for nesting/early brood-rearing and late brood-rearing sage-grouse. Further, riparian and aquatic habitat conditions in pasture 2 are providing adequate composition and structure for terrestrial and aquatic wildlife.

In pasture 1, the seeded community is providing less than favorable nesting/early brood-rearing conditions for sage-grouse but is generally providing adequate conditions for wildlife (Section 3.3.9.1.4). Inherently, seeded communities do not support the vegetation diversity and structures associated with native plant communities and subsequently have less wildlife activity. However, under Alternative 4, sage-grouse and wildlife in general would benefit by incorporation of deferment/rest 2 out of 3 years into the grazing schedule. As in native communities, plant vigor and health would improve and improved habitat conditions would follow. Sage-grouse and other wildlife would benefit by the reduced livestock activity and the substantial improvement in cover and forage.

In pasture 2, the native plant community is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.9.1.4). Under Alternative 4, current conditions in pasture 2 would benefit by the combined incorporation of deferment/rest 2 out of 3 years, reduced stocking, and reduced AUMs into the grazing schedule. This strategy would substantially reduce spring grazing during the critical growth season (May 1–June) and with the addition of reduced stocking levels and AUMs, plant vigor and health and habitat composition and structure would improve considerably. Sage-grouse would benefit because of the increased abundance of security and hiding cover during the nesting/early brood-rearing (April 1-June 30) and late brood-rearing (July 1-August 31) periods that would reduce detection and predation by terrestrial and avian predators.

Currently the allotment is providing adequate riparian habitat conditions (Section 3.3.9.1.4). Under Alternative 4, current conditions would be maintained and would further benefit by the incorporation of deferment/rest 2 out of 3 years into the grazing schedule. Riparian function would be maintained and further improved. Terrestrial and aquatic wildlife would further benefit by the increase in cover and forage resulting from reduced livestock utilization and access to riparian and aquatic habitats.

Overall, upland sage-grouse habitat conditions would be improved and would show considerable improvement in community composition and structure. Sage-grouse would benefit because of improved hiding and escape cover during nesting/early brood-rearing and late brood-rearing periods. Under Alternative 4, upland and sage-grouse habitat conditions would improve and show significant progress toward meeting Standard 8 and ORMP objectives. Riparian function and aquatic habitat conditions would also be maintained and further benefit by Alternative 4 and would continue to meet Standard 8 and ORMP objectives.

3.3.9.2.3.5 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations, deferred grazing, and alternating rest for each pasture every 1 or 2 in 3 years may require additional labor or feeding costs.

3.3.9.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.9.2.4 Alternative 5

3.3.9.2.4.1 Vegetation, including. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.9.2.4.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.9.2.4.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.9.2.4.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.9.2.4.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.9.2.4.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.10 Gluch Allotment

3.3.10.1 Gluch Allotment Affected Environment

3.3.10.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Gluch allotment. Although annual invasive plants are increasing on the site, making it at risk for future disturbance activities, all other indicators for productive native plants are maintained as appropriate to provide for proper nutrient cycling, hydrologic cycling, and energy flow on the allotment.

Qualitative RHA data indicate that Standard 4 is being met with slight to moderate departure of annual invasives, as concluded in 2006 on the RHA. This supports the conclusion that the allotment is meeting the standard.

Overall interpretations of trend data suggest that grass frequencies are primarily static and biotic conditions are maintained with a shift to shallow rooted bunchgrasses from historic livestock grazing; however, bluebunch wheatgrass remains at 65 percent occurrence on the trend site and Idaho fescue is increasing.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also met. Static and short-term upward trend recorded in the vegetation communities lead to a conclusion that the vegetation management objective is being met.

3.3.10.1.2 Soils

Watershed indicators show some departure from expected conditions for the ecological site, though none were excessive enough to determine that Standard 1 would not be met in the Gluch allotment. Erosion relics rated in the moderate range of departure but appear to be historic, as gravel, vegetative cover, biological soil crusts, and plant litter stabilize the soil surface. The ORMP management objective to improve unsatisfactory and maintain satisfactory watershed health/condition is also met, as indicators of bare ground, persistent cover, and canopy cover indicate a general improving ground cover trend that has maintained.

Despite the continued presence of deep-rooted bunchgrasses, an increase in invasive annuals is occurring so that the allotment is considered to be at risk, as biotic conditions are not improving. However, soil and hydrologic indicators show that watershed function is still maintained with proper nutrient and hydrologic cycling, and energy flow. Overall, current livestock management remains compatible with attainment of Standard 1 and ORMP objectives for the Gluch allotment.

3.3.10.1.3 Riparian/ Water Quality

Although the NHD identifies a short reach of stream on BLM lands within the Gluch allotment, BLM did not identify the reach for assessment because it is an ephemeral draw that does not support riparian vegetation. For IDEQ water quality information associated with the Gluch allotment, see table RIPN-1. Because the BLM did not identify any streams that the PFC protocol would apply to and Standards 2 and 3 are not applicable, it was determined that current livestock are not the causal factor for not meeting Standard 7.

3.3.10.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat

Upland habitat conditions were identified to be meeting Standard 4. Rangeland trend information showed that grass frequencies are primarily static and biotic conditions are maintained with a shift to shallow rooted bunchgrasses from historic livestock grazing; however, bluebunch wheatgrass remains at 65 percent occurrence on the trend site and Idaho fescue is increasing (Section 3.3.10.2.1.1). Based on the vegetation information available used to evaluate and determine that Standard 4 is being met, it was determined in the 2013 Determination that the uplands in this allotment are providing minimum composition, structure, and forage values for most sagebrush steppe-dependent species.

Riparian Habitat

Evaluation of Standard 7 found an unnamed creek within the Gluch allotment that is not meeting Idaho water quality parameters because of elevated E. coli levels and is identified as not providing habitat quality for beneficial uses which includes cold-water aquatic species. Because water quality standards are not being met, this allotment is failing to provide adequate aquatic habitat conditions for cold water species and therefore is not meeting Standard 8. However, livestock grazing practices are not identified as a casual factor.

Focal Species

Sage-grouse

This allotment falls within modeled PPH habitat for sage-grouse (Table WDLF-12 and Map WDLF-1). No active leks are known to occur within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. No sage-grouse habitat assessments have been collected in this allotment. Because no other vegetation information is available and the standard is being met, an assumption is being made that at least minimum composition and structure are being provided for sage-grouse and are meeting Standard 8.

Table WDLF-12: Acres[1] and portions of preliminary priority and general priority habitat within the Gluch allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Allotment Total	261 (100%)	0	0	0	261 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Habitat for the Columbia redband trout and the Columbia spotted frog are not documented to occur within the allotment.

3.3.10.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.10.1.6 Cultural Resources

There are no cultural sites recorded on BLM administered land in the Gluch allotment and no potential livestock congregation areas identified. No new surveys occurred.

3.3.10.2 Gluch Allotment Environmental Consequences

3.3.10.2.1 Alternative 1

3.3.10.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Gluch allotment. Implementation of Alternative 1 would continue current conditions of the Gluch allotment. Gluch allotment would continue to meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Gluch allotment.

Repeated March through May grazing during the critical growing period with recent light to moderate utilization and AUMs ranging from 22 to 55 (see Appendix B), on the Gluch allotment has allowed the allotment to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions. The effects of current livestock grazing would continue to meet Standard 4 and maintain or improve ORMP objectives vegetation health and condition in the Gluch allotment.

3.3.10.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of meeting Standard 1 and ORMP objectives (Section 3.1.2) and maintain ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would be retained. The allotment is considered to be at risk due to invasive species, especially annual grasses, which have a tendency to alter soil infiltration and water holding capacity over time. Current conditions would continue to affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.17.1.2, the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.10.2.1.3 Wildlife and Special Status Animals

The Gluch allotment is currently meeting Standard 8 for upland habitat and sage-grouse habitat (Section 3.3.10.1.5).

Overall, Alternative 1 is providing adequate upland habitat conditions for nesting and brood-rearing sage-grouse. Under Alternative 1 existing upland and riparian structure and function would be maintained under the current grazing system and continue to meet Standard 8. The direct and indirect effects are the same as those discussed in Section 3.3.10.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.10.2.1.4 Social and Economic Values

See Section 3.2.9.2 above.

3.3.10.2.1.5 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.10.2.2 Alternative 2

3.3.10.2.2.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Gluch allotment. Implementation of Alternative 2 would continue current conditions of the Gluch allotment. Gluch allotment would continue to meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Alternative 2 would prescribe mid-March through mid-April grazing yearly with a maximum of 50 head of cattle and 50 AUMs (see Alternative 2 proposal for full details Section 2.4). Decreased grazing season compared to Alternative 1 in the Gluch allotment would allow slight improvement in upland vegetation communities currently meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources meeting ORMP vegetation management in the Gluch allotment would have the opportunity to slightly improve vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation.

3.3.10.2.2.2 Soils

Under Alternative 2, livestock grazing in the Gluch allotment would take place every spring and end before the critical growing season begins. While this would not reduce physical impacts during the wettest period, it would provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Although the allotment is already meeting Standard 1 and ORMP objectives, the rotation would be beneficial and has the likelihood

to make further progress toward maintaining and improving soil and hydrologic function with Alternative 2 compared to the current condition, though not as rapid as Alternatives 3, 4, and 5 (see Section 3.2.2.3).

3.3.10.2.2.3 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal is similar to Alternative 1 in that grazing would occur in the early spring but would occur for a shorter duration (30 days compared to 60 days). Stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.10.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions (Section 3.3.10.1.4). The permittees proposal is similar to Alternative 1, but a defined three-year rotation would be implemented and the duration would be shorten by 30 days. The proposal would meet the minimum 1 out of 3 years of deferment criteria used to develop Alternative 3, but the deferment would begin in the early spring (March 16) and livestock would be removed (April 15) prior to the critical growth season (May 1–June 30). In addition, the grazing schedule would slip into the nesting/early brood-rearing period (April 1–June 30) for sage-grouse 2 out of 3 years. In year 3, livestock grazing would be delayed (June 1–June 30) into the sage-grouse nesting/early brood-rearing period. Grazing in the early spring prior to the critical growth period would provide ample opportunity for perennial grasses after livestock have been removed to grow and mature into the summer. However, prior to the nesting/early brood-rearing period, residual herbaceous structure would not be as abundant in the early spring prior to the critical growth period and would reduce cover elements and make sage-grouse more vulnerable to detection and predation by terrestrial and avian predators. However, although regrowth would eventually occur in the critical growth period, early in the nesting/early brood-rearing period, security and hiding cover would be reduced making nesting conditions less effective during the initial stages of this period. However, as the season progresses, recovered composition and structure gained would also benefit late brood-rearing (July 1–August 31) sage-grouse into the summer months. In the third year, delayed grazing would remove spring growth late in the nesting/early brood-rearing period and increase the vulnerability of nesting hens and chicks to detection and predation. Removing late season spring grasses would contribute to a slower recovery of plants as they progress into summer. This in turn would reduce the stature of hiding and escape cover and increase the vulnerability late brood-rearing sage-grouse to detection and predation.

Overall, Alternative 2 provides a better understanding of how livestock grazing would occur in the Gluch allotment. Under this Alternative, current conditions would be maintained and some moderate improvement may occur. Early nesting/early brood-rearing habitat would be limited initially because of reduced over-winter residual cover, early spring grazing, and lack of herbaceous growth prior to the critical growth period that would reduce the availability and effectiveness of adequate nesting cover. Delayed spring grazing would remove gained spring growth and reduce security and cover in the last third of the nesting/early brood-rearing period. Under this strategy, any improvement beyond Alternative 1 would be limited, but current conditions at a minimum would be maintained and continue to meet Standard 8.

3.3.10.2.2.4 Social and Economic Values

See Section 3.2.9.3 above.

3.3.10.2.2.5 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.10.2.3 Alternative 3

3.3.10.2.3.1 Vegetation including Noxious Weeds

Rangeland Health Standard 4 is being met in the Gluch allotment. Implementation of Alternative 3 would continue current conditions of the Gluch allotment. Gluch allotment would continue to meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Alternative 3 would prescribe mid-March through June grazing in a three-year rotation (grazing one in three years during critical growing season) with a maximum of 50 head of cattle and 50 AUMs (see Alternative 3 proposal for full details Section 2.4). Decreased grazing season as compared to Alternative 1 and increased critical growing season use in the Gluch allotment would allow slight improvement in upland vegetation communities currently meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources meeting ORMP vegetation management in the Gluch allotment would have the opportunity to continue to meet vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation. This alternative would not provide as much deferment during the critical growing season as Alternative 2.

3.3.10.2.3.2 Soils

Alternative 3 would provide 1 out of 3 years of deferment from spring grazing that would reduce physical impacts to soils during the wettest period. Critical growing season use would be deferred 2 out of 3 years and would increase the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, the allotment would continue to meet and has the likelihood to make further progress toward maintaining and improving soil and hydrologic function. Alternative 3 is therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.10.2.3.3 Wildlife and Special Status Animals

The concept of Alternative 3 is to implement a deferred grazing management strategy that implements a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a 3 year, one pasture grazing rotation would occur. Pasture 1 would be grazed 2 out of 3 years in the spring followed by a deferment year. Grazing would be deferred 2 out of 3 years in the winter/early spring and followed by 1 year of spring grazing. Maximum stocking and AUM would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.10.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions (Section 3.3.10.1.4). Under Alternative 2, a three-year grazing rotation would be implemented March through June. Grazing deferment out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood rearing period (April 1–June 30) would occur 2 out of 3 years and meets the concept of Alternative 3. Deferment would begin in the early spring (March 16) and livestock would be removed April 15 and would overlap into the nesting/early brood-rearing period (April 1–June 30) for sage-grouse 2 out of 3 years. Early spring grazing would remove late season residual and early season herbaceous cover prior to the sage-grouse nesting period. Early in the nesting period, cover and structure would be less abundant initially but would increase as the nesting period progresses into the critical growth season and matures into the summer. On year 3, the delayed grazing schedule would allow plants to grow early in the critical growth period, but as grazing begins in June 1, herbaceous cover and structure would be removed late in the nesting/early brood-rearing period making nesting hens and chicks vulnerable to detection and predation.

Overall, Alternative 3 meets the 2 out of 3 years of deferment criteria. Implementation of this alternative would allow plants to grow during the critical growing season 2 out of 3 years, which is critical to recovery of habitat composition and structure. Sage-grouse would benefit from the increased security and escape cover that would follow deferment. Under this strategy, current upland and sage-grouse habitat condition would be maintained and progress this allotment further toward meeting Standard 8 and ORMP objectives.

3.3.10.2.3.4 Social and Economic Values

See Section 3.2.9.4 above. Deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.10.2.3.5 Cultural Resources

The effects to historic properties would be the same as Alternative 1

3.3.10.2.4 Alternative 4

3.3.10.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Gluch allotment. Implementation of Alternative 4 would continue current conditions of the Gluch allotment. Gluch allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 4 would prescribe mid-March through June grazing in a three-year rotation (grazing one in three years during critical growing season) with a maximum of 44 head of cattle and 44 AUMs (see Alternative 4 proposal for full details Section 2.4). Decreased grazing season as compared to Alternative 1 and increased critical growing season use and reduction of 12 percent in the ten-year permit, based on average actual use in the Gluch allotment would allow improvement in upland vegetation communities currently meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources meeting ORMP vegetation management in the Gluch allotment would have the opportunity to continue to meet vegetation or maintain satisfactory vegetation health and condition compared to Alternative 1, Current Situation. This alternative would not provide as much deferment during the critical growing season as Alternative 2; however, it would add a year of rest compared to Alternatives 2 and 3.

3.3.10.2.4.2 Soils

Alternative 4 would provide a minimum of 2 out of 3 years of deferment and rest from spring grazing that would reduce physical impacts to soils during the wettest period. Additional benefits are provided from reduced critical growing season use that promotes the ability of native plant communities with an opportunity to improve and respond with increased soil cover, decreased bare ground, and reduced susceptibility to accelerated erosion. Subsequently, the reduced spring and critical-growth-period grazing and adjustment in stocking rates would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action and utilization of plants. Although the allotment is meeting Standard 1 and ORMP objectives, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting, and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.10.2.4.3 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a 3 year, one pasture grazing rotation would occur. Pasture 1 would be deferred 1 out of 3 years in the spring

followed by a year of rest and then grazed in the spring the third year. Maximum stocking would decrease from 50 to 44 and AUMs would be reduced 12 percent over a ten-year period. The direct and indirect effects are the same as those discussed in Section 3.3.10.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions (Section 3.3.10.1.4). Under Alternative 4, a three-year grazing rotation would be implemented March through June. Grazing deferment/rest outside of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood rearing period (April 1–June 30) would occur 2 out of 3 years and meets the concept of Alternative 4. Deferment would begin in the early spring (March 16) and livestock would be removed April 15;however, the grazing schedule would slip into the nesting/early brood-rearing period (April 1–June 30) for sage-grouse 1 out of 3 years. Early spring grazing would remove late season residual and early season herbaceous cover prior to the sage-grouse nesting period. Early in the nesting period, cover and structure would be less abundant initially but would increase as the nesting period progresses into the critical growth season and matures into the summer. In the second year, the allotment would be rested and would be 100 percent closed to grazing every third year providing an ample period for plants to recover vigor and health and improve composition and structure. On year 3, the delayed grazing schedule would allow plants to grow early in the critical growth period, but as grazing begins in June 1, herbaceous cover and structure would be removed late in the nesting/early brood-rearing period making nesting hens and chicks vulnerable to detection and predation.

Overall, implementation of Alternative 4 would improve sage-grouse habitat composition and structure. Vegetation would recover because of 2 out 3 years of deferment/rest combined with the 12 percent reduction in AUMs. Subsequently, sage-grouse would benefit from the increased security and escape cover. Under this strategy, upland and sage-grouse habitat conditions would improve and significantly progress this allotment toward further meeting Standard 8 and ORMP objectives.

3.3.10.2.4.4 Social and Economic Values

See Section 3.2.9.5 above. Deferred grazing and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.10.2.4.5 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.10.2.5 Alternative 5

3.3.10.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.10.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would continue to meet Standard 1 and ORMP objectives to maintain or improve watershed health and condition (see Section 3.2.2.6). Although the allotment is already meeting Standard 1 and ORMP objectives, Alternative 5 would make the fastest progress toward maintaining and improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.10.2.5.3 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.10.2.5.4 Social and Economic Values

See Section 3.2.9.6 above.

3.3.10.2.5.5 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.11 Gluch FFR Allotment

3.3.11.1 Gluch FFR Allotment Affected Environment

3.3.11.1.1 Vegetation, including Noxious Weeds

Pasture 1

Rangeland Health Standard 6 is not being met in pasture 1 of the Gluch FFR allotment. Evidence of historic grazing impacts is present throughout the allotment, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail). Current grazing and soil compaction in pasture 1 are causal factors in not meeting Standard 4, as are repeated winter and spring use.

Qualitative RHA data indicate that Standard 6 is not being met in pasture 1 due to the departure of functional-structural groups in the RHAs dominated by shallow-rooted bunchgrass and invasive annuals, rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pasture 1. Vegetation communities dominated by annual invasives and shallow-rooted bunchgrasses in pasture 1, with the expansion of soil compaction, lead to a conclusion that the vegetation management objective is not met.

Pastures 2, 3, 4 and 5

Rangeland Health Standard 4 is not being met in pastures 2 and 3 but is being met in pastures 4 and 5 of the Gluch FFR allotment; pasture 1 is not meeting and is evaluated under Standard 6. Evidence of historic grazing impacts are present throughout the allotment, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail). Historic grazing and invasive annuals in pastures 2 and 3 are causal factors in not meeting Standard 4.

Qualitative RHA data indicate that Standard 4 is not being met in pasture 2, with departure of functional-structural groups in the RHAs dominated by shallow-rooted bunchgrass and invasive annuals, rather than the ecological reference site conditions with dominance by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

Overall interpretations of trend data in pasture 3 suggest that the continuous deterioration of biotic conditions due to lack of deep-rooted bunchgrasses and increasing annual invasives on the site have compromised the biotic integrity of the site.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pastures 2 and 3. Vegetation communities dominated

by shallow-rooted bunchgrasses in pastures 2 and 3, with the expansion of annual invasive grasses, lead to a conclusion that the vegetation management objective is not met.

3.3.11.1.2 Soils

Current livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 2 of the Gluch FFR allotment; pasture 3 is not meeting the standard due to historic livestock practices while the ORMP watershed health objective is not being met in pasture 5 due to impacts from man-made disturbances at a reservoir. Pasture 4 is meeting the standard.

The reduction in soil and hydrologic function in pastures 1, 2, and 3 is associated with physical soil disturbance and an altered plant community composition and distribution from decreased relative abundance of large, deep-rooted native perennial bunchgrasses. Pasture 1 has been utilized as a winter and early spring pasture where feeding and the continuous early use under wet conditions has contributed to extensive physical soil impacts, primarily compaction and localized pugging. Litter is almost absent.

Indicators of erosion and soil loss and degradation are also present in pasture 2 and are related to mechanical soil disturbance. An increase in invasive species contributes to an ongoing decline in hydrologic function and nutrient availability. Although mats of invasive annuals provide for cover, they result in undesirable soil productivity changes and reflect a departure in reference conditions.

Historic livestock management has impacted pasture 3, although ground cover trend and grass frequency trend show slight improving to static conditions and inconclusive changes in bare ground. The ORMP management objectives are not met in pasture 5, where disturbance from heavy equipment has left localized impacts to soils from dredging at a reservoir.

The decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised from continued winter and spring grazing in the absence of rest. Current and past livestock management is the primary contributing factor for not meeting Standard 1 and the ORMP soil management objectives for the Gluch FFR allotment.

3.3.11.1.3 Riparian/Water Quality

Although the NHD identifies a short reach of stream on BLM lands with the Gluch FFR allotment, BLM did not identify the reach for assessment because it is an ephemeral draw that does not support riparian vegetation. For IDEQ water quality information associated with the Gluch FFR allotment, see table RIPN-1. Because the BLM did not identify any streams that the PFC protocol would apply to and Standards 2 and 3 are not applicable, it was determined that current livestock are not the causal factor for not meeting Standard 7.

3.3.11.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat
Pasture 1 is managed as an exotic plant community and is determined to not be meeting Standard 6. Upland habitats managed under Standard 6 do not meet the requirements of Standard 8. Vegetation composition, structure, and function are lacking or absent in these communities substantially reducing effective nesting, hiding, escape, travel, and foraging cover values for all upland wildlife species. These exotic communities further create large open spaces, diminish habitat connectivity, and increase sagebrush community fragmentation; therefore, this pasture is not meeting Standard 8 due to past and current grazing practices and dominance of exotic vegetation.

Pastures 2 and 3 are managed as native plant communities and have been determined to not be meeting Standard 4 due to past livestock grazing practices and annual invasive species. Currently, the herbaceous understory component is transitioning from basin big sagebrush/bluebunch wheatgrass reference community to a basin big sagebrush/Sandberg bluegrass-cheatgrass community. The downward trend in the plant community composition is favoring more grazing tolerant, shallow rooted grass species. These species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant composition, structure, and function for sagebrush steppe dependent species. Due to the downward trend and transition in the plant community, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe species, and therefore is not meeting Standard 8 due to past grazing practices and invasive annuals.

Pastures 4 and 5 are managed as native plant communities and are identified to be meeting Standard 4. Because there is not any wildlife species specific information (e.g., sage-grouse habitat assessments), an assumption is being made that pastures 4 and 5 are at least providing minimum habitat composition and structure for most shrub steppe dependent species.

Riparian Habitat
Evaluation of Standard 7 found an unnamed creek within the Gluch FFR allotment that is not meeting Idaho water quality parameters because of elevated E. coli levels and is identified as not providing habitat quality for beneficial uses which includes cold-water aquatic species. Because water quality standards are not being met, this allotment is failing to provide adequate aquatic habitat conditions for cold water species and therefore is not meeting Standard 8. However, livestock grazing practices are not identified as a casual factor.

Focal Species

Sage-grouse
The Gluch FFR allotment lies within modeled PPH for sage-grouse (Table WDLF-13 and Map WDLF-1). No active leks are known to occur within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse.

Breeding habitat conditions for sage-grouse in the Gluch FFR allotment were found to be marginal. The breeding habitat assessments showed that the occurrence of sagebrush is satisfactory but the overstory structure is taller than desired with a mixed spreading/columnar physical shape. Combined with reduced occurrence of perennial grasses in the understory and the marginal height and shape of the sagebrush, nesting, hiding, and escape cover created by appropriate vegetation composition and structure does not adequately occur. Therefore, this pasture is not meeting Standard 8 due to marginal breeding habitat conditions caused by past grazing practices.

Upland summer habitat provides important cover and forage for late brood-rearing sage-grouse as the season becomes drier and birds seek out vegetation communities with an abundance of forbs such as mesic areas and riparian zones. Inferring from the breeding habitat assessment, except for the forb information, conditions for sage-grouse in pasture 3 are found to be marginal. The assessment showed that sagebrush occurrence is satisfactory but that the height is taller than desired and combined with the less than favorable occurrence of understory perennial grasses; hiding and escape cover are not being adequately provided. Therefore, this pasture is not meeting Standard 8 due to the marginal upland summer habitat conditions caused by past grazing practices.

Table WDLF-13: Acres[1] and Portions of Preliminary Priority and General Priority Habitat within the Gluch FFR allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	144 (100%)	0	0	0	144 (100%)
Pasture 2	197 (100%)	0	0	0	197 (100%)
Pasture 3	280 (100%)	0	0	0	280 (100%)
Pasture 4	734 (100%)	0	0	0	734 (100%)
Pasture 5	98 (100%)	0	0	0	98 (100%)
Allotment Total	1453 (100%)	0	0	0	1453 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Habitat for the Columbia redband trout and the Columbia spotted frog are not documented to occur within this allotment.

3.3.11.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.11.1.6 Cultural Resources

There are no cultural sites recorded on BLM administered land in the Gluch FFR. All three identified potential livestock congregation areas received a survey, but no new site recordings resulted.

3.3.11.2 Gluch FFR Allotment Environmental Consequences

3.3.11.2.1 Alternative 1

3.3.11.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pastures 2 and 3 but is met in pastures 4 and 5 of the Gluch FFR allotment; pasture 1 is not meeting and is evaluated under Standard 6. Implementation of Alternative 1 would continue current conditions of the Gluch FFR allotment. Pastures 1, 2 and 3 would

continue to not meet Standards 4 and 6 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Gluch FFR allotment.

Generally, repeated April through May grazing during the critical growing period with slight to light utilization and AUMs ranging from 20 to 105 (see Appendix B), has allowed pastures 4 and 5 of the Gluch FFR allotment to meet vegetation standards or maintain satisfactory ORMP objectives for vegetation health and conditions. However, in pastures 2 and 3, historic livestock grazing has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. In pasture 1 current livestock trampling is the causal factor for not meeting vegetation Standard 6—exotics—or ORMP vegetative objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Gluch FFR allotment.

3.3.11.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.11.1.2, the Impacts Common to All Grazing Alternatives (Section 3.4.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.11.2.1.3 Wildlife and Special Status Animals

The Gluch FFR allotment is currently not meeting Standard 8 for upland habitat and sage-grouse habitat in pastures 1, 2, and 3. Pastures 4 and 5 are meeting (Section 3.3.11.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.11.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.11.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.11.2.1.4 Social and Economic Values

See Section 3.2.9.2 above.

3.3.11.2.1.5 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.11.2.2 Alternative 2

3.3.11.2.2.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not met in pasture 2 and 3 but is met in pastures 4 and 5 of the Gluch FFR allotment; pasture 1 is not meeting and is evaluated under Standard 6. Implementation of Alternative 2

would maintain current conditions in pastures 2 and 3 of the Gluch FFR allotment. Pasture 1 would continue to not meet Standard 6 and ORMP objectives. This alternative would maintain or improve Pastures 4 and 5 already meeting Standards and ORMP objectives of vegetation communities.

Alternative 2 would prescribe April through May grazing in pastures 2 and 3; January through April in pasture 1; year-long grazing in pastures 4 and 5 with maximum of 300 head of cattle and 105 AUMs (see Alternative 2 proposal for full details Section 2.4). The grazing schedule is similar to Alternative 1 in the Gluch FFR allotment and would continue to not meet vegetation standards or maintain satisfactory ORMP objectives for vegetation health and conditions in pastures 1, 2 and 3. No improvement in native vegetation health and vigor to the native plant communities is expected to occur in pasture 2 due to the distribution and competitive advantage of invasive species over native species under Alternative 2. Vegetation resources not meeting ORMP vegetation management objectives would not have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas similar to Alternative 1, Current Situation.

3.3.11.2.2.2 Soils

Under Alternative 2, livestock grazing in the Gluch FFR allotment would take place every year in the spring and differ little from Alternative 1. Physical impacts during the wettest and most susceptible period would continue in all pastures and repetitive growing season use would not contribute to increase the ability of native plant communities to provide for soil stability. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 compared to the current condition for all pastures except for season related benefits in pasture 4 (see Section 3.2.2.3).

3.3.11.2.2.3 Wildlife and Special Status Animals

The permittees proposal is to implement a defined annual grazing system for each pasture. Grazing in pasture 1 would occur January through May; grazing in pastures 2 and 3 would occur April through May; and pastures 4 and 5 would be grazed year-long. Maximum stocking would increase from 103 to 300 head and AUMS would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.11.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Pasture 1 is managed as an exotic pasture and is proposed to be grazed annually in the winter (January 1–April 1). Currently pasture 1 is not meeting Standard 8 (Section 3.3.11.1.4). Exotic communities do not support adequate herbaceous distribution, composition, and structure to provide effective nesting/early brood-rearing habitat conditions for sage-grouse and increase their vulnerability of detection and predation by terrestrial and avian predators. Because of the dominance of annuals and their competitive advantage, any improvement is expected to be slow and uncertain. However, grazing early in the year and removing livestock prior to the critical growing season (May 1–June 30), would provide an opportunity for remnant native plants to recover through the critical growth period and mature through the summer; potentially improving composition and structure and increasing the habitat value for sage-grouse and other sage-brush steppe species.

Pastures 2 and 3 are managed as native plant communities and are not providing adequate upland and sage-grouse habitat conditions (Section 3.3.11.1.5). Alternative 2 is proposing to annually graze both pastures in the spring during the critical growing season (May 1–June 30). Repeated spring grazing with no deferment or rest is a detriment to plant vigor and health and results in reduced habitat composition and structure. This strategy would result in less security and nesting cover for sage-grouse during the nesting/early brood-rearing (April 1–June 30) increasing their vulnerability to terrestrial and avian predators. Implementation of this alternative for these pastures would not progress conditions toward meeting Standard 8.

Pastures 4 and 5 are managed as native plant communities and were found to be providing minimum upland and sage-grouse habitat conditions (Section 3.3.11.1.5). Alternative 2 is proposing to annually graze these pastures year-round. Because these pastures are identified as meeting Standard 8 and would be grazed similar to Alternative 1, it can be expected that by implementing Alternative 2, current conditions would be maintained.

Overall, implementation of Alternative 2 would have similar effects as Alternative 1 and would maintain current conditions. No changes in the grazing schedule for pastures 1, 2, and 3were identified that would improve habitat composition and structure to benefit nesting/early brood-rearing conditions for sage-grouse. Under Alternative 2, current conditions in pastures 1, 2, and 3 would not improve and would further not progress toward meeting Standard 8.

3.3.11.2.2.4 Social and Economic Values

See Section 3.2.9.3 above. New pasture rotations may require additional labor or feeding costs.

3.3.11.2.2.5 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.11.2.3 Alternative 3

3.3.11.2.3.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pastures 2 and 3 but is met in pastures 4 and 5 of the Gluch FFR allotment; pasture 1 is not meeting and is evaluated under Standard 6. Implementation of Alternative 3 would improve current conditions in pastures 2 and 3 of the Gluch FFR allotment. Pasture 1 would make slight progress toward meeting Standard 6 and ORMP objectives. This alternative would maintain or improve pastures 4 and 5 already meeting standards and ORMP objectives of vegetation communities.

Alternative 3 would prescribe April through May grazing in pastures 2 and 3 and rest one in three years; January through April in pasture 1 and rest one in three years; year-long grazing in pastures 4 and 5 with maximum of 300 head of cattle and 75 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment or rest and reduction of 29 percent AUMs in a ten-year permit as compared to Alternatives 1 and 2 in the Gluch FFR allotment would allow opportunity to move toward meeting vegetation standards and ORMP objectives for vegetation health and conditions in pastures 2 and 3. Slight improvement in native vegetation health and vigor to the native plant communities is expected to occur in pasture 1 due to the distribution and competitive advantage of invasive species over native species under Alternative 3. Vegetation resources not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternatives 1 and 2.

3.3.11.2.3.2 Soils

Alternative 3 would provide 1 out of 3 years of deferment from spring grazing and critical growing season use for all but pastures 4 and 5 where year-round grazing would continue (see Section 2.4.11). This would reduce physical impacts during the wettest period and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of active AUMs that would benefit soils by limiting physical impacts from hoof action. With the exception of pastures 4 and 5, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.11.2.3.3 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that implements a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints. This alternative would implement a five pasture, three-year grazing rotation. The direct and indirect effects are the same as those discussed in Section 3.3.11.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Pasture 1 is managed as an exotic pasture and is proposed to be grazed annually in the winter 2 out of 3 years with a year of rest. Currently pasture 1 is not meeting Standard 8 (Section 3.3.11.1.5). Exotic communities do not support adequate herbaceous distribution, composition and structure to provide effective nesting/early brood-rearing habitat conditions for sage-grouse and increases their vulnerability of detection and predation by terrestrial and avian predators. Because of the dominance of annuals in this pasture and their competitive advantage, any improvement is expected to be slow and uncertain. However, grazing early in the year and removing livestock prior to the critical growing season (May 1–June 30), provides relief from grazing 3 out of 3 years during this season. This would provide an opportunity for native plants to recover and mature into the summer potentially improving composition and structure. Although the benefits may be limited, the compound opportunity for native remnant plants to annually utilize the critical growth season without livestock pressure would potentially improve habitat cover and forage value for sage-grouse and other sagebrush steppe species.

Pasture 2 and 3 are managed as native plant communities and were found to not be providing adequate upland and sage-grouse habitat conditions (Section 3.3.11.1.5). Alternative 3 would have 2 out of 3 years of grazing with a year of rest. This would modify the cycle of repeated spring grazing that would provide an opportunity for improved plant vigor and health and improved habitat composition and structure. As upland habitat conditions improve, sage-grouse and other sagebrush steppe species would benefit by the additional security and nesting cover and increased forage. Implementation of this alternative is an improvement from Alternative 1 and would progress these pastures toward meeting Standard 8.

Pastures 4 and 5 are managed as native plant communities and were found to be providing minimum upland and sage-grouse habitat conditions (Section 3.3.11.1.5). Alternative 3 is proposing to annually graze these pastures year-round. Because these pastures are identified as meeting Standard 8, it can be expected that by implementing Alternative 2, current conditions would be maintained.

Overall, Alternative 3 provides an opportunity for a moderate improvement in habitat composition and structure and improved cover and forage values for sage-grouse, however, progress would be slow and uncertain due to the dominance and competitive advantage of exotic species. Pastures 2 and 3 would show improvement in habitat composition and structure and current conditions in pastures 4 and 5 would at a minimum be maintained. However, although improvement in pastures 2 and 3are expected and current conditions in pastures 4 and 5 would be maintained, this allotment would not progress toward meeting Standard 8 and ORMP objectives because of the dominance of exotic species in pasture 1 that would fail to provide adequate cover and forage conditions for sage-grouse and other shrub steppe species.

3.3.11.2.3.4 Social and Economic Values

See Section 3.2.9.4 above. Alternating rest in pastures 1–3 every 1 in 3 years may require additional labor or feeding costs.

3.3.11.2.3.5 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.11.2.4 Alternative 4

3.3.11.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pastures 2 and 3 but is met in pastures 4 and 5 of the Gluch FFR allotment; pasture 1 is not meeting and is evaluated under Standard 6. Implementation of Alternative 4 would improve current conditions in pastures 2 and 3 of the Gluch FFR allotment. Pasture 1 would make slight progress toward meeting Standard 6 and ORMP objectives. This alternative would maintain or improve pastures 4 and 5 already meeting standards and ORMP objectives of vegetation communities.

Alternative 4 would prescribe April through December grazing in pastures 2 and 3 and rest one in three years; January through December in pasture 1 and rest one in three years; year-long grazing in pastures 4 and 5 with maximum of 74 head of cattle and 75 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment or rest and reduction of 29 percent AUMs in a ten-year permit compared to Alternatives 1 and 2 in the Gluch FFR allotment would allow opportunity to move toward meeting vegetation standards and ORMP objectives for vegetation health and conditions in pastures 2 and 3. Slight improvement in native vegetation health and vigor to the native plant communities is expected to occur in pasture 1 due to the distribution and competitive advantage of invasive species over native species under Alternative 3. Vegetation resources not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition compared to Alternatives 1, 2 and 3.

3.3.11.2.4.2 Soils

Alternative 4 would provide 2 out of 3 years of deferment or rest from spring grazing for pastures that would reduce physical impacts to soils during the wettest and most susceptible period for pastures 1, 2, and 3. Additional benefits are provided from a minimum of 2 out of 3 years of deferment or rest from critical growing season use in all pastures except pastures 4 and 5 (see Section 2.4.11). This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, and reduced susceptibility to accelerated erosion. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting, and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.11.2.4.3 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that installs a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints. This alternative would implement a five pasture, three-year grazing rotation. Maximum stocking would be decreased from 103 to 74 head and AUMs would be reduced 29 percent over a 10-year period. The direct and indirect effects are the same as those discussed in Section 3.3.11.1.4, Section 3.2.5.2 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Pasture 1 is managed as an exotic pasture and is proposed to be grazed annually under a winter/summer/rest strategy. This grazing strategy incorporates deferment/rest 3 out of 3 years out of the critical growing season (May 1–June 30) and the sage-grouse nesting/early brood-rearing period (April–June 30). Currently pasture 1 is not meeting Standard 8 (Section 3.3.11.1.5). Exotic communities do not support adequate herbaceous distribution and structure to provide effective nesting/early brood-rearing habitat conditions for sage-grouse and increases their vulnerability of detection and predation by

terrestrial and avian predators. Because of the dominance of annuals in this pasture and their competitive advantage, any improvement is expected to be slow and uncertain. However, 29 percent reduction in AUMs combined with a 100 percent rest from grazing 1 out of 3 years, and no grazing during the critical growth period 3 out of 3 years, provides ample opportunity for suppressed native plants to recover vigor and health and mature. Although improvement may be slow, habitat composition and structure are expected to improve cover and forage elements for sage-grouse and other sagebrush steppe species.

Pastures 2 and 3 are managed as native plant communities and were found to be not providing adequate upland and sage-grouse habitat conditions (Section 3.3.11.1.5). Under Alternative 4, grazing would not occur during the critical growing season (May 1–June 30), sage-grouse nesting/early brood-rearing period (April–June 30), and sage-grouse late brood-rearing periods 2 out of 3 years. Combined with a 100 percent absence of livestock 1 out 3 years and a 29 percent reduction in AUMs, this grazing schedule would considerably modify the cycle of repeated spring grazing and would improve plant vigor and health and upland habitat composition and structure. As upland habitat conditions improve, sage-grouse and other sagebrush steppe species would benefit by the additional security and nesting cover and increased forage and the reduced vulnerability to detection and predation.

Pastures 4 and 5 are providing at least minimum upland and sage-grouse habitat conditions (Section 3.3.11.1.5). Under Alternative 4, these pastures would be grazed annually year-round the same as is occurring under Alternative 1. Because these pastures are meeting Standard 8, current upland and sage-grouse habitat conditions are expected to be maintained and would show improvement because the absence of livestock grazing every third year and the 29 percent reduction in AUMs would further improve habitat composition and structure.

Overall, Alternative 4 provides an opportunity for considerable improvement in habitat composition and structure and improved cover and forage elements for sage-grouse in pasture 1, however, progress would be slow and uncertain due to the dominance and competitive advantage of exotic species. Pastures 2–5 would show improvement in habitat composition and structure. Although improvement in pasture 1would be slow, upland habitat conditions are expected to improve and benefit sage-grouse and substantial progress in pastures 2–5 is expected to occur. Under Alternative 4, upland and sage-grouse habitat for this allotment would make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.11.2.4.4 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations and alternating rest for pastures 1–3 every 1 in 3 years may require additional labor or feeding costs.

3.3.11.2.4.5 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.11.2.5 Alternative 5

3.3.11.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.11.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole,

Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.11.2.5.3 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.11.2.5.4 Social and Economic Values

See Section 3.2.9.6 above.

3.3.11.2.5.5 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.12 Jims Peak FFR Allotment

3.3.12.1 Jims Peak FFR Allotment Affected Environment

3.3.12.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in the Jim's Peak FFR allotment. Evidence of historic grazing impacts are present throughout the allotment with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail), thus, historic grazing and invasive annuals are causal factors in not meeting Standard 4.

Qualitative RHA data indicate that Standard 4 is not being met due to departure of functional-structural groups in the RHAs with more than expected shallow-rooted bunchgrass and invasive annuals, moderate departure ratings in litter and reproductive capabilities of perennial plants. This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met. Vegetation communities shifting to shallow-rooted bunchgrasses, with the expansion of annual invasive grasses and moderate ratings of reproductive capabilities of perennial plants lead to a conclusion that the vegetation management objective is not met.

3.3.12.1.2 Soils

Current and historic livestock grazing management practices are significant causal factors for not meeting watershed Standard 1 in the Jim's Peak allotment. Accelerated erosional processes and water flow patterns have caused an increase in bare ground and pronounced pedestaling of plants; mechanical disturbance along trails is common and has reduced the protective vegetative and persistent cover component needed to provide soil stability and infiltration.

A shift from deep-rooted bunchgrasses to more shallow-rooted species occurrence along with grazing during the active growing season provides less cover in the shrub interspaces. As a result, soil degradation is common, especially when associated with trampling on exposed soils. The decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised. Current and historic livestock management are the primary contributing factors for not meeting Standard 1 and the ORMP soil management objectives of improving unsatisfactory watershed health/conditions for the Jim's Peak FFR allotment.

3.3.12.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[55]

Standards 2 and 3 are not being met in the Jim's Peak FFR allotment. Approximately 0.9 mile of Minear Creek was most recently assessed as NF because the riparian area had lost extent, plants had low vigor from excessive utilization, and stabilizing species were sparse. Approximately 0.6 mile of Owl Creek was FAR in 2000 because riparian vegetation lacked appropriate age distribution and was not controlling erosion, stabilizing streambanks or shading the channel, the riparian/wetland vegetation with deep strong binding roots was not sufficient to stabilize streambanks on portions of the segment, age class and structural diversity of riparian-wetland vegetation were not appropriate, and Canada thistle occurred on a small portion of the floodplain. Subsequent to the FAR rating, a MMIM site (Table RIPN-22) was established on the same reach in 2011. The streambank alteration was 28 percent and exceeded the criteria established in the ORMP. However, both the stubble height and the woody use were within appropriate limits for healthy and sustainable riparian areas.

Five springs that occur within the allotment were assessed in 2004 and 2011 (Table RIPN-22). Minear Spring was classified as NF in 2004 because the lentic area was losing extent due to a lack of surface water to support riparian species. The area lacked species composition, age class, and the species present were not stabilizing the soils. Owl Creek Spring and Pole Bridge Spring were both FAR in 2004 because there was a lack of stabilizing species present and the flow patterns had been altered by livestock trailing and trampling. Two unnamed springs were assessed as FAR in 2011 because both occur on relatively steep slopes where livestock trailing and trampling has altered the flow patterns and caused drying of the wetland soils. Both the woody and herbaceous riparian species had been heavily utilized and had low vigor.

Table RIPN-22: Jim's Peak FFR allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Jim's Peak 01**	**Assessment Issues/Impacts Identified**	**Total Miles**
Minear Creek	0.4 (NF–2000) 0.5 (FARU–2000/ NF–2011)	2000: density, age class and structural diversity of riparian/wetland vegetation were not appropriate/vegetation was not controlling erosion, stabilizing streambanks or shading water areas/riparian/wetland vegetation with deep strong binding roots was not sufficient to stabilize streambanks/ are ground existed on 20-30 percent of the area and Canada thistle existed on 1 to 5 percent of the area 2011: excessive removal of vegetation and trampling/plants had low vigor/ area is losing extent/species with desired root masses were sparse	0.9

[55] For additional details on the current condition of the allotment, see the *Jim's Peak (0576) Initial Allotment and Permit/Lease Review and Rangeland Health Assessment* document in the project record or available from the Owyhee Field Office

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Jim's Peak 01**	**Assessment Issues/Impacts Identified**	**Total Miles**
Owl Creek	0.6 (FARS–2000)	riparian vegetation was in moderate condition/vegetation had a diverse composition but lacked appropriate age distribution/vegetation was not controlling erosion, stabilizing streambanks or shading water areas/riparian/wetland vegetation with deep strong binding roots was not sufficient to stabilize streambanks on portions of the segment/age class and structural diversity of riparian/wetland vegetation were not appropriate/Canada thistle occurred on a small portion of the floodplain.	0.6
Pole Bridge Creek	0.3 (pictures only/not reliant on veg–2011)	armored with boulders and shaded with fir trees	0.3

MIM Metrics					
Stream Name	**Mean Stubble Height (inches)**	**Woody Use (%)**	**Streambank Alteration (%)**	**Stable Bank (%)**	**Covered Bank (%)**
Owl Creek (2011)	8.8	4.8	28	49	99

Springs Assessed, Condition, & Issues Identified			
Spring Name	**Pasture/ Assessment Year**	**PFC Condition**	**Assessment Issues/Impacts Identified**
Minear Spring	1/2004	NF	lack of surface water- losing extent/one woody species with low vigor/altered flow patterns from trampling/lack of stabilizing species
Owl Creek Spring	1/2004	FAR	altered flow patterns from trailing and shearing of soils/mechanical damage apparant
Pole Bridge Spring	1/2004	FAR	lack of herbaceous stabilizing species/altered flow patterns from tramping and road crossing
Unnamed Spring 1	1/2011	FAR	trampling caused altered flow patterns and drying of riparian area and excessive erosion and deposition/plants have low vigor from heavy utilization
Unnamed Spring 2	1/2011	FAR	trampling caused altered flow patterns and drying of riparian area and excessive erosion and deposition/plants have low vigor from heavy utilization

For IDEQ water quality information associated with the Jim's Peak allotment, see table RIPN-1.

3.3.12.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat

The Jim's Peak FFR allotment is managed as native plant community and is determined to be failing to meet Standard 4 due to past livestock grazing practices and annual invasive species. Currently, the herbaceous understory component is transitioning from a reference community dominated by bluebunch wheatgrass to an herbaceous community dominated by Sandberg bluegrass and annual invasive grass species. The downward trend in the plant community composition is favoring more grazing tolerant, shallow-rooted grass species. These species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant composition, structure, and function for sagebrush steppe-dependent species. Due to the downward trend and shift in the plant community, this allotment is failing to provide adequate upland habitat conditions for sagebrush steppe species, and therefore is not meeting Standard 8 due to historic and current livestock practices and annual invasive species.

However, this determination is not consistent with the vegetation information recorded in sage-grouse assessments (see Focal Species discussion below) that rated this allotment as meeting Standard 8 for sage-grouse. In this particular case, the rangeland assessment information was collected on low sagebrush sites (Shallow Claypan) that represented a majority of the habitat type on public lands; in contrast, the sage-grouse assessments were collected on two different Wyoming big sagebrush and mountain big sagebrush Loamy sites that comprised a smaller portion of the allotment.

Riparian Habitat

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to current grazing practices and therefore do not meet Standard 8. Streams, springs, and wetlands that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

The Jim's Peak FFR allotment lies within PPH/GPH for sage-grouse (Table WDLF-14, Map WDLF-1). No active leks are known to occur within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. Sage-grouse habitat assessments showed that this allotment is providing suitable overstory/understory composition and structure for breeding, summer upland, and winter habitat conditions.

Table WDLF-14: Acres[1] and portions of preliminary priority and general priority habitat within the Jim's Peak allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	407 (16%)	0	1557 (60%)	632 (24%)	2595 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Habitat for the Columbia redband trout and the Columbia spotted frog are not documented to occur within this allotment.

3.3.12.1.5 Visual Resources

As mentioned above in section 3.1.6 the Jim's Peak Allotment consists of class II VRM in roughly 70% of the allotment. A description of the class II management classification can be found in that section as well.

3.3.12.1.6 Social and Economic Values

See Section 3.1.9 above.

3.3.12.1.7 Cultural Resources

There are no previously recorded cultural sites on BLM administered land in the Jims Peak FFR allotment. Of the seven potential congregation areas identified for the allotment, two received surveys. No new site recordings resulted from the surveys.

3.3.12.2 Jims Peak FFR Allotment Environmental Consequences

3.3.12.2.1 Alternative 1

3.3.12.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in the Jim's Peak FFR allotment. Implementation of Alternative 1 would continue current conditions of the Jim's Peak FFR allotment. Jim's Peak FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Jim's Peak FFR allotment.

Repeated June through September grazing and AUMs ranging from 51 to 58 (see Appendix B), on the Jim's Peak FFR allotment has occurred. However, historical livestock grazing has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Jim's Peak FFR allotment.

3.3.12.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.12.1.2, the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.12.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.12.1), the Jim's Peak allotment would be available to grazing year-round annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 1.2 miles of perennial, 2.1 miles of intermittent stream, and one spring would be affected by the impacts associated with all seasons of grazing. Recent actual use report (Appendix B) identifies that the allotment has primarily been used during the summer and early fall. Thus, under this alternative, the allotment would likely continue to be used during those seasons.

The Jim's Peak allotment is not meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, the impacts associated with season-long grazing per Table RIPN-7 and section 3.2.3.1 would continue, and the allotment would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.12.2.1.4 Wildlife and Special Status Animals

The Jim's Peak FFR allotment is currently not meeting Standard 8 for upland habitat, and riparian habitat (Section 3.3.12.1.4).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.12.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.12.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.12.2.1.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5.

3.3.12.2.1.6 Social and Economic Values

See Section 3.2.9.2 above.

3.3.12.2.1.7 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.12.2.2 Alternative 2

3.3.12.2.2.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in the Jim's Peak FFR allotment. Implementation of Alternative 2 would improve current conditions of the Jim's Peak FFR allotment. The Jim's Peak FFR allotment would move toward meeting Standard 4 and ORMP objectives.

Alternative 2 would prescribe June through October grazing and deferment during the critical growth period 1 of 3 years in a three-year grazing rotation with a maximum of 55 head of cattle and 56 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of deferment in Alternative 2 compared to repeated spring and summer use in Alternative 1 in the Jim's Peak FFR allotment would allow vegetation health and vigor to improve standards and ORMP objectives. Vegetation resources not

meeting ORMP vegetation objectives would have the opportunity to improve unsatisfactory vegetation or health and condition on all areas as compared to Alternative 1, Current Situation.

3.3.12.2.2.2 Soils

Under Alternative 2, livestock grazing in the Jim's Peak FFR allotment would provide yearly spring deferment and result in reduced physical impacts to soils during the wettest period similar to Alternative 1. The benefits of Alternative 2 would arise during 1 of 3 years where the season of use is limited to the fall and would not only exclude spring grazing, but also provide deferment from critical growing season use and summer riparian grazing. This would enhance the plant community and be beneficial in reducing livestock congregation on upland soils that surround riparian areas and beyond. As a whole, improvements to soil and hydrologic function proposed with Alternative 2 are therefore expected to be better compared with Alternative 1, though not as rapid as Alternatives 3, 4, and 5 (see Sections 3.2.2.3 and 3.2.2.4).

3.3.12.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.12.2), the Jim's Peak allotment would be available to grazing during the summer and fall for two years, and during the fall only for the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 1.2 miles of perennial, 2.1 miles of intermittent stream, and one spring would be affected by the impacts associated with the summer and fall seasons of grazing. Recent actual use report identifies that the allotment has primarily been used during the summer and early fall, and standards are not being met.

The Jim's Peak allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 2, the allotment would be managed under a defined three-year schedule that incorporates one year of growing season deferment. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated for one of three years. However, the grazing season would be consistent with the use that has led to standards not being met the two years that use would occur (ie. June–October). Therefore, although the allotment would make progress toward meeting the riparian-wetland standards under this alternative, the recovery would be very slow.

3.3.12.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal created a three-year rotation schedule. Grazing would occur 2 out of 3 years in the spring/summer/fall and then deferred to the fall in third year. Maximum stocking and AUMs would remain the same.

Because this proposal meets the 2 out of 3 years criteria of critical growing season use and resource constraints used to develop Alternative 3, a grazing proposal for Alternative 3 was not created or analyzed. The direct and indirect effects are the same as those discussed in Section 3.3.12.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently the allotment is not providing adequate upland habitat conditions but is providing suitable breeding and upland summer habitat conditions (Section 3.3.12.1.5). The permittees proposal meets the 1 out of 3 year of deferred grazing and resource constraints used to develop Alternative 3. Upland habitats would benefit by the 1 in 3 year of deferred grazing out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April 1–June 30). The one year of relief from spring livestock grazing would allow perennial grasses to grow during the critical growth period. Plant vigor and health would be improved and community composition and structure would improve. In addition,

sage-grouse habitat composition and structure (although already meeting) would further improve because of grazing deferment. Sage-grouse would benefit because of the increased security and escape cover that wouldl further reduce their vulnerability to detection and predation.

Currently the allotment is not providing adequate riparian habitat conditions (Section 3.3.12.1.5). Under Alternative 3, riparian function because of the incorporation of critical growing season (May 1–June 30) deferment and would offer grazing relief 1 out of 3 years. This would improve the regeneration and establishment of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). As riparian function improves, terrestrial and aquatic wildlife would benefit by the reduced access of livestock to stream, wetland, and spring habitats as the riparian habitat recovers and provides an improved abundance and availability of cover and forage.

Overall, upland and riparian habitat conditions would improve under this Alternative because of the incorporation of deferment. Reduced critical growing season grazing would allow the vegetation to recover and sage-grouse would benefit because of the increased cover and forage elements provided during the nesting/early brood-rearing period. In addition, terrestrial and aquatic wildlife would benefit because of improved riparian function and reduced access of livestock to stream, wetland, and spring habitats. This would improve riparian vegetation diversity, distribution and structure and decrease bank trampling, reduce erosion, and reduce sediment loading. Under Alternative 4, this grazing strategy would progress upland and riparian habitat conditions toward meeting Standard 8 and ORMP objectives.

3.3.12.2.2.5 Visual Resources

Visual resources would improve under the Alternative 2 grazing schedule. With a defined three-year schedule that provides true deferment from critical growing season use and summer riparian grazing, both upland and riparian plant communities would benefit thought the FFR, thus improving visual qualities throughout the area.

3.3.12.2.2.6 Social and Economic Values

See Section 3.2.9.3 above. Deferred grazing and alternating season of use every 1 in 3 years may require additional labor or feeding costs.

3.3.12.2.2.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.12.2.3 Alternative 4

3.3.12.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in the Jim's Peak FFR allotment. Implementation of Alternative 4 would improve current conditions of the Jim's Peak FFR allotment. Jim's Peak FFR allotment would move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe June through November grazing and deferment and rest during the critical growth period 2 of 3 years in a three-year grazing rotation with a maximum of 53 head of cattle and 54 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and rest and reduction of 33 percent AUMs over a ten-year permit, based on average actual use in Alternative 4 compared to Alternatives 1 and 2 in the Jim's Peak FFR allotment would allow vegetation health and vigor to improve standards and ORMP objectives. Vegetation resources not meeting ORMP vegetation objectives would have the opportunity to improve unsatisfactory vegetation or health and condition on all areas compared to Alternatives 1 and 2.

3.3.12.2.3.2 Soils

Alternative 4 would provide yearly deferment and rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from 2 out of 3 years of deferment or rest from critical growing season use and summer riparian grazing. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated summer use on upland soils that surround riparian areas. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.12.2.3.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.12.4), the Jim's Peak allotment would be available to grazing during the summer and fall for one year, and during the fall only for one year, and rested the third year of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 1.2 miles of perennial, 2.1 miles of intermittent stream, and one spring would be affected by the impacts associated with the summer and fall seasons of grazing alternating among the years. Recent actual use report identifies that the allotment has primarily been used during the summer and early fall months, and Standards are not being met.

The Jim's Peak allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 4, the allotment would be managed with a defined three-year schedule that incorporates one year of growing season deferment as well as one year of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Additionally, the changes in season of use would result in a 33 percent reduction in active AUMs over the 10-year permit. Therefore, the allotment would meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.12.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years of deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a three year, one pasture grazing rotation would occur. Maximum stocking would decrease from 55 to 53 head and AUMs would be reduced 33 percent. The direct and indirect effects are the same as those discussed in Section 3.3.12.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently the allotment is not providing adequate upland habitat conditions but is providing suitable breeding and upland summer habitat conditions (Section 3.3.12.1.5). Upland habitats and sage-grouse would benefit by the 2 out of 3 year deferred grazing and rest out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April 1–June 30). Combined with the 33 percent reduction in AUMs and the 100 percent absence of livestock 1 out 3 years, this grazing schedule would allow perennial grasses to grow through the critical growth period and mature in the summer. Plant vigor and health would be improved and along with habitat composition and structure. In addition, sage-grouse habitat composition and structure would further improve because of grazing deferment/rest. Sage-grouse would benefit because of the increased security and escape cover that would further reduce their vulnerability to detection and predation.

Currently the allotment is not providing adequate riparian habitat conditions (Section 3.3.12.1.5). Under Alternative 4, riparian function due to incorporation of critical growing season deferment/rest would offer

grazing relief 2 out of 3 years. Combined with a 100 percent absence of livestock 1 out of 3 years and a 33 percent reduction in AUMs, the grazing schedule would improve the regeneration and establishment of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). As riparian function improves, terrestrial and aquatic wildlife would benefit by the reduced access of livestock to stream, wetland, and spring habitats and increased abundance and availability of cover and forage as conditions improve.

Overall, upland and riparian habitat conditions would considerably improve under Alternative 4 because of the incorporation of deferment/rest and the reduction of AUMs. Reduced critical growing season grazing would allow the vegetation to recover and sage-grouse would benefit because of the increased cover and forage elements provided during the nesting/early brood-rearing period. Terrestrial and aquatic wildlife would also benefit from improved riparian function and reduced access of livestock to stream, wetland, and spring habitats. This would improve riparian vegetation diversity, distribution and structure and decrease bank trampling, reduce erosion, and reduce sediment loading. Under Alternative 4, this grazing strategy would make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.12.2.3.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.4.5.

3.3.12.2.3.6 Social and Economic Values

See Section 3.2.9.5 above. Deferred grazing and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.12.2.3.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.12.2.4 Alternative 5

3.3.12.2.4.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.12.2.4.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.12.2.4.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.12.2.4.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.12.2.4.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.5.5.

3.3.12.2.4.6 Social and Economic Values

See Section 3.2.9.6 above.

3.3.12.2.4.7 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.13 Morgan Allotment

3.3.13.1 Morgan Allotment Affected Environment

3.3.13.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in all four pastures of the Morgan allotment. All pastures show evidence of historic grazing impacts throughout with the reduced composition of deep-rooted native perennial bunchgrasses (e. g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail) and invasive annuals; historic grazing, Horse Creek Fire, and invasive annuals are causal factors in not meeting Standard 4.

Qualitative RHA data indicate that Standard 4 is not being met, with moderate to extreme departure of invasive plants in the RHAs dominated by shallow-rooted bunchgrass and invasive annuals, rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

Overall interpretations of trend data in pasture 2 suggest that the continuous deterioration of biotic conditions due to decrease of deep-rooted bunchgrasses and increasing annual invasives has compromised the biotic integrity of the community.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within the allotment. Vegetation communities dominated by shallow-rooted bunchgrasses with the expansion of annual invasive grasses lead to a conclusion that the vegetation management objective is not met.

3.3.13.1.2 Soils

Current livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pasture 2; pastures 1 and 3 are not meeting due to past grazing impacts and invasive annuals, and pasture 4 is meeting.

While the ground cover trend in pasture 2 is slightly upward, a photo trend plot shows the gradual increase of invasive grasses and shallow-rooted bunchgrasses after a fire in 1999. While it can be assumed that the vegetative cover present in 2011 may provide some protection over the previously recorded conditions just two years after the fire, the remaining underlying degradation of soils recorded for all rangeland health sites in this pasture continues to be a problem.

Both historic and active accelerated erosional processes have resulted in abundant pedestaling of plants, water flow patterns, and commonly found physical soil impacts by livestock hoof action. Biological soil

crusts are variable, ranging from being present to being greatly reduced or absent, especially in interspatial areas. Repeated spring and early summer season use by cattle and horses under wet conditions have promoted mechanical damage to the soil surface and bare ground.

Pastures 1 and 3 show impacts from past grazing as erosion relics are in various states of stabilization. Gravel armor helps to retain soils and reduce erosion, especially where vegetation cover is lacking. This is due to altered plant community composition and distribution from a decrease in relative abundance of large, deep-rooted native perennial bunchgrasses, and an increase in invasive species. As a result, a shift in the plant community has led to accelerated erosion and impacts to upland watershed health, especially with no rest or deferred grazing in place.

3.3.13.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[56]

The named streams that occur in the Morgan allotment include Glass Gulch, Goose, Jordan, and Williams Creeks. Standards 2 and 3 are being met in pastures 1, 3, and 4 because the reaches of Glass Gulch, Goose, and Jordan Creeks were most recently either rated in PFC (Table RIPN-23) or observations were made that the reach is in a confined canyon limiting livestock access. The resource is not present in pasture 2.

Table RIPN-23: Morgan allotment riparian condition

	Allotment & Pasture Stream Miles & Condition				
Stream Name	**Morgan 01**	**Morgan 03**	**Morgan 04**	**Assessment Issues/Impacts Identified**	**Total Miles**
Glass Gulch	0.4 (FARS–2000)			noxious weeds present/lack of bank stabilizing species/plants in low vigor/unstable beaver dams	0.4
Goose Creek			0.2 (PFC–2000) 0.8 (FARS–2000/pictures only–2011)	2000: inadequate composition of hydric species to stabilize banks/plants had low vigor 2011: well armored with woody species and bedrock/confined channel	1.0
Jordan Creek		1.4 (FAR–2001/pictures only–2011)		2001: noxious weeds present/inadequate composition and age class of hydric species to protect stream banks 2011: well armored with woody species and bedrock/affected by a diversion dam	1.4
			0.8 (FARS–2001/pictures only–	2001: inadequate bank stabilizing species to dissipate energy/noxious weeds present	0.8

[56] For additional details on the current condition of the allotment, see *Rangeland Health Assessments, Evaluation Reports and Determinations, for the Morgan (0505), Combination Creek (0595), Boulder (0509), South Mountain Individual (0600), Bachelor Flat FFR (0640), Boulder Flat (0526), and Walt's Pond FFR (0659) Allotments* document in the project record or available from the Owyhee Field Office

	Allotment & Pasture Stream Miles & Condition				
Stream Name	**Morgan 01**	**Morgan 03**	**Morgan 04**	**Assessment Issues/Impacts Identified**	**Total Miles**
			2011)	2011: geologically confined	
Jordan Creek Trib 2	0.2 (pictures only/ephemeral–2011)				0.2
Williams Creek		1.1 (FARS–2000) (PFC–2011)		2000: noxious weeds present/inadequate bank stabilizing species to protect stream banks/plants were in low vigor/ unstable beaver dams	1.1

Springs Assessed, Condition, & Issues Identified			
Spring Name	**Pasture/Assessment Year**	**PFC Condition**	**Assessment Issues/Impacts Identified**
Glass Gulch Lentic	1/2011	PFC	
Jordan Creek Trib 1 Lentic	1/2011	PFC	
Unnamed Spring 1	3/2011	pics only/ephemeral/not assessed	seasonal with lack of surface water and therefore wetland potential

For IDEQ water quality information associated with the Morgan allotment, see table RIPN-1.

3.3.13.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat
Pastures 1, 2, 3, and 4 in the Morgan allotment are managed as native plant communities and are determined to be not meeting Standard 4 due past grazing practices and annual invasive species. Pastures 1 and 2 also are experiencing the impacts of past fire. Evaluation of Standard 4 noted an increase in annual invasive grass species showing a transition in the plant community composition from native bunchgrasses to more grazing tolerant exotic species. This information is also consistent with the vegetation data for sage-grouse habitat assessments that showed the dominance of invasive annuals in these pastures and the unsuitable-marginal occurrence of large perennial grasses. Annual species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant community composition, structure, and function for sagebrush steppe dependent species and therefore these pastures are not meeting Standard 8 due to historic grazing practices and the increase of annual invasive species.

Riparian Habitat
Evaluation of Standard 7 found that Jordan Creek is not meeting Idaho water quality parameters due to mercury pollutants and altered water flow. This stream is not providing habitat quality for beneficial uses

which includes cold-water aquatic species (e.g. Columbia redband trout and Columbia spotted frog). Because water quality standards are not being met, this allotment is failing to provide adequate aquatic habitat conditions for cold water species and is therefore is not meeting Standard 8 due to mercury pollutants and altered stream flow. However, livestock grazing practices were not identified as a casual factor.

Focal Species

Sage-grouse

This allotment lies within mapped PPH habitat for sage-grouse (Table WDLF-15 and Map WDLF-1). There are two active leks documented to occur within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. New sage-grouse habitat assessment information collected in 2012 is only available for pastures 1 and 2. The assessments showed unsuitable to marginal breeding and upland summer habitat conditions for sage-grouse. Common to all assessments is the reduced occurrence of native perennial grasses in the understory. Effective sage-grouse habitat requires an adequate combination of both overstory shrubs and understory grasses. Currently the perennial grasses are deficient in the understory to provide adequate nesting and security cover for sage-grouse. Because understory cover values are less than adequate, this allotment is therefore not meeting Standard 8 for sage-grouse due to historic and current livestock grazing practices.

Sage-grouse breeding habitat assessment information was collected in pastures 3 and 4 in 2004. The assessments showed breeding habitat to be marginal. Overall, all the pastures in this allotment are not providing adequate habitat conditions for sage-grouse.

Table WDLF-15: Acres[1] and portions of preliminary priority and general priority habitat within the Morgan allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	2,908 (100%)	0	0	0	2,908 (100%)
Pasture 2	846 (98%)	0	21 (2%)	0	867 (100%)
Pasture 3	1,137 (100%	0	0	0	1,137 (100%)
Pasture 4	551 (100%)	0	0	0	551 (100%)
Allotment Total	5,441 (100%)	0	0	0	5,441 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout

Columbia River redband trout are known to occur in streams within this allotment (Map WDLF-2). Evaluation of Standard 7 identified streams not meeting IDEQ water quality parameters. This stream is not providing habitat quality for beneficial uses, which includes cold-water aquatic species (e.g. Columbia redband trout). Because water quality standards are not being met, this allotment is failing to provide adequate aquatic habitat conditions for cold-water species and is therefore is not meeting Standard 8 due to mercury pollutants and altered stream flow. However, livestock grazing practices were not identified as a casual factor.

Columbia Spotted frog
This allotment is within the distribution of the Columbia spotted frog (Map WDLF-2). Evaluation of Standards 7 identified streams and springs not meeting IDEQ water quality parameters. This stream is not providing habitat quality for beneficial uses, which includes cold-water aquatic species (e.g. Columbia spotted frog). Because water quality standards are not being met, this allotment is failing to provide adequate aquatic habitat conditions for cold-water species and is therefore is not meeting Standard 8 due to mercury pollutants and altered stream flow. However, livestock grazing practices were not identified as a casual factor.

3.3.13.1.5 Visual Resources

As mentioned above in section 3.1.6 the Morgan Allotment consists of class II VRM in roughly 45% of pasture 3. A description of the class II management classification can be found in that section as well.

3.3.13.1.6 Social and Economic Values

See Section 3.1.9 above.

3.3.13.1.7 Cultural Resources

There are five previously recorded cultural sites (10OE1171, 10OE1172, 10OE1174, 10OE1399, and 10OE2780) in the Morgan allotment. A BLM contractor monitored 10OE1171 and reported it to be crossed by livestock trails, a road, and a fence line. It was determined that the site is not experiencing any significant effects due to these disturbances that would compromise any characteristic of potential eligibility. BLM staff monitored 10OE1172 and 10OE2780. Site 10OE1172 is assumed to be a prehistoric lithic scatter based on its description in the original site report as an "open site-possible camp." The report contains no other details or what cultural indicators may have been found there. Field personnel covered over an acre of ground at the given location and found no artifacts or other indications of previous human use. Other than a narrow trail less than 3 centimeters deep along a fence line, no other livestock-related effects are present. The site is not NRHP eligible.

According to the information in the original site report, site 10OE2780 is the structural remains of the schoolhouse at Williams Creek. This location is the third incarnation of the school after having been built and moved previously. The remains include the rock foundation, concrete chimney blocks and broken glass fragments. Grazing activities are not affecting this area or the site. The schoolhouse is not eligible as a historic property for the NRHP.

Of the 12 potential livestock congregation areas identified for the allotment, 11 received surveys. One new site resulted (13-O-18-H001), a historic trash scatter that is not eligible for the NHRP. This site extends into the Glass Creek allotment.

3.3.13.2 Morgan Allotment Environmental Consequences

3.3.13.2.1 Alternative 1

3.3.13.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in all four pastures of the Morgan allotment. Implementation of Alternative 1 would continue current conditions of the Morgan allotment. Morgan allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Morgan allotment.

Repeated grazing April through July during the critical growing period with slight to light utilization and AUMs ranging from 201 to 244 (see Appendix B), has occurred on the Morgan allotment and is not meeting vegetation standards or ORMP objectives for vegetation health and conditions. Historic livestock grazing and fire has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Morgan allotment.

3.3.13.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.13.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.13.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.13.1), the Morgan allotment would be available to grazing during the spring and summer annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.6 miles of perennial, 16.6 miles of intermittent/ephemeral stream, and one spring would be affected by the impacts associated with the spring and summer seasons of grazing. Pastures 1, 3, and 4 contain riparian-wetland areas. Recent actual use report (Appendix B) identifies that the allotment has primarily been used during the spring and summer annually.

The Morgan allotment is meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, the impacts associated with annual summer grazing per Table RIPN-7 and section 3.2.3.1 would continue, and the allotment would continue to meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.13.2.1.4 Wildlife and Special Status Animals

The Morgan allotment is currently not meeting Standard 8 for upland habitat and sage-grouse habitat in all pastures (Section 3.3.12.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.13.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.13.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.13.2.1.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5.

3.3.13.2.1.6 Social and Economic Values

See Section 3.2.9.2 above.

3.3.13.2.1.7 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.13.2.2 Alternative 2

3.3.13.2.2.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in all four pastures of the Morgan allotment. Implementation of Alternative 2 would continue current conditions of the Morgan allotment. Morgan allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Alternative 2 would prescribe April through July grazing for cattle annually; March through November grazing annually for horses, same as Alternative 1 with maximum of 60 head of cattle, 8 head of horses and 446 AUMs (see Alternative 2 proposal for full details Section 2.4). Repeated grazing during the critical growing period would not allow recovery to the heath and vigor of vegetative communities. The grazing is similar to Alternative 1 and would continue to not meet vegetation standards or maintain satisfactory ORMP objectives for vegetation health and conditions on all areas.

3.3.13.2.2.2 Soils

Under Alternative 2, livestock (cattle and horses) grazing in the Morgan allotment would take place every year from spring to fall in all pastures and does not differ from Alternative 1. Physical impacts during the wettest period would continue and repetitive growing season use would not contribute to increase the ability of native plant communities to provide for soil stability. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 similar to the current condition (see Section 3.2.2.3).

3.3.13.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.13.2), the Morgan allotment would be available to grazing during the spring, summer, and fall annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.6 miles of perennial, 16.6 miles of intermittent/ephemeral stream, and one spring would be affected by the impacts associated with the spring, summer, and fall seasons of grazing. Pastures 1, 3, and 4 contain riparian-wetland areas. Recent actual use report identifies that the allotment has primarily been used during the spring and summer months annually.

The Morgan allotment is meeting the standards associated with the riparian-wetland resources under current management. However, since the allotment would be open to livestock grazing for an additional season (fall), there are several reaches of stream that have issues identified that would need to be monitored. Thus, the allotment would not meet the riparian-wetland standards under this alternative.

3.3.13.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee proposal created a three-year rotation schedule. Grazing would occur 2 out of 3 years in the spring/summer/fall and then deferred to the fall in third year. Maximum stocking and AUMs would remain the same.

Under Alternative 2, the permittee submitted a proposal that would graze consistent with the current permit that ranged from April through November, but the actual use reports that led to the current conditions showed that the permittee grazed from April through July. However, for the purpose of this analysis, the additional summer and fall grazing period submitted by the permittee will be analyzed. The direct and indirect effects are the same as those discussed in Section 3.3.13.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently upland and sage-grouse habitat conditions are not being adequately provided in this allotment (Section 3.3.13.1.4). The permitte proposal would annually graze all pastures from March through November. Under this Alternative improvement in habitat composition and structure would not occur. Repeated grazing during the critical growing period (May 1–June 30) followed by repeated summer grazing would not allow an amble recovery period for plants to regain vigor and health and habitat composition and structure would continue to decline. Sage-grouse would not benefit by this grazing strategy because of the reduced abundance and availability of security and escape cover and forage during the nesting/early brood-rearing (April 1–June 30) and late brood-rearing (July 1–August 31) periods making individuals and broods more vulnerable to detection and predation.

This allotment falls within the distribution of Columbia redband trout and Columbia spotted frog (Section 3.3.13.1.4). Currently, riparian habitats are functioning properly and herbaceous and woody plants are maintaining adequate diversity, abundance, and structure to adequately dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality. However, under this alternative, livestock would have an additional period of time to access riparian habitats and associated stream, wetlands, and springs. As the grazing season progresses and forage begins to cure, livestock would congregate for longer periods of time in riparian habitats and associated aquatic habitats. The increased grazing pressure and trampling would remove vegetation and increase erosion and sediment delivery and degrade aquatic habitat conditions for Columbia redband trout and Columbia spotted frog.

Overall, under Alternative 2, the current conditions would be maintained and no improvement to upland or sage-grouse habitat is expected to occur. Additionally the lengthened use period would increase grazing pressure on Columbia redband trout and Columbia spotted habitat because of reduced herbaceous and woody vegetation and riparian function. Because conditions under this alternative are not expected to improve, this allotment would continue to not make progress toward meeting Standard 8 and ORMP objectives.

3.3.13.2.2.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.1.5.

3.3.13.2.2.6 Social and Economic Values

See Section 3.2.9.3 above. Splitting allotment use to graze horses earlier and cattle later may require additional labor or feeding costs.

3.3.13.2.2.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.13.2.3 Alternative 3

3.3.13.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in all four pastures of the Morgan allotment. Implementation of Alternative 3 would improve current conditions of the Morgan allotment. Morgan allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would prescribe grazing for cattle and horses March through November in a three-year rotation; providing at least one in three years of deferment from the critical growing season in a three-year grazing rotation with maximum of 60 head of cattle, 8 head of horses and 436 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment and a reduction of 7 percent AUMs in a ten-year permit would allow recovery to the heath and vigor of vegetative communities. Vegetation resources not meeting ORMP vegetation objectives would have the opportunity to improve unsatisfactory vegetation health and condition on all areas compared to Alternatives 1 and 2.

3.3.13.2.3.2 Soils

Alternative 3 would provide a minimum of 1 out of 3 years of spring and critical growing season use deferment in all pastures. This would reduce physical impacts during the wet spring and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are e expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.13.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.13.3), pastures 1 and 3 of the Morgan allotment would be available to grazing during the spring and summer for two years, and during the fall for the third year of a three-year rotation. Pasture 4 would be open spring the spring for two years, and during the fall for the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.6 miles of perennial, 16.6 miles of intermittent/ephemeral stream, and one spring would be affected by the impacts associated with the spring and summer seasons of grazing. Pastures 1, 3, and 4 contain riparian-wetland areas. Recent actual use report identifies that the allotment has primarily been used during the spring and summer months annually.

The Morgan allotment is meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 3, the allotment would be managed under a defined three-year grazing schedule that incorporates at least one of three years of growing season deferment. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated one year. Additionally, the changes in the season of use would result in a 7 percent decrease in the active AUMs over the 10-year permit. Thus, the allotment would meet the riparian-wetland standards under this alternative.

3.3.13.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that implements a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Stocking levels would remain the same and AUMs would be reduced 7 percent over the 10 years would. Under Alternative 3, a three year, four pasture grazing rotation would be implemented. The direct and indirect effects are the same as

those discussed in Section 3.3.13.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently upland and sage-grouse habitat conditions are not being adequately provided in this allotment (Section 3.3.13.1.4). Upland and sage-grouse habitat conditions would benefit by deferring grazing 1 out of 3 years. Deferment would modify the current repeated spring grazing cycle and allow plants to grow at least one year during the critical growth season. This would improve plant vigor and health and improve upland habitat composition and structure. Although the effects of the 7 percent reduction in AUMs over 10 years would be difficult to detect, sage-grouse would primarily benefit by the grazing deferment and the increased security and escape cover and forage provided during the nesting/early brood-rearing (April 1–June 30). However, any reduction in AUMs would provide additional cover and forage elements and reduce the vulnerability of nesting hens and chicks to detection and predation by terrestrial and avian predators.

This allotment falls within the distribution of Columbia redband trout and Columbia spotted frog (Section 3.3.13.1.4). Currently, riparian habitats are functioning properly and herbaceous and woody plants are maintaining adequate diversity, abundance, and structure to adequately dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality. Incorporating deferment into the grazing schedule would provide grazing relief during the critical growth season. The changes in season of use in addition to the 7 percent reduction in AUMs would maintain and improve current herbaceous and woody vegetation levels. Columbia redband trout and Columbia spotted frog would further benefit by the increased vegetation diversity and structure that would reduce erosion and sediment delivery and contribute to improved water quality. In addition, incorporation of a deferment year would reduce livestock access to stream, wetland, and spring habitats during the spawning (March 15–June 15) and egg mass depositing (May 1–June 15) periods allowing better survival of eggs, fry, and larvae.

Overall, under Alternative 2, improvement to upland or sage-grouse habitat is expected to occur. The incorporation of a deferment year and a 7 percent reduction in AUMs would increase cover and forage elements for nesting/early brood rearing sage-grouse. Columbia redband trout and Columbia spotted frog would benefit because of improved riparian habitat conditions (although it is already meeting Standard 8) and the reduced period time livestock have access to aquatic habitats. Under Alternative 3, progress toward meeting Standard 8 and ORMP objectives is expected.

3.3.13.2.3.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.3.5.

3.3.13.2.3.6 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.13.2.3.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.13.2.4 Alternative 4

3.3.13.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in all four pastures of the Morgan allotment. Implementation of Alternative 4 would improve current conditions of the Morgan allotment. Morgan allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe grazing for cattle and horses March through November in a three-year rotation; providing at least two in three years of rest or deferment from the critical growing season in a three- year grazing rotation with maximum of 60 head of cattle, 8 head of horses and 364 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of rest and deferment and a reduction of 30 percent AUMs in a ten-year permit would allow recovery to the heath and vigor of vegetative communities. Vegetation resources not meeting ORMP vegetation objectives would have the opportunity to improve unsatisfactory vegetation health and condition on all areas compared to Alternatives 1, 2, and 3.

3.3.13.2.4.2 Soils

Alternative 4 would provide a minimum of 2 out of 3 years of deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from deferment or rest from critical growing season use. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, and reduced susceptibility to accelerated erosion. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting, and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.13.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.13.4), pastures 1 and 3 of the Morgan allotment would be available to grazing during the spring and summer for one year, and during the fall for one year, and rested the third year of a three year rotation. Pasture 4 would be open spring the spring for one year, during the fall for one year, and rested the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.6 miles of perennial, 16.6 miles of intermittent/ephemeral stream, and one spring would be affected by the impacts associated with the spring and summer seasons of grazing alternating among the pastures and years. Pastures 1, 3, and 4 contain riparian-wetland areas. Recent actual use report identifies that the allotment has primarily been used during the spring and summer months annually.

The Morgan allotment is meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 4, the allotment would be managed under a defined three-year grazing schedule that incorporates one of three years of growing season deferment as well as one year of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Additionally, the changes in the season of use would result in a 30 percent decrease in the active AUMs over the 10-year permit. Thus, the allotment would meet the riparian-wetland standards under this alternative.

3.3.13.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that installs a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during

the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a three year, four pasture grazing rotation would occur. Stocking levels would remain the same and a AUMs would be reduced 30 percent over 10 years. The direct and indirect effects are the same as those discussed in Section 3.3.13.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently upland and sage-grouse habitat conditions are not being adequately provided in this allotment (Section 3.3.13.1.4). Upland and sage-grouse habitat conditions would benefit by a grazing strategy that incorporated deferment/rest into the grazing schedule 2 out of 3 years. Combination of a 100 percent absence of livestock 1 out of 3 years and a 30 percent reduction in AUMs would sufficiently modify the current repeated spring grazing cycle and allow plants to grow at least one year during the critical growth season. Improved plant vigor and health would occur along with habitat composition and structure. Subsequently, sage-grouse would benefit by the increased availability and abundance of increased security and escape cover and forage accessible during the nesting/early nesting/early brood-rearing (April 1–June 30) and late brood-rearing (July 1–August 30) periods and the reduced vulnerability to detection and predation.

This allotment falls within the distribution of Columbia redband trout and Columbia spotted frog (Section 3.3.13.1.4). Currently, riparian habitats are functioning properly and herbaceous and woody plants are maintaining adequate diversity, abundance, and structure to adequately dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality. Incorporating deferment into the grazing schedule would provide grazing relief during the critical growth season. The incorporation of deferment/rest 2 out of 3 years in addition to the 30 percent reduction in AUMs would considerably improve current herbaceous and woody vegetation levels. Columbia redband trout and Columbia spotted frog would further benefit by the increased vegetation diversity and structure that would reduce erosion and sediment delivery and contribute to improved water quality. In addition, incorporation of a deferment/rest strategy would reduce livestock access to stream, wetland, and spring habitats during the spawning (March 15–June 15) and egg mass depositing (May 1–June 15) periods allowing better survival of fry and larvae.

Overall, under Alternative 4, substantial improvement to upland or sage-grouse habitat is expected to occur. The incorporation of a deferment/rest 2 out of 3 years and a 30 percent reduction in AUMs would increase cover and forage elements for nesting/early brood rearing and late brood-rearing sage-grouse. Columbia redband trout and Columbia spotted frog would benefit because of improved riparian function (although it is already meeting Standard 8) and the reduced period of time livestock have access to aquatic habitats. Under Alternative 3, significant progress toward meeting Standard 8 and ORMP objectives is expected.

3.3.13.2.4.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.4.5.

3.3.13.2.4.6 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations, deferred grazing, and alternating rest for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.13.2.4.7 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.13.2.5 Alternative 5

3.3.13.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.13.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.13.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.13.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.13.2.5.5 Visual Resources

Impacts to visual resources under this alternative would be similar to those discussed in section 3.3.1.2.5.5.

3.3.13.2.5.6 Social and Economic Values

See Section 3.2.9.6 above.

3.3.13.2.5.7 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.14 Rail Creek FFR Allotment

3.3.14.1 Rail Creek FFR Allotment Affected Environment

3.3.14.1.1 Vegetation, including Noxious Weeds

Rangeland health Standard 4 is not being met in pasture 2 of the Rail Creek FFR allotment; however, the standard is being met in pasture 1. Evidence of historic grazing impacts are present throughout the allotment with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail); the presence of invasive annuals is a causal factor in not meeting Standard 4.

Qualitative RHA data indicate that Standard 4 is not being met due to departure of plant mortality and decadence in the RHAs with moderate departure ratings in annual invasives, including juniper, and reproductive capabilities of perennial plants. This conclusion is supported by current ecological site descriptions and correlation with vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met. Vegetation communities shifting to shallow-rooted

bunchgrasses, with the expansion of annual invasive grasses and juniper, and moderate ratings of reproductive capabilities of perennial plants lead to a conclusion that the vegetation management objective is not being met.

3.3.14.1.2 Soils

Historic livestock grazing management practices are significant causal factors for not meeting watershed Standard 1 in pasture 2 of the Rail Creek FFR allotment; pasture 1 is meeting the standard. Accelerated erosional processes and water flow patterns have caused an increase in bare ground, and pronounced pedestaling of plants. Surface sealing is reducing infiltration while historic and some active soil loss has resulted in a degraded soil surface horizon that is otherwise stabilized by rocks and gravel.

A shift from deep-rooted bunchgrasses to more shallow-rooted species is occurring and offers less cover in the shrub interspaces. With the protective vegetative and persistent cover components lacking to provide soil stability and infiltration, soil degradation is widespread.

Since no actual use data are available for earlier years to determine if the impacts are due to spring and active growing season use and because grazing has been deferred until after the active growing season for all but 2 years since 2005, no information is available to conclude that current livestock management practices are contributing to the failure to meet the standard.

Based on the available data, however, historic grazing management practices have led to the current decreased ecological function and result in a lack of ability for proper nutrient cycling, hydrologic cycling, and energy flow. Impaired watershed health indicates that soil and hydrologic function are compromised and that Rail Creek FFR is not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions.

3.3.14.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[57]

Standards 2 and 3 are not being met in pasture 2 of the Rail Creek FFR allotment. Approximately 0.7 mile of South Mountain Creek that occurs on BLM lands within pasture 2 was assessed as FAR in 2000 (Table RIPN-24) because the riparian vegetation was not in good condition or absent and was only partially controlling erosion, stabilizing streambanks, and shading the channel. Riparian-wetland vegetation with deep, strong-binding roots was not sufficient to stabilize streambanks, and the age class and structural diversity of riparian-wetland vegetation was not always appropriate. One-half of the same reach was re-visited in 2011 and the FAR rating was verified.

Table RIPN-24: Rail Creek allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Rail Creek 02**	**Assessment Issues/Impacts Identified**	**Total Miles**
South Mountain Creek	0.7 (FAR–2000)	riparian vegetation was not in good condition or absent/riparian vegetation was only partially	0.7

[57] For additional details on the current condition of the allotment, see the *Rail Creek FFR (0627) Initial Allotment and Permit/Lease Review and Rangeland Health Assessment* document in the project record or available from the Owyhee Field Office

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Rail Creek 02**	**Assessment Issues/Impacts Identified**	**Total Miles**
		controlling erosion, stabilizing streambanks, shading the channel/riparian-wetland vegetation with deep strong binding roots was not sufficient to stabilize streambanks/age class and structural diversity of riparian-wetland vegetation was not always appropriate	
	0.3 (re-visit; pictures only–2011)	appears FAR—lack of hydric vegetation and trampled stream channel & banks	0.3

For IDEQ water quality information associated with the Rail Creek allotment, see table RIPN-24.

3.3.14.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat
Pasture 1 was determined to be meeting Rangeland Health Standard 4. Based on the vegetation information available used to evaluate and determine that Standard 4 is being met, it was determined in the 2013 Determination that the uplands in this allotment are providing minimum composition, structure, and forage values for most sagebrush steppe-dependent species.

Pasture 2 was found by Standard 4 to not be meeting Rangeland Health Standard 4 due to past grazing practices and invasive annuals. Currently the plant community is transitioning from a dominance of large perennial grasses such as bluebunch wheatgrass to a community dominated by smaller, more grazing-tolerant species such as Sandberg bluegrass and cheatgrass. These species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant composition, structure, and function for sagebrush steppe dependent species. Because of the downward trend in plant community composition, this allotment therefore is failing to provide adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic grazing practices and the increased dominance of invasive annual species.

Riparian Habitat
Evaluation of Standards 2, 3, and 7 identified streams and associated riparian areas within this allotment that are not properly functioning or meeting water quality parameters due to historic and current grazing practices and therefore do not meet Standard 8. Streams, springs, and wetlands that are classified as FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

The Rail Creek FFR allotment lies within PPH for sage-grouse (Table WDLF-16 and Map WDLF-1). No active leks are known to occur within this allotment. This allotment provides limited seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. No sage-grouse habitat assessments have been collected for this allotment.

Table WDLF-16: Acres[1] and portions of preliminary priority and general priority Habitat within the Rail Creek FFR allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	44 (2%)	0	2,082 (98%)	0	2,126 (100%)
Pasture 2	402 (45%)	0	487 (55%)	0	889 (100%)
Allotment Total	446 (15%)	0	2,569 (85%)	0	3,015 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog

No redband trout waters are identified within this allotment.

This allotment is within the distribution of the Columbia spotted frog (Map WDLF-2). Evaluation of Standards 2, 3, and 7 identified streams and springs that are not properly functioning or meeting water quality parameters due to current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8 due to historic and current grazing practices.

3.3.14.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.14.1.6 Cultural Resources

There is one previously documented cultural site within the Rail Creek FFR allotment. Site 10OE2271 is a prehistoric site of undetermined eligibility and inexact location. Because it is recorded as undisturbed by any activity and is not within 100 meters of an identified potential livestock congregation area, it did not receive a monitoring visit. There are no livestock congregation areas identified on BLM administered land and no new surveys occurred.

3.3.14.2 Rail Creek FFR Allotment Environmental Consequences

3.3.14.2.1 Alternative 1

3.3.14.2.1.1 Vegetation, including Noxious Weeds

Rangeland health Standard 4 is not being met in pasture 2 of the Rail Creek FFR allotment; however, the standard is being met in pasture 1. Implementation of Alternative 1 would continue current conditions of

the Rail Creek FFR allotment. Pasture 2 in the Rail Creek FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Rail Creek FFR allotment.

Repeated May through September grazing and AUMs ranging from 13 to 14 and slight utilization (see Appendix B), on the Rail Creek FFR allotment has allowed pasture 1 to meet standard 4 and ORMP objectives. However, in pasture 2 historical livestock grazing has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Rail Creek FFR allotment.

3.3.14.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.14.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.14.2.1.3 Riparian/Water Quality

Under Alternative 1, (for details, see sections 2.2.1 and 2.4.14.1) pasture 2 of the Rail Creek FFR allotment would be available to grazing during the fall months, annually (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 0.3 mile of perennial, and 4.4 miles of intermittent/ephemeral stream would be affected by the impacts associated with the fall seasons of grazing. Pasture 2 contains the riparian-wetland areas, and recent actual use report identified that the allotment has primarily been used during the spring and summer annually, and standards are not being met.

The Rail Creek FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. However, under Alternative 1, pasture 2 of the allotment that contains the riparian areas would be open during the fall months. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated. Additionally, the change in season of use would result in a 7 percent reduction in active AUMs over the 10-year permit. Thus, the allotment would make progress toward meeting the riparian-wetland standards. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives

3.3.14.2.1.4 Wildlife and Special Status Animals

The Rail Creek FFR allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, and Columbia spotted frog habitat (Section 3.3.6.1.5). Pasture 1 is meeting Standard 8 for upland habitat and sage-grouse habitat.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.14.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.14.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.14.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.14.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.14.2.2 Alternative 2

3.3.14.2.2.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 2 of the Rail Creek FFR allotment; however, the standard is being met in pasture 1. Implementation of Alternative 2 would continue current conditions of the Rail Creek FFR allotment. Pasture 2 in the Rail Creek FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Alternative 2 would prescribe May through October grazing with a maximum of 300 head of cattle and 13 AUMs (see Alternative 2 proposal for full details Section 2.4). The grazing is similar to Alternative 1 and would continue to not meet vegetation standards or maintain satisfactory ORMP objectives for vegetation health in pasture 2. The repeated grazing during the critical growing period would not allow ample recovery to upland vegetation currently not meeting vegetation standards in pasture 2. Vegetation resources not meeting ORMP vegetation management would not have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas similar to Alternative 1, No Action.

3.3.14.2.2.2 Soils

Under Alternative 2, livestock grazing in Rail Creek FFR allotment would take place every year from spring to fall. Physical impacts during the wettest period would continue and repetitive growing season use would not contribute to increase the ability of native plant communities to provide for soil stability. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 similiar to the current condition (see Section 3.2.2.3).

3.3.14.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.14.2), pasture 2 of the Rail Creek FFR allotment would be available to grazing during the spring, summer, and fall annually, without growing season deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 0.3 mile of perennial, and 4.4miles of intermittent/ephemeral stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing. Pasture 2

contains the riparian-wetland areas. Recent actual use report identified that the allotment has primarily been used during the spring and summer annually, and standards are not being met.

The Rail Creek FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 2, pasture 2 of the allotment that contains the riparian areas would be open season-long, the impacts per Table RIPN-7 and section 3.2.3.1 would continue, and the allotment would not meet the riparian-wetland standards.

3.3.14.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee is proposing is a defined two pasture, two-year rotation of spring/summer/fall use. Maximum stocking and AUM levels would stay the same. The direct and indirect effects are the same as those discussed in Section 3.3.14.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently, pasture 1 is meeting Standard 8 and pasture 2 is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.14.1.4). Under Alternative 2, an annual spring/summer grazing during the critical growing (May 1–June 30), early brood-rearing period (April 1–June 30), and late brood-rearing period (July 1–August 31) would occur. Repeated spring grazing in both pastures would erode current conditions in pasture 1 and maintain or further reduce conditions in pasture 2. Repeated spring grazing followed by annual summer and fall use would not allow plants a recovery period to regain vigor and health and loss in habitat composition and structure would follow. Current conditions in pasture 1 would decline and no improvement in pasture 2 would occur. Sage-grouse would not benefit because of the reduced availability of security and nesting cover during the nesting/early brood-rearing and late brood-rearing periods that would increase the vulnerability of nesting hens and chicks to detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian function and aquatic habitat conditions (Section 3.3.14.1.4). Under Alternative 2, increased grazing pressure would not benefit riparian areas or aquatic habitats. Repeated grazing in the spring/summer/fall would reduce herbaceous and woody plant composition, structure, and riparian function. Increased bank erosion, increased sediment delivery, reduced stream shade, reduced woody debris, and reduced water quality would follow. In addition, livestock would have annual access to stream, wetland, and spring habitats during the egg mass depositing period (May 1–June 30) for Columbia spotted frogs and would trample in aquatic habitats and impact egg and larvae survival.

Overall, under Alternative 2 current upland habitat conditions would not be an improvement. Annual spring/summer/fall livestock use would impose greater grazing pressure on pasture 1 and further degrade conditions in pasture 2. Sage-grouse would not benefit because of repeated spring/summer grazing and reduced cover and forage elements during the nesting/early brood-rearing and late brood-rearing periods. Columbia spotted frogs would not benefit because of the of repeated spring/summer/fall grazing and annual access to aquatic habitats during the egg mass stage. Under this Alternative, current upland and riparian conditions would be maintained and not progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.14.2.2.5 Social and Economic Values

See Section 3.2.9.3 above. New pasture rotations and a shortened grazing season may require additional labor or feeding costs.

3.3.14.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.14.2.3 Alternative 3

3.3.14.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 2 of the Rail Creek FFR allotment; however, the standard is being met in pasture 1. Implementation of Alternative 3 would improve current conditions of the Rail Creek FFR allotment. Pasture 2 in the Rail Creek FFR allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would prescribe June through December (deferment from critical growing season at least one in three years) in a three-year grazing rotation with a maximum of 300 head of cattle and 13 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment and reduction of 16 percent AUMs in a ten-year permit compared to Alternatives 1 and 2 in the Rail Creek FFR allotment would allow the opportunity to move toward meeting vegetation standards or maintain satisfactory ORMP objectives for vegetation health in pasture 2. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternative 1, Current Situation.

3.3.14.2.3.2 Soils

Alternative 3 would provide yearly deferment from spring grazing for both pastures, and critical growing season use deferment in 1 out of 3 years for pasture 1 and all years for pasture 2. This would reduce physical impacts during the wet spring and also provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Additional deferment of summer riparian area use in pasture 2 would also be beneficial in reducing livestock congregation to surrounding upland soils in every year. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.14.2.3.3 Riparian/Water Quality

Under Alternative 3, (for details, see sections 2.2.3 and 2.4.14.3) pasture 2 of the Rail Creek FFR allotment would be available to grazing during the fall, annually (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 0.3 mile of perennial, and 4.4miles of intermittent/ephemeral stream would be affected by the impacts associated with the fall seasons of grazing. Pasture 2 contains the riparian-wetland areas, recent actual use report identified that the allotment has primarily been used during the spring and summer annually, and standards are not being met.

The Rail Creek allotment is not meeting the standards associated with the riparian-wetland resources under current management. However, under Alternative 3, pasture 2 of the allotment that contains the riparian areas would be open to grazing during the fall months and the impacts of spring and summer grazing per Table RIPN-7 and section 3.2.3.1 would be eliminated. Additionally, the changes in season of use would result in a 16 percent reduction in active AUMS over the 10-year permit. Therefore, the allotment would make progress toward meeting the riparian-wetland standards.

3.3.14.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to implement a deferred grazing management strategy that implement a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the

critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a three year, two pasture grazing rotation would occur. Pasture 1 would be grazed 2 out of 3 years in the spring followed by a deferment year. Pasture 2 would be deferred 3 out of 3 years. Maximum stocking would increase from 100 to 250 head and AUMs would be reduced 16 percent. The direct and indirect effects are the same as those discussed in Section 3.3.14.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently, pasture 1 is meeting Standard 8 and pasture 2 is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.14.1.4). Under Alternative 3, although adequate upland habitat conditions are being provided, incorporating deferment, combined with a 16 percent reduction in AUMs into the grazing schedule, would provide additive improvement to habitat composition and structure. This would further benefit sage-grouse because of the additional security and escape cover and forage elements available during the nesting/early brood-rearing period (April 1–June 30) and the reduced vulnerability of detection and predation. In pasture 2, substantial upland and sage-grouse habitat improvement would occur because of the 3 out of 3 years of deferment out the critical growth period (May 1–June 30) combined with the 16 percent reduction in AUMs. The grazing schedule would result in increased security and escape cover available during the nesting/early brood-rearing period (April 1–June 30). Vegetation would have an annual spring/summer growth period prior to being grazed in the late summer/early fall and the 16 percent reduction in AUMs would provide a residual cover component overwinter and into the spring that would allow for residual cover as the season progresses into the spring nesting period.

Currently this allotment is not providing adequate riparian function and aquatic habitat conditions (Section 3.3.14.1.4). Under Alternative 3, reduced grazing pressure and a 16 percent reduction in AUMs would benefit the herbaceous and woody plant community in riparian areas and benefit Columbia spotted frog because of the increased stream shade, woody debris, flow regulation, and less sediment delivery. Pasture 2 would show substantial improvement by implementing 3 out of 3 years of deferment and no grazing during the critical growth period (July 1–Sept. 30). As riparian function improves, stream, wetland, and spring habitats would benefit by the establishment of herbaceous and woody species. The quality of aquatic habitats would improve as banks stability improves, erosion is reduced and sediment delivery minimized. Columbia spotted frogs would further benefit because of the absence of livestock activity in aquatic habitats during the breeding/egg mass laying period (May 1–June 15) and would allow improved survival of eggs and larvae in the spring.

Overall, under Alternative 3, current upland and sage-grouse habitat conditions would show improvement. Both pastures would provide improved composition and structure. Habitat conditions in pasture 1 would continue and further improve and conditions in pasture 2 would begin to habitat composition and health. Sage-grouse would benefit by the increased security and escape during the nesting/early brood-rearing period. Columbia spotted frogs would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the breeding/egg laying period. Under this alternative, current upland and riparian conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.14.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and deferred grazing for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.14.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.14.2.4 Alternative 4

3.3.14.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 2 of the Rail Creek FFR allotment; however, the standard is being met in pasture 1. Implementation of Alternative 4 would improve current conditions of the Rail Creek FFR allotment. Pasture 2 in the Rail Creek FFR allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would prescribe June through December (rest or deferment from critical growing season at least two in three years) in a three-year grazing rotation with a maximum of 70 head of cattle and 13 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and reduction of 62 percent AUMs (based on rest) in a ten-year permit compared to Alternatives 1, 2 and 3 in the Rail Creek FFR allotment would allow the opportunity to move toward meeting vegetation Standards and/or maintain satisfactory ORMP objectives for vegetation health in Pasture 2. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternative 1, Current Situation.

3.3.14.2.4.2 Soils

Alternative 4 would provide yearly deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from deferment or rest from critical growing season use for 2 out of 3 years in pasture 1 and all years in pasture 2. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, and reduced susceptibility to accelerated erosion. Similarly, deferment of summer riparian area use in pasture 2 would be beneficial in reducing livestock congregation to surrounding upland soils in every year. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.14.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.14.4), pasture 2 of the Rail Creek FFR allotment would be available to grazing during the fall for two years, and rested for the third year of a three-year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 0.3 mile of perennial, and 4.4 miles of intermittent/ephemeral stream would be affected by the impacts associated with the fall seasons of grazing for two out of three years. Pasture 2 contains the riparian-wetland areas. Recent actual use report identified that the allotment has primarily been used during the spring and summer annually, and Standards are not being met.

The Rail Creek FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. However, under Alternative 3, pasture 2 of the allotment that contains the riparian areas would be managed under a defined three-year schedule with two years of growing season deferment and one year of rest. Thus, the impacts associated with grazing during the spring and summer per Table RIPN-7 and section 3.2.3.1 would be eliminated all years. Additionally, the changes in season of use would result in a 62 percent reduction in active AUMS over the 10-year permit. Therefore, the allotment would meet the riparian-wetland standards under this alternative.

3.3.14.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a three year, two pasture grazing rotation system would occur. Pasture 1 would be grazed 1 out of 3 years in the spring followed by deferment and rest. Pasture 2 would be deferred 2 out of 3 years followed by a year of rest. Maximum stocking would decrease from 100 to 67 head and AUMs would be reduced 62 percent over 10 years. The direct and indirect effects are the same as those discussed in Section 3.3.14.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently, pasture 1 is meeting Standard 8 and pasture 2 is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.14.1.4). Under Alternative 4, upland and sage-grouse habitat conditions would benefit by implementation of 2 out of 3 years of deferment/rest and a 62 percent reduction in AUMs. Incorporating deferment/rest and reduction in AUMs into the grazing strategy would substantially modify the repeated spring grazing cycle in pasture 1 and allow plants to grow without grazing during the critical growth season (May 1–June 30). Although conditions are meeting Standard 8 in pasture 1, the additive improvement to current conditions would further improve plant vigor and health and as well as upland habitat composition and structure. Sage-grouse would benefit by the increased availability of security and escape cover and forage provided during the nesting/early brood-rearing period (April 1–June 30) and late brood-rearing period and reduced vulnerability to detection and predation. In pasture 2, substantial upland and sage-grouse habitat improvement would occur from the 3 out of 3 years of deferment/rest out the critical growth period (May 1–June 30) and the resulting increased security and escape cover available during the nesting/early brood-rearing period and late brood-rearing period. In addition, the 16 percent reduction in AUMs would retain an adequate residual cover overwinter and as the season progresses into the spring nesting period.

Currently this allotment is not providing adequate riparian function and aquatic habitat conditions (Section 3.3.14.1.4). Under Alternative 4, incorporation of deferment/rest and a 62 per cent reduction in AUMs into the grazing schedule would substantially reduce grazing pressure on the herbaceous and woody plant community and improve riparian function. Columbia spotted frogs would benefit as the quality of aquatic habitats would improve because of the increased stream shade, woody debris, flow regulation, and less sediment delivery. Columbia spotted frogs would further benefit because of the absence of livestock activity and trampling in aquatic habitats during the breeding/egg mass laying period (May 1–June 30) and would allow improved survival of eggs and larvae in the spring.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would show substantial improvement. Both pastures would provide improved composition and structure. Habitat conditions in pasture 1 would continue and further improve and conditions in pasture 2 would begin to recover habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing and late brood-rearing periods. Columbia spotted frogs would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the breeding/egg laying period. Under this Alternative, current upland and riparian conditions would make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.14.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations, deferred grazing, and alternating rest for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.14.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.14.2.5 Alternative 5

3.3.14.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.14.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.14.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.14.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.14.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.14.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.15 South Mountain Individual Allotment

3.3.15.1 South Mountain Individual Allotment Affected Environment

3.3.15.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pastures 1 and 2 of the South Mountain Individual allotment. Evidence of historic grazing impacts are present throughout the allotment, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail) including juniper. Historic grazing and invasive annuals in pastures 1 and 2 are the causal factors in the failure to meet Standard 4.

Qualitative RHA data indicate that Standard 4 is not being met in pastures 1 and 2, with moderate to extreme departure of functional-structural groups in the RHAs dominated by shallow-rooted bunchgrass and invasive annuals, rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

Overall interpretations of trend data in pasture 2 suggest that the continuous deterioration of biotic conditions due to lack of deep-rooted bunchgrasses and increasing annual invasives on the site has compromised the biotic integrity of the site.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pasture 2 and 3. Vegetation communities dominated by shallow-rooted bunchgrasses in pasture 1 and 2, with the expansion of annual invasive grasses lead to a conclusion that the vegetation management objective is not met.

3.3.15.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 2 of the South Mountain Individual allotment. Conditions in both pastures are deteriorated by the widespread and uniform loss of the soil surface horizon, active erosional features, extensive bare ground, and physical impacts from increased amounts of trails and hoof shearing.

The reduction in soil and hydrologic function is associated with altered plant community composition and distribution due to decreased relative abundance of large, deep-rooted native perennial bunchgrasses. Past grazing management altered plant community composition and distribution that has resulted in accelerated erosional processes and extensive loss of surface soils. The establishment of vegetation cover in interspaces continues to be inhibited as mortality rates on pedestals are high and as mechanical disturbance from spring grazing continues.

Degraded ecological conditions will not lead to improvement in watershed health, especially with spring grazing in the absence of rest. The decreased ability for proper nutrient cycling, hydrologic cycling, and energy flow due to reduced soil and hydrologic function lead to a conclusion that current livestock management is the primary causal factor in not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions for the South Mountain Individual allotment.

3.3.15.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[58]

The South Mountain Individual allotment is not meeting Standards 2 and 3. Pasture 1 (Table RIPN-25) contains 0.3 mile of Old Man Creek that was rated FAR with an upward trend in 2004; the observers noted improvement, but there were issues with the banks being terraced and the channel was over-wide. Another 0.3 mile of Rail Creek was assessed as FAR in 2000 because there was a lack of composition and age class of hydric vegetation that is necessary to protect streambanks. Approximately 1.7 miles of South Boulder Creek were rated FAR in 2000 because the vegetation present did not reflect maintenance of hydric soils and the vegetation was inadequate to protect stream banks. In 2011, a portion of the same reach was re-visited and the observers noted the stream is geologically confined and inaccessible to livestock; however, the PFC protocol was not applied.

Within pasture 2 (Table RIPN-25), 1.5 miles of South Mountain Creek were assessed FAR in 2000. The stream reach had an inadequate cover of hydric species to stabilize and protect stream banks during high

[58] For additional details on the current condition of the allotment, see *Rangeland Health Assessments, Evaluation Reports and Determinations, for the Morgan (0505), Combination Creek (0595), Boulder (0509), South Mountain Individual (0600), Bachelor Flat FFR (0640), Boulder Flat (0526), and Walt's Pond FFR (0659) Allotments* document in the project record or available from the Owyhee Field Office

flows, the vegetation present was in poor condition, and the banks and channel were trampled by livestock. A 0.6-mile portion of the same reach was re-visited in 2011 and photos and field notes were taken. The reach appeared to be FAR, with a lack of hydric vegetation present and evidence of stream bank and channel trampling. The observers also noted that the stream was fish bearing.

Table RIPN-25: South Mountain Individual allotment riparian condition

	Allotment & Pasture Stream Miles & Condition			
Stream Name	**South Mnt Ind 01**	**South Mnt Ind 02**	**Assessment Issues/Impacts Identified**	**Total Miles**
Old Man Creek	0.3 (FARU-2004)		terraced banks/overwide channel	0.3
Rail Creek	0.3 (FARS-2000)		lack of age class of hydric vegetation/inadequate hydric veg to protect stream banks/plants had low vigor/point bars not revegetating	0.3
South Boulder Creek	1.7 (FAR-2000) 1.3 (PFC2011)		2000: vegetation present does not reflect maintenance of hydric soils/inadequate vegetation to protect stream banks/point bars are not revegetating 2011: the stream is geologically confined and inaccessible to livestock	1.7
South Mountain Creek		1.5 (FARS–2000) 0.6 (re-visit; pictures only–2011)	2000: inadequate composition of hydric species to stabilize stream banks and protect against high flows/plants had low vigor/point bars were not revegetating 2011—appears FAR—lack of hydric vegetation and trampled stream channel/banks- also fish bearing 2011:	1.5

MIM Metrics						
Stream Name	**Pasture/ Assessment Year**	**Mean Stubble Height (inches)**	**Woody Use (%)**	**Stream bank Alteration**	**Stable Bank (%)**	**Covered Bank (%)**
Rail Creek	1/2011	21.2	10	11	91	99

For IDEQ water quality information associated with the South Mountain Individual allotment, see table RIPN-1.

3.3.15.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat

Standard 4 identified that both pastures 1 and 2 in the South Mountain Individual allotment is not meeting Rangeland Health Standards due to past grazing practices, invasive annuals, and juniper encroachment. Currently, the plant community is transitioning from a dominance of large perennial grasses such as bluebunch wheatgrass and Idaho fescue to a community dominated by smaller, more grazing-tolerant species such as Sandberg bluegrass and invasive annual species. These species do not have the robust growth form or stature such as larger perennial grasses and do not provide the plant composition, structure, and function for sagebrush steppe-dependent species. In addition, the invasion of juniper is contributing to changes in the distribution and composition of the sagebrush steppe habitat type and creating a less-than-desirable environment for upland sagebrush steppe-dependent species. Because the upland plant community is showing a downward trend in sagebrush community composition, distribution, and structure, this allotment therefore is failing to provide adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic livestock practices, invasive annuals, and juniper encroachment.

Riparian Habitat

Evaluation of Standards 2 and 3 identified streams and springs within this allotment that are not properly functioning due to historic and current grazing practices and therefore do not meet Standard 8. This allotment is also not meeting water quality parameters set by IDEQ due to high levels of mercury pollutants and not current livestock grazing practices. Streams, springs, and wetlands that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2 and 3 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

This allotment lies within mapped PPH habitat for sage-grouse (Table WDLF-17 and Map WDLF-1). This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. There are three active leks documented in this allotment. Both sage-grouse breeding and upland summer habitat conditions in pasture 2 were found to be marginal. The habitat assessments recorded marginal sagebrush canopy cover and height and unsuitable canopy cover of large perennial grasses (i.e., Idaho fescue) and forbs, indicating that functional nesting, brood-rearing, escape, and hiding cover values are not being fully provided in this pasture. Overall, this allotment is not providing adequate sage-grouse habitat conditions and therefore is not meeting Standard 8 due to historic and current grazing practices.

Table WDLF-17: Acres[1] and portions of preliminary priority and general priority habitat within the South Mountain Individual allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	1,915 (98%)	0	30 (2%)	0	1,945 (100%)
Pasture 2	929 (36%)	0	1,251 (49%)	106 (4%)	2,286 (89%)
Allotment Total	2,844 (63%)	0	1,281 (28%)	106 (2%)	4,231 (93%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout
Columbia River redband trout are known to occur in streams within this allotment (Map WDLF-2). Evaluation of Standards 2 and 3 identified streams functioning-at-risk due to historic and current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8 due to current grazing practices due to historic and current grazing practices.

Columbia Spotted Frog
This allotment is within the distribution of the Columbia spotted frog (Map WDLF-2). Evaluation of Standards 2 and 3 identified streams and springs that are not properly functioning due to historic and current grazing practices. Spotted frogs are usually found along vigorous grassy/sedge margins of streams, lakes, ponds, springs, and marshes not far from sources of quiet permanent water. They migrate along these vegetation corridors between habitats used for spring breeding, summer foraging, and winter hibernation. Because streams and springs are not functioning properly, this allotment is not providing adequate aquatic conditions to sustain viable populations of spotted frogs and therefore is not meeting Standard 8 due to historic and current grazing practices.

3.3.15.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.15.1.6 Cultural Resources

There are two previously recorded cultural sites within the South Mountain Individual allotment, both of which received monitoring visits. Site 10OE2270 is a historic rock cobble foundation and a small trash scatter of undetermined NRHP eligibility. A search for the site encompassing approximately 3 acres proved unsuccessful. Tall, old growth sage and ground vegetation cover much of the area and may be obscuring the remains. Several animal trails cross the location, but they are less than 5 centimeters deep and are not having a significant ground disturbing effect.

Site 10OE2272 is a prehistoric lithic scatter of undetermined NRHP eligibility. A monitoring survey of a 1-acre area around the recorded site datum discovered only three human-created flakes and no lithic tools. There are disturbances from a road that bisects the site and animal trails that are 5 centimeters or less in depth. It is possible that the given site datum is incorrect and the site is located elsewhere. However, at this location, the trails are minor impacts and do not affect any characteristic of the site that would make it potentially eligible for the NRHP.

Of 19 potential livestock congregation areas identified in the South Mountain Individual allotment, 15 received surveys. As a result, BLM recorded one new prehistoric lithic scatter and tool site (temporary number 13-O-05S1) of undetermined NRHP eligibility. The site is within a livestock salting area and is experiencing light to moderate ground disturbances, depressions and trails 5 to 10 centimeters deep, that are not currently affecting NRHP eligibility. If the location continues to be used for salting, it is possible that the effects will increase and the potential for NRHP eligibility would be affected.

3.3.15.2 South Mountain Individual Allotment Environmental Consequences

3.3.15.2.1 Alternative 1

3.3.15.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 and 2 of the South Mountain Individual allotment. Implementation of Alternative 1 would continue current conditions of the South Mountain Individual allotment. Pastures 1 and 2 would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the South Mountain Individual allotment.

General season of use between April through June grazing during the critical growing period with occasional fall use in pasture 2 and rest periods with slight to light utilization and AUMs ranging from 78 to 736 (see Appendix B), on the South Mountain Individual allotment has occurred. However, juniper encroachment and historical livestock grazing in South Mountain Individual allotment has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses and juniper. Current livestock grazing is not the causal factor for not meeting vegetation Standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 1 of the South Mountain Individual allotment.

3.3.15.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.15.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.15.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.15.1), the South Mountain Individual allotment would be available to grazing during the spring, summer, and fall months annually (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.6 miles of perennial, and 15.7 miles of intermittent/ephemeral stream would be affected by the impacts associated with the all seasons of grazing. Recent actual use reported identifies that the allotment has primarily been used during the spring, summer, and fall annually. Thus, the allotment would likely continue to be used during these seasons under Alternative 1.

The South Mountain Individual allotment is not meeting the standards associated with the riparian-wetland resources under current management. Since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, it would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.15.2.1.4 Wildlife and Special Status Animals

The South Mountain Individual allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, sage-grouse habitat, Columbia redband trout, and Columbia spotted frog habitat (Section 3.3.15.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.15.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.15.1.4, in Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.15.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.15.2.1.6 Cultural Resources

Newly recorded site 13-O-05S1 is experiencing ground disturbances from grazing activities. The site can be easily protected by not using the location for salt block placement and thereby avoiding livestock congregation. With this mitigation measure in place, no cultural resource or historic property would be affected by this alternative.

3.3.15.2.2 Alternative 2

3.3.15.2.2.1 Vegetation, including. Noxious Weeds

Rangeland Health Standard 4 is not being met in pastures 1 and 2 of the South Mountain Individual allotment. Implementation of Alternative 2 would improve current conditions of the South Mountain Individual allotment. Pastures 1 and 2 would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 2 would prescribe April through November grazing in a two-year rotation providing deferment every other year with a maximum of 250 head of cattle and 511 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of deferment will allow opportunity to recover as compared to repeated grazing in critical growth period annually in Alternative 1 in the South Mountain Individual allotment. Vegetation resources not meeting ORMP vegetation management would have the

opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas as compared to Alternative 1 Current Situation.

3.3.15.2.2.2 Soils

Under Alternative 2, livestock grazing in South Mountain Individual allotment would provide 1 out of 2 years of deferment for spring grazing and critical growing season use in both pastures. This would reduce physical impacts during the wet spring and also provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, improvements to soil and hydrologic function proposed with Alternative 2 are therefore expected to be better as compared with Alternative 1, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.3).

3.3.15.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.15.2), pasture 1 of the South Mountain Individual allotment would be available to grazing during the spring for one year, and during the fall the second year of a two year rotation. Pasture 2 would be open during the summer and fall for the first year, and during the spring, summer, and early fall the second year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.6 miles of perennial, and 15.7 miles of intermittent/ephemeral stream would be affected by the impacts associated with the all seasons of grazing. Recent actual use reported identifies that the allotment has primarily been used during the spring, summer, and fall annually, and Standards are not being met.

The South Mountain Individual allotment is not meeting the standards associated with the riparian-wetland resources under current management. Since pasture 1 would have one year out of every two years of growing season deferment (it would be deferred 5 years of the 10 year permit), the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those years. Therefore, the pasture would make progress toward meeting the standards. Pasture 2 would be open to livestock grazing for the same seasons and under the same terms as Alternative 1, and would continue to not meet the riparian-wetland standards under this alternative.

3.3.15.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee is proposing a defined 2 pasture, 2 year rotation. Each pasture would experience 1 out of 2 years of spring grazing during the critical period followed by a season of deferment. Maximum stocking levels would increase from 100 to 250 head and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.15.1.4, in Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions in both pastures (Section 3.3.15.1.4). Upland habitat and sage-grouse habitat conditions in both pastures would benefit by the proposed grazing schedule and the incorporation of grazing deferment out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l-June 30). Deferment would interrupt the repeated spring grazing cycle and allow plants to grow at least one year during the critical growth season. This would improve plant vigor and health and improve community composition and structure. Sage-grouse would benefit by the increased security and escape cover being provided during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.15.1.4). In pasture 1, the incorporation of deferment would reduce grazing during the critical growth period (July 1–Sept. 30)

for 1 season. This would improve the regeneration and establishment of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia redband trout and Columbia spotted frogs will benefit because of the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function. Additionally, reduced occurrence of livestock trampling in aquatic habitats during the spawning season (March 15–June 15) an egg mass lying period (May 1–June 15) would improve egg, fry, and larvae survival. In pasture 2, the grazing strategy is not significantly different from that occurring in Alternative 1 and current conditions are expected to continue due to the absence of any grazing deferment during the critical growth period. Repeated grazing pressure during the critical growth period would reduce herbaceous and woody species vigor and health and composition and structure. Columbia redband trout and Columbia spotted frogs would further suffer because of the reduced riparian function and livestock activity and trampling of spawning and egg mass laying areas.

Overall, upland habitat conditions will improve under this Alternative because of the incorporation of deferment. Reduced critical growing season grazing would allow the vegetation to recover and sage-grouse will benefit because of the increased cover and forage elements provided during the nesting/early brood-rearing period. However, only in pasture 1 is riparian function expected to improve and benefit Columbia redband trout and Columbia spotted frogs. Because the grazing strategy is similar to that in Alternative 1, current conditions in pasture 2 are expected to continue and not improve. Although, upland and sage-grouse habitat conditions in pastures 1 and 2 and riparian conditions in pasture 1 are expected to improve and make progress toward meeting Standard 8 and ORMP objectives, this allotment overall would not make progress toward meeting Standard 8 because current riparian habitat conditions in pasture 2 will be maintained and are not expected to improve.

3.3.15.2.2.5 Social and Economic Values

See Section 3.2.9.3 above. New pasture rotations and a shorter grazing season may require additional labor or feeding costs.

3.3.15.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.15.2.3 Alternative 3

3.3.15.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pasture 1 and 2 of the South Mountain Individual allotment. Implementation of Alternative 3 would improve current conditions of the South Mountain Individual allotment. Pastures 1 and 2 would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would prescribe April through November grazing in a three-year rotation providing deferment at least one in three years with a maximum of 250 head of cattle and 511 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment and reduction of 9 percent AUMs in a ten-year permit would allow opportunity to recover as compared to Alternatives 1 and 2 in the South Mountain Individual allotment. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternatives 1 and 2.

3.3.15.2.3.2 Soils

Alternative 3 would provide 1 out of 3 years of deferment for spring grazing and critical growing season use in pasture 1 and 2 out of 3 years in pasture 2. This would reduce physical impacts during the wet spring and also provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better as compared with Alternatives 1 and 2 (except for pasture 2 in Alternative 2), and not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.15.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.15.3), pasture 1 of the South Mountain Individual allotment would be available to grazing during the spring for two years, and during the fall the third year of a three-year rotation. Pasture 2 would be open during the spring for one year, and during the summer and fall for two years (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.6 miles of perennial, and 15.7 miles of intermittent/ephemeral stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternately among the pastures and years. Recent actual use reported identifies that the allotment has primarily been used during the spring, summer, and fall annually, and standards are not being met.

The South Mountain Individual allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year schedule that incorporates at least one year of growing season deferment. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated the one year. Other mandatory terms and conditions of the permit under this alternative would include measures that would reduce impacts (stubble height, woody browse, and bank alteration) associated with the riparian areas condition. Monitoring would be required in pasture 2 where use would occur two of three years during the riparian area constraint period, and would provide added assurance that standards would make progress. Therefore, the allotment would make progress toward meeting the riparian-wetland standards under this alternative.

3.3.15.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to implement a deferred grazing management strategy that installs a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a 3 year, two pasture grazing rotation would be implemented. Pasture 1 would be grazed 2 out of 3 years in the spring followed by a deferment year. Pasture 2 would be grazed 1 out 3 years in the spring followed by 2 years of deferment. Stocking would remain the same and AUMs would be reduced 9 percent over a 10 year period. The direct and indirect effects are the same as those discussed in Section 3.3.15.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions in both pastures (Section 3.3.15.1.4). Upland habitat and sage-grouse habitat conditions in both pastures would benefit by the proposed grazing schedule and the incorporation of grazing deferment 1 out of 3 years in pasture 1 and 2 out 3 years in pasture 2 out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). Deferment would interrupt the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve community composition and structure. Sage-grouse would

benefit by the increased security and escape cover being provided during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.15.1.4). In both pastures, the incorporation of deferment would reduce grazing during the critical growth period (July 15–Sept. 30) 2 out of 3 years in pasture 1 and 1 out 3 years in pasture 2. This would improve the regeneration and establishment of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia redband trout and Columbia spotted frogs would benefit because of the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function. Additionally, reduced occurrence of livestock trampling in aquatic habitats during the spawning season (March 15–June 15) and egg mass lying period (May 1–June 15) would improve egg, fry, and larvae survival.

Overall, under Alternative 3, current upland and sage-grouse habitat conditions would show considerable improvement. Both pastures would provide improved composition and structure. Habitat conditions in both pastures would continue and improve and recover plant vigor and health and composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period. Columbia spotted frogs would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function in both pastures. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the breeding/egg laying period. Under this Alternative, current upland and riparian conditions would improve and progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.15.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and a shorter grazing season may require additional labor or feeding costs.

3.3.15.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.15.2.4 Alternative 4

3.3.15.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pastures 1 and 2 of the South Mountain Individual allotment. Implementation of Alternative 3 would improve current conditions of the South Mountain Individual allotment. Pastures 1 and 2 would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would prescribe April through November grazing in a three-year rotation providing deferment at least one in three years with a maximum of 67 head of cattle and 342 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment and reduction of 68 percent AUMs, based on average actual use in a ten-year permit would allow opportunity to recover as compared to Alternative 1, 2 and 3 in the South Mountain Individual allotment. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternatives 1, 2 and 3.

3.3.15.2.4.2 Soils

Alternative 4 would provide 2 out of 3 years of deferment or rest from spring grazing for all pastures that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from 2 out of 3 years of deferment or rest from critical growing season use and summer riparian grazing. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated summer use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing and adjustment in stocking rates would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.15.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.15.4), pasture 1 of the South Mountain Individual allotment would be available to grazing during the spring for one year, during the fall for one year, and rested the third year of a three-year rotation. Pasture 2 would be open during the spring for one year, during the summer and early fall for one year, and rested the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.6 miles of perennial, and 15.7 miles of intermittent/ephemeral stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternately among the pastures and years. Recent actual use reported identifies that the allotment has primarily been used during the spring, summer, and fall annually, and Standards are not being met.

The South Mountain Individual allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year schedule that incorporates one year of growing season deferment as well as one year of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Additionally, the changes in season of use would result in a 68 percent reduction in active AUMs over the 10-year permit. Therefore, the allotment would meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.15.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a three year, two pasture grazing rotation would occur. Both pastures would be grazed 1 out of 3 years in the spring followed by a year deferment and rest. Stocking would be reduced from 100 to 67 head and AUMs would be reduced 68 percent over a 10-year period. The direct and indirect effects are the same as those discussed in Section 3.3.15.1.4, in Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions in both pastures (Section 3.3.15.1.4). Upland habitat and sage-grouse habitat conditions in both pastures would benefit because of the 100 percent absence of livestock 1 out of 3 years and the 68 percent reduction in AUMs along with the incorporation of grazing deferment/rest 2 out of 3 years out of the critical growth period (May 1–June 30), sage-grouse nesting/early brood-rearing period (April l–June 30), and late brood rearing period (July 1–August 31). Deferment/rest and reduced AUMs would considerably modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season.

This would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.15.1.4). In both pastures, a 68 percent reduction in AUMs and the incorporation of deferment/rest would substantially reduce grazing pressure during the critical growth period (July 15–Sept. 30) 2 out of 3 years. This would improve the regeneration and establishment of herbaceous and woody plants that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia redband trout and Columbia spotted frogs would benefit because of the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function. Additionally, reduced occurrence of livestock trampling in aquatic habitats during the spawning season (March 15–June 15) and egg mass lying period (May 1–June 15) would improve egg, fry, and larvae survival.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would show considerable improvement. Both pastures would provide improved composition and structure. Habitat conditions in both pastures would continue to improve and recover plant vigor and health and composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing and late brood-rearing periods. . Columbia redband trout and Columbia spotted frogs would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function in both pastures. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats in the spring during the breeding/egg laying period. Under this Alternative, current upland and riparian conditions would improve and significantly progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.15.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations and alternating rest for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.15.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.15.2.5 Alternative 5

3.3.15.2.5.1 Vegetation, including. Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.15.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.15.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.15.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.15.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.15.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.16 Walt's Pond FFR Allotment

3.3.16.1 Walt's Pond FFR Allotment Affected Environment

3.3.16.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not being met in pastures 1 and 2 of the Walt's Pond FFR allotment. Although evidence of historic grazing impacts are present throughout the allotment, with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail), invasive annuals, including juniper encroachment, are the causal factor in not meeting Standard 4.

Qualitative RHA data indicate that Standard 4 is not being met, with departure of functional-structural groups in the RHAs dominated by shallow-rooted bunchgrass and invasive annuals, rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue) and juniper encroachment. This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met. Vegetation communities dominated by shallow-rooted bunchgrasses with the expansion of annual invasive grasses and juniper encroachment lead to a conclusion that the vegetation management objective is not met.

3.3.16.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 2 of the of the Walt's Pond FFR allotment. The reduction in soil and hydrologic function is associated with physical soil disturbance and an altered plant community composition and distribution due to decreased relative abundance of large, deep-rooted native perennial bunchgrasses, and an increase in invasive annuals.

The reduction in soil and hydrologic function is primarily associated with accelerated erosional processes that have increased pedestaling of plants and have altered soil infiltration and runoff through elevated water flow. Soil loss is in various stages, primarily due to widespread mechanical damage and increased bare ground. The physical damage from hoof action to soils by livestock continues to affect the biological soil crust component, especially in the interspatial areas, adding to a reduction in soil stability. An increase in invasive species also contributes to an ongoing decline in hydrologic function and nutrient availability.

The decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised. Current and historic livestock management is the primary contributing factor for not

meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions for the Walt's Pond FFR allotment.

3.3.16.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[59]

The Walt's Pond FFR allotment is not meeting Standards 2 and 3. Approximately 0.4 mile of Glass Gulch that traverses pasture 1 was assessed FAR in 2000 and was re-visited in 2012 (Table RIPN-26), at which time a lack of hydric species and mechanical damage to the banks were noted. Approximately 0.7 mile of Glass Gulch that occurs in pasture 2 was twice assessed FAR. The most recent assessment had an upward trend but noted intermittent mechanical damage of the herbaceous understory where livestock access the stream and that the channel had been previously deeply incised.

Table RIPN-26: Walt's Pond FFR allotment riparian condition

	Allotment & Pasture Name			
Stream Name	**Walt's Pond FFR 01**	**Walt's Pond FFR 02**	**Assessment Issues/Impacts Identified**	**Total Miles**
Glass Gulch	0.4 (FAR–2000/pictures only–2012)		2000: inadequate hydric vegetation to protect stream banks during high flows/lack of vegetation age class and large woody debris/presence of noxious weeds 2012: upstream portion lacked hydric species/bank mechanically damaged/ banks eroding	0.4
		0.7 (FARS–2000) 0.7 (FARU–2003)	2000: inadequate hydric vegetation to protect stream banks during high flows/ lack of vegetation age class and large woody debris/ presence of noxious weeds 2003: old incised channel/intermittent mechanical damage of herbaceous understory	1.4
Jordan Creek	0.5 (FARS–2001) (pictures only–2011)		2001: inadequate composition and age class of hydric species to protect steam banks/point bars are not re-vegetating 2011: ephemeral stream- PFC protocol not applicable	0.5
Williams Creek		0.6 (FARS–2001/PFC–2012)	2001: noxious weeds present/unstable beaver dams/inadequate floodplain development to dissipate energy during high flows 2012: well armored with boulders and willows	0.6

[59] For additional details on the current condition of the allotment, see *Rangeland Health Assessments, Evaluation Reports and Determinations, for the Morgan (0505), Combination Creek (0595), Boulder (0509), South Mountain Individual (0600), Bachelor Flat FFR (0640), Boulder Flat (0526), and Walt's Pond FFR (0659) Allotments* document in the project record or available from the Owyhee Field Office

For IDEQ water quality information associated with the Walt's Pond FFR allotment, see table RIPN-1.

3.3.16.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat
Pastures 1 and 2 in the Walt's Pond allotment are managed as native plant communities and are determined to be not meeting Standard 4. Evaluation of Standard 4 noted an increase in annual invasive grass species, showing a shift in the plant community composition from native bunchgrasses to more grazing-tolerant exotic species. This information is also consistent with the vegetation data for sage-grouse habitat assessments that showed the dominance of invasive annuals in these pastures. Annual species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant community composition, structure, and function for sagebrush steppe-dependent species. Because of the undesirable shift in plant community composition, this allotment therefore is failing to provide adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic grazing practices invasive annuals.

Riparian
Evaluation of Standards 2 and 3 determined that streams and springs within this allotment are not properly functioning due to historic and current livestock grazing. However, riparian conditions in pasture 1 were noted to be improving. Water quality parameters set by IDEQ were also found to not being met due to flow alteration, but that livestock grazing was not a casual factor. Streams, springs, and wetlands that are functioning-at-risk (including those making progress) are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. If Standards 2 and 3 are not meeting, this allotment is failing to provide adequate riparian habitat conditions to support viable aquatic and terrestrial species populations, and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species
Sage-grouse
The Walt's Pond allotment falls within modeled PPH/G{H habitat for sage-grouse (Table WDLF-18 and Map WDLF-1). There are no active leks known to occur within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse. New sage-grouse habitat assessment information collected in 2012 for pastures 1 and 2 showed unsuitable breeding and upland summer habitat conditions for nesting and late brood-rearing sage-grouse. The assessments identified marginal sagebrush overstory conditions combined with a substantially reduced occurrence of perennial grasses and forbs in the understory. Because of the absence of understory cover and the reduced availability of forbs, this allotment is not providing adequate breeding and late brood-rearing nesting and security cover for sage-grouse and does not meet Standard 8 due to historic grazing practices and invasive annuals.

Table WDLF-18: Acres[1] and portions of preliminary priority and general priority habitat within the Walt's Pond allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	1,416 (100%)	0	0	0	1,416 (100%)
Pasture 2	1,914 (92%)	0	174 (8%)	0	2,089 (100%)
Allotment Total	3,331 (95%)	0	174 (5%)	0	3,505 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Columbia River redband trout are known to occur within the Jordan Creek system (Map WDLF-2), which has been identified as functioning-at-risk due to historic and current grazing practices. Redband trout require intact channels with well-developed riparian communities that stabilize banks to minimize erosion and create undercuts, minimize impacts of flood events and filters sediments, provide shade to reduce water temperatures, and contribute woody debris to create channel structure and regulate seasonal flow. Because these in-stream and near-stream habitat characteristics are not fully represented, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout and therefore is not meeting Standard 8 due to current grazing practices due to historic and current grazing practices.

This allotment is does not fall within the modeled distribution of the Columbia spotted frog.

3.3.16.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.16.1.6 Cultural Resources

There are two previously recorded cultural sites in the Walts Pond FFR allotment. Site 10OE1173 is assumed to be a prehistoric location. No actual description of the site is given other than it is an “open site-possible workshop” and no artifacts or cultural materials are listed. The site is of undetermined eligibility status for NRHP listing. Site 10OE2779 is the remains of items, wood barrels and wagon parts, associated with a historic whiskey still. It is not eligible for listing in the NRHP. Neither site’s stated location is within 100 meters of an identified livestock congregation area nor is there mention of grazing-related disturbances on the site reports. The sites did not receive monitoring visits. Of the two potential congregation areas identified in the allotment, one received survey coverage but no new site recordings resulted.

3.3.16.2 Walts Pond FFR Allotment Environmental Consequences

3.3.16.2.1 Alternative 1

3.3.16.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not met in pastures 1 and 2 of the Walt’s Pond FFR allotment. Implementation of Alternative 1 would continue current conditions of the Walt’s Pond FFR allotment. Walt’s Pond FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment,

describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Walt's Pond FFR allotment.
Repeated April through June grazing during the critical growing period with recent slight utilization and AUMs ranging from 73 to 77 (see Appendix B), on the Walt's Pond FFR allotment has occurred. However, historic grazing has caused the vegetation communities to be dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation Standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in the Walt's Pond FFR allotment.

3.3.16.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.16.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.16.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.16.1), the Walt's Pond FFR allotment would be available to grazing during the spring every year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.8 miles of perennial, 4.6 miles of intermittent stream, and two springs would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix B) that the allotment has been primarily used during the spring annually. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The Walt's Pond FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, it would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.16.2.1.4 Wildlife and Special Status Animals

The Walt's Pond allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, sage-grouse and Columbia redband trout habitat (Section 3.3.16.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.16.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.16.1.4, in Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.16.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.16.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.16.2.2 Alternative 2

3.3.16.2.2.1 Vegetation, includingNoxious Weeds

Rangeland Health Standard 4 is not met in pastures 1 and 2 of the Walt's Pond FFR allotment. Implementation of Alternative 2 would continue current conditions of the Walt's Pond FFR allotment. Walt's Pond FFR allotment would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Alternative 2 would authorize year-round grazing however typically grazing has been April through June annually with a maximum of 75 head of cattle and 76AUMs (see Alternative 2 proposal for full details Section 2.4). The grazing is similar to Alternative 1 in the Walt's Pond FFR allotment and would continue to not meet vegetation Standards or maintain satisfactory ORMP objectives for vegetation health. The repeated grazing during the critical growing period would not allow ample recovery to upland vegetation currently not meeting vegetation Standards. Vegetation resources not meeting ORMP vegetation management would not have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas similar to Alternative 1, Current Situation.

3.3.16.2.2.2 Soils

Under Alternative 2, livestock grazing in Walt's Pond FFR allotment would take place every year at the discretion of the permittee year-round and, based on recent past actual use, would include spring grazing and critical growing season use for both pastures. Physical impacts during the wettest period would continue and repetitive growing season use would not contribute to increase the ability of native plant communities to provide for soil stability. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 as compared to the current condition (Section 3.2.2.3).

3.3.16.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.16.2), the Walt's Pond FFR allotment would be available to grazing year-round annually, without deferment or rest (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.8 miles of perennial, 4.6 mile of intermittent stream, and two springs would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) indicates that the allotment has been primarily used during the spring only, and the standards are not being met.

The Walt's Pond FFR allotment is not meeting the Standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current permit, and would have the potential to be utilized for much longer than has been reported through actual use, it would continue to not meet the riparian-wetland standards under this alternative.

3.3.16.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee is proposing to annually graze both pastures year-round with no identified deferment or rest. Stocking and AUM levels would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.16.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.16.1.4). Under Alternative 2, a year round grazing system would negatively impact the upland and sage-grouse habitat. The extended proposed use would impose greater impact to the habitat condition than Alternative 1. Repeated year-round grazing pressure without any deferment or rest during the critical growing season (May 1–June 30) would not allow plants a recovery period to restore vigor and health and a loss in habitat composition and structure would follow. Sage-grouse would not benefit because of the reduced availability of security and hiding cover during the nesting/early brood rearing period (April 1–June 30) and the increased vulnerability to detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.16.1.4). As well, increased grazing pressure will not benefit the riparian areas. Repeated grazing in the spring/summer/fall would reduce herbaceous and woody plant composition, structure, and riparian function. Increased bank erosion, increased sediment delivery, reduced stream shade, reduced woody debris, and reduced water quality would negatively impact stream habitat conditions for Columbia redband trout because of increased livestock activity and trampling in the riparian zone and stream corridor.

Overall, under Alternative 2, current upland and sage-grouse habitat conditions would not improve due to the increased duration of grazing and repeated use during the critical growth period. Upland habitat composition and structure would decline and sage-grouse security and hiding cover would be less available during the nesting/early brood-raring period. Repeated and extended grazing during the critical growth period would remove herbaceous and woody plants and reduce riparian function. Columbia redband trout would be negatively impacted because of increased livestock activity and trampling in the stream corridor and in spawning areas. Under this alternative, this allotment would not make progress toward meeting Standard 8 and ORMP objectives.

3.3.16.2.2.5 Social and Economic Values

See Section 3.2.9.3 above.

3.3.16.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.16.2.3 Alternative 3

3.3.16.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not met in pastures 1 and 2 of the Walt's Pond FFR allotment. Implementation of Alternative 3 would improve current conditions of the Walt's Pond FFR allotment. Walt's Pond FFR allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would authorize April through December grazing in a three-year grazing rotation (deferment at least 1 in three years during the critical growing period) with a maximum of 75 head of cattle and 76 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment would allow opportunity to improve vegetative health and vigor in the Walt's Pond FFR allotment. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas compared to Alternatives1 and 2.

3.3.16.2.3.2 Soils

Alternative 3 would provide a minimum of 1 out of 3 years of deferment from spring grazing and critical growing season use for both pastures. This would reduce physical impacts during the wet spring and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Additional deferment of summer riparian area use in for a minimum of 1 out of 3 years would also be beneficial in reducing livestock congregation to surrounding upland soils in every year. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.16.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.16.3), pasture one of the Walt's Pond FFR allotment would be available to grazing during the spring for one year and during the fall for two years of a three year rotation. Pasture two would be open during the spring for two years and during the fall for the third year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.8 miles of perennial, 4.6 miles of intermittent stream, and two springs would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) indicates that the allotment has been primarily used during the spring only, and the Standards are not being met.

The Walt's Pond FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under alternative 3, the allotment would be managed under a defined three year schedule with at least one year of growing season deferment incorporated. Since the alternative eliminates spring grazing and the impacts per Table RIPN-7 and section 3.2.3.1 one of three years in pasture one and two of three years in pasture 2, the riparian areas would make progress toward meeting the Standards.

3.3.16.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that implements a grazing system that would create a minimum of 1 out of 3 years deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a 3 year, two pasture grazing rotation would occur. Pasture 1 would be grazed 1 out of 3 years in the spring followed by 2 years of deferment. Pasture 2 would be grazed 2 out 3 years in the spring followed by a year of deferment. Stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.16.1.4, in Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.16.1.4). Under Alternative 3, upland habitat and sage-grouse habitat conditions would benefit by this grazing schedule and the incorporation of grazing deferment 2 out of 3 years in pasture 1 and 1 out 3 years in pasture 2 out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). Deferment would modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover being provided during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.16.1.4). In both pastures, the incorporation of deferment would reduce grazing during the critical growth period (July 15–Sept. 30) in both pastures 2 out of 3 years. This would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap

sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia redband trout would benefit because of the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function. Additionally, reduced occurrence of livestock trampling in the stream corridor during the spawning season (March 15–June 15) would improve egg and fry survival.

Overall, under Alternative 3, current upland and sage-grouse habitat conditions would show considerable improvement. Both pastures would provide improved composition and structure. Habitat conditions in both pastures would continue to improve and recover plant vigor and health and composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period. Columbia redband trout would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function in both pastures. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats during the spawning period. Under this Alternative, current upland and riparian conditions would improve and progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.16.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. New pasture rotations and deferred grazing for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.16.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.16.2.4 Alternative 4

3.3.16.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is not met in pastures 1 and 2 of the Walt's Pond FFR allotment. Implementation of Alternative 4 would improve current conditions of the Walt's Pond FFR allotment. Walt's Pond FFR allotment would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 4 would authorize April through December grazing in a three-year grazing rotation (rest or deferment at least two in three years during the critical growing period) with a maximum of 75 head of cattle and 76 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of rest and deferment and a reduction of 56 percent AUMs would allow opportunity to improve vegetative health and vigor in the Walt's Pond FFR allotment Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas as compared to Alternatives 1, 2 and 3.

3.3.16.2.4.2 Soils

Alternative 4 would provide 2 out of 3 years of deferment or rest from spring grazing for all pastures that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from 2 out of 3 years of deferment or rest from critical growing season use and summer riparian grazing. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated summer use on upland soils that surround riparian areas. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.16.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.16.4), the Walt's Pond FFR allotment would be available to grazing during the spring for one year, during the fall for the second year, and rested the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 4.8 miles of perennial, 4.6 miles of intermittent stream, and two springs would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) indicates that the allotment has been primarily used during the spring only, and the Standards are not being met.

The Walt's Pond FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under alternative 4, the allotment would be managed under a defined three-year schedule that incorporates one year of growing season deferment as well as a second year of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Additionally, the changes in season of use would result in a 53 percent reduction in active AUMs over the 10-year permit. Since the alternative eliminates grazing during the riparian constraint period two of three years, the riparian areas would meet the standards.

3.3.16.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implement a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a three year, two pasture grazing rotation would be implemented. Both pastures would be grazed 1 out of 3 years in the spring followed by deferment and rest. Stocking would remain the same and AUMs would be reduced 53 per cent over a ten year period. The direct and indirect effects are the same as those discussed in Section 3.3.16.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.16.1.4). Under Alternative 4, upland habitat and sage-grouse habitat conditions would benefit by the 53 percent reduction in AUMs and the incorporation of grazing deferment/rest 2 out of 3 years in both pastures out of the critical growth period (May 1–June 30), sage-grouse nesting/early brood-rearing period (April l–June 30) and late brood-rearing period (July 1–August 31). Deferment/rest would modify the repeated spring grazing cycle and allow plants considerable opportunity to grow during the critical growth season and mature into the summer months. This would improve plant vigor and health and improve community composition and structure. Sage-grouse would benefit by the increased availability of security and escape cover being provided during the nesting/early brood-rearing and late brood-rearing periods and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian conditions (Section 3.3.16.1.4). In both pastures, the incorporation of deferment/rest would reduce grazing during the critical growth period (July 15–Sept 30) in both pastures 2 out of 3 years. This would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Columbia redband trout would benefit because of the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function. Additionally, reduced occurrence of livestock trampling in the stream corridor during the spawning season (March 15-June 15) would improve egg and fry survival.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would show considerable improvement. Both pastures would provide improved composition and structure. Habitat conditions in both pastures would continue to improve and recover plant vigor and health and composition and structure. Sage-grouse would benefit by the increased security and escape available during the nesting/early brood-rearing and late brood-rearing periods. Columbia redband trout would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function in both pastures. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats during the spawning period. Under this Alternative, current upland and riparian conditions would improve and progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.16.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. New pasture rotations, deferred grazing, and alternating rest for each pasture every 1 in 3 years may require additional labor or feeding costs.

3.3.16.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.16.2.5 Alternative 5

3.3.16.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.16.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.16.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.16.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.16.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.16.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.17 Warn Allotment

3.3.17.1 Warn Allotment Affected Environment

3.3.17.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is met in the Warn allotment. Although annual invasive plants and soil disturbance are increasing on the site, making it at risk for future disturbance activities, all other indicators for productive native plants are maintained as appropriate to provide for proper nutrient cycling, hydrologic cycling, and energy flow on the allotment.
Qualitative RHA data indicate that Standard 4 is met, with slight to moderate departure from functional structural groups and biotic vegetation is at or near potential. This supports the conclusion that the allotment is meeting the Standard.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also met. Near potential vegetation communities lead to a conclusion that the vegetation management objective is being met.

3.3.17.1.2 Soils

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in the Warn allotment. The reduction in soil and hydrologic function is associated with physical soil disturbance, a reduction in vegetative cover, and an altered plant community composition due to invasive annuals and dominance of shallow-rooted bunchgrasses.

Although only a slight shift in the plant community from reference conditions has been noted, an increase in invasive species and shallow-rooted bunchgrasses contributes to an ongoing decline in hydrologic function and nutrient availability. The presence of severe erosion relics and the removal of surface soils have reduced vegetative cover as bare soils and flow paths display variable stages of stabilization. Localized gullies and compaction are present and biological soil crusts are reduced in interspaces. While much of the pedestalling of bunchgrasses is historic, recent mechanical damage has been caused by spring use when soils are wet, even if grazing periods are short.

The decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised. Current and past livestock management are the primary contributing factors for not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions for the Warn allotment.

3.3.17.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[60]
Standards 2 and 3 are not being met in the Warn allotment. The reach of Lone Tree Creek that traverses the single pasture allotment has twice been rated FAR (Table RIPN-27). Riparian area condition issues included that vegetation present did not reflect the maintenance of soil moisture to support riparian vegetation, the vegetation present was inadequate to protect stream banks, and there were noxious weeds present. Additionally, in 2011, a MMIM site (Table RIPN-27) was established and the short-term indicators that were measured did not meet Standards. The mean stubble height was 4.4 inches, woody use was 28 percent, and stream bank alteration was 32 percent.

[60] For additional details on the current condition of the allotment, see the *Rangeland Health Assessments, Evaluation Reports and Determinations, for Glass Creek (0552), Gluch (0553), Gluch FFR (0466), West Maher (0567), and Warn (0596) Allotments* document in the project record or available from the Owyhee Field Office

Table RIPN-27: Warn allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Warn 01**	**Assessment Issues/Impacts Identified**	**Total Miles**
Lone Tree Creek	1.1 (FARS–2000/FARU–2003)	maintenance of soil moisture no apparent/inadequate vegetation to protect stream banks, noxious weeks present	

MIM Metrics					
Stream Name	**Mean Stubble Height (inches)**	**Woody Use (%)**	**Stream bank Alteration (%)**	**Stable Bank (%)**	**Covered Bank (%)**
Lone Tree Creek	4.4	28.4	32	68	96

For IDEQ water quality information associated with the Warn allotment, see table RIPN-1.

3.3.17.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat
Plant community information in Standard 4 identified that the reproductive capability of perennial plants was favorable and that composition, structure and function of the plant community are appropriate. Combined with the sage-grouse habitat assessments, this allotment is providing adequate composition and structure and resulting cover and forage elements for sagebrush steppe associated species.

Riparian Habitat
Evaluation of Standards 2, 3, and 7 determined that a reach of Lone Creek within this allotment is functioning-at-risk. Streams that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Evaluation of Standard 7 also determined that IDEQ water quality parameters and beneficial uses for cold-water aquatic species were also not meeting Rangeland Health Standards. Because Standards 2, 3, and 7 are not being met, stream, spring, and wetland habitat conditions are not adequate to support viable terrestrial, avian, and aquatic species populations and therefore this allotment is not meeting Standard 8 due to current livestock grazing practices.

Focal Species
Sage-grouse
Modeling results indicate that all of the Warn allotment (100 percent) lies within PPH (Table WDLF-19 and Map WDLF-1). No active leks are documented to occur in this allotment. This allotment provides seasonal breeding, upland summer, and winter habitat for sage-grouse. This allotment was found to be providing adequate overstory/understory composition of sagebrush and perennial grasses to provide overall suitable breeding, upland summer, and winter habitat for sage-grouse.

Table WDLF-19: Acres[1] and portions of preliminary priority and general priority habitat within the Warn allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Allotment Total	1,845 (100%)	0	0	0	1,845 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Columbia redband trout waters are not known to occur within this allotment.

A portion of this allotment is identified within the modeled distribution of the Columbia spotted frog. Potential habitat exists along stream channels, wetlands, and springs (Map WDLF-2). Inventory/target survey information in 2008 in Lone Tree Creek did not record any occurrence of spotted frog in this allotment.

3.3.17.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.17.1.6 Cultural Resources

There are no previously recorded cultural sites on BLM administered land in the Warn allotment. BLM staff surveyed all five potential livestock congregation areas identified in the allotment, but recorded no new cultural sites.

3.3.17.2 Warn Allotment Environmental Consequences

3.3.17.2.1 Alternative 1

3.3.17.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Warn allotment. Implementation of Alternative 1 would continue current conditions of the Warn allotment. Warn allotment would continue to meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section ,3 Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the Warn allotment.

Repeated April through June grazing during the critical growing period with recent light to moderate utilization and AUMs ranging from 66 to 118 (see Appendix B), on the Warn allotment has allowed the allotment to meet vegetation Standards and maintain satisfactory ORMP objectives for vegetation health and conditions. The effects of current livestock grazing would continue to meet Standard 4 and maintain or improve ORMP objectives vegetation health and condition in the Warn allotment.

3.3.17.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.17.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.17.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.17.1), the Warn allotment would be available to grazing during the spring and early summer every year, without deferment or rest (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.8 miles of perennial, and 3.3 miles of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix B) indicates that the allotment has been primarily used during the spring. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The Warn allotment is not meeting the Standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, and would potentially be used for a longer period of time that what has been reported on recent actual use, it would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.17.2.1.4 Wildlife and Special Status Animals

The Warn allotment is currently not meeting Standard 8 for riparian habitat sage-grouse and Columbia redband trout habitat (Section 3.3.17.1.5). This allotment is meeting Standard 8 for upland habitat and sage-grouse habitat.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.17.1.4 would continue. It can be expected that the current riparian habitats would continue to not meet Standard 8 and that adequate upland and sage-grouse habitat elements would further occur and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.17.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.17.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.17.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.17.2.2 Alternative 2

3.3.17.2.2.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Warn allotment. Implementation of Alternative 2 would continue improve conditions of the Warn allotment. Warn allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 2 would prescribe April through June grazing two years and fall grazing October one year of a three-year grazing system with a maximum of 200 head of cattle and 74 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of deferment as compared to repeated spring and summer grazing in Alternative 1 in the Warn allotment would allow improvement in upland vegetation communities currently meeting vegetation Standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management the Warn allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition as compared to Alternative 1, Current Situation.

3.3.17.2.2.2 Soils

Under Alternative 2, livestock grazing in the Warn allotment would incorporate 1 out of 3 years of spring grazing and critical growing season deferment. This would reduce physical impacts during the wettest period and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, the allotment would make progress toward improving soil and hydrologic function with Alternative 2 compared to the current condition, similar to Alternative 3, though not as rapid as Alternatives 4 and 5 (Section 3.2.2.3).

3.3.17.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.17.2), the Warn allotment would be available to grazing during the spring for two years, and during the fall only for the third year of a three year rotation (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.8 miles of perennial, and 3.3 miles of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) that the allotment has been primarily used during the spring only, and Standards are not being met.

The Warn allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 2, the allotment would be managed under a defined three year schedule that incorporates growing season deferment. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated the one year. Therefore, the allotment would make progress toward meeting the riparian-wetland standards under this alternative

3.3.17.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittees proposal would implement a one pasture, 3 year grazing schedule. Grazing is proposed to occur 2 out of 3 years followed by a year of deferment. Stocking would increase from 74 to 200 head and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.17.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions (Section 3.3.17.1.4). Under Alternative 2, upland habitat and sage-grouse habitat conditions (although currently meeting Standard 8) would further benefit by this grazing schedule and the incorporation of grazing deferment 1 out of 3 years out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). Deferment would modify the repeated spring

grazing cycle and allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve community composition and structure. Sage-grouse would benefit by the increased security and escape cover being provided during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.17.1.4). Under Alternative 2, this grazing strategy meets the 1 out of 3 year criteria used to develop Alternative 3. Incorporating a minimum of deferment would interrupt repeated spring grazing and allow plants to grow at least one year during the riparian critical growth season (July 1–Sept. 30). This would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Terrestrial, avian, aquatic wildlife would benefit because of the improved habitat diversity and structure and the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function.

Overall, under Alternative 2, current upland and sage-grouse habitat conditions would be maintained and show further improvement in composition and structure. Sage-grouse would benefit by the increased security and escape during the nesting/early brood-rearing period and late brood-rearing period. Terrestrial, avian, and aquatic wildlife would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic. Under this Alternative, current upland and riparian conditions would improve and progress this allotment toward meeting Standard 8 and ORMP objectives.

3.3.17.2.2.5 Social and Economic Values

See Section 3.2.9.3 above. Deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.17.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.17.2.3 Alternative 3

3.3.17.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Warn allotment. Implementation of Alternative 3 would allow the opportunity to improve conditions of the Warn allotment. Warn allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 3 would prescribe May grazing two years and fall grazing October one year of a three-year grazing system with a maximum of 200 head of cattle and 74 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment as compared to repeated spring and summer grazing in Alternative 1 in the Warn allotment would allow opportunity to improve upland vegetation communities currently meeting vegetation Standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management in the Warn allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition as compared to Alternative 1, Current Situation.

3.3.17.2.3.2 Soils

Alternative 3 would provide 1 out of 3 years of deferment from spring grazing and critical growing season use. This would reduce physical impacts during the wettest period and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better as compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.17.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.17.3), the Warn allotment would be available to grazing during the spring for two years, and during the fall only for the third year of a three-year rotation (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.8 miles of perennial, and 3.3 miles of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) indicates that the allotment has been primarily used during the spring only, and standards are not being met.

The Warn allotment is not meeting the Standards associated with the riparian-wetland resources under current management. Under Alternative 3, the allotment would be managed under a defined three-year schedule that incorporates growing season deferment all years. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated all years. Additionally, the two year of spring use would reduce the number of days from 76 to 31. Therefore, the allotment would make progress toward meeting the riparian-wetland Standards under this alternative

3.3.17.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that installs a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a three year, one pasture grazing rotation would occur. This allotment would be grazed 2 out of 3 years in the spring followed by a deferment year. Stocking would increase from 74 to 200 head and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.17.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Under Alternative 3 the effects would be very similar to Alternative 2. The only difference is that the grazing duration in Alternative 3 would be shortened but the number of head and AUMs would remain the same. Because this is essentially the same schedule as Alternative 2, the benefits to the upland and riparian plant community and ultimately for sage-grouse, terrestrial, avian, and aquatic species would be the same. Overall, this alternative is an improvement over Alternative 1 and would make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.17.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. A shorter grazing season and deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.17.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.17.2.4 Alternative 4

3.3.17.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Warn allotment. Implementation of Alternative 4 would allow the opportunity to improve conditions of the Warn allotment. Warn allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 4 would prescribe April through June grazing one year and fall grazing in October one year and rest one year of a three-year grazing system with a maximum of 74 head of cattle and 74 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of rest or deferment and a reduction of 30 percent in a ten-year permit as compared to Alternatives 1, 2 and 3 in the Warn allotment would allow opportunity to improve upland vegetation communities currently meeting vegetation Standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management the Warn allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition as compared to Alternatives 1, 2 and 3.

3.3.17.2.4.2 Soils

Alternative 4 would provide 2 out of 3 years of deferment or rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from 2 out of 3 years of deferment and rest that limits critical growing season use. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, and reduced susceptibility. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.17.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.17.4), the Warn allotment would be available to grazing during the spring for one year, during the fall for the second year, and rested for the third year of a three-year rotation (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 2.8 miles of perennial, and 3.3 miles of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) indicates that the allotment has been primarily used during the spring only, and standards are not being met.

The Warn allotment is not meeting the Standards associated with the riparian-wetland resources under current management. Under Alternative 4, the allotment would be managed under a defined three year schedule that incorporates two years of growing season deferment as well as one year of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those all years. Additionally, the changes in season of use would result in a 30 percent reduction in active AUMs over the 10-year permit. Therefore, the allotment would meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.17.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implement a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a 3 year, one pasture grazing rotation would occur. The allotment would be grazed 1 out of 3 years in the spring followed by a 2 years of deferment and rest. Maximum stocking would stay the same and AUMs would be reduced 30 percent over 10 years. The direct and indirect effects are the same as those discussed in Section 3.3.17.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is providing adequate upland and sage-grouse habitat conditions (Section 3.3.17.1.4). Under Alternative 4, upland habitat and sage-grouse habitat conditions (although currently meeting Standard 8) would further benefit by the 30 percent reduction in AUMs and the incorporation of grazing deferment/rest 2 out of 3 years out of the critical growth period (May 1–June 30), sage-grouse nesting/early brood-rearing period (April l–June 30) and late brood-rearing period (July 1–August 31). Deferment/rest would modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover being provided during the nesting/early brood-rearing and late brood-rearing periods and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.17.1.4). Under Alternative 4, riparian habitats would benefit by the 30 percent reduction in AUMs and the incorporation of deferment/rest 2 out of 3 years would be expected to show significant improvement. This strategy would significantly reduce grazing pressure on plants during the critical growth season (July 1–August 31). Combined deferment and rest would allow plants to grow through a minimum of two critical growing periods. This would result in improved plant vigor and health and improved habitat composition and structure and riparian function. Terrestrial, avian, aquatic wildlife will benefit because of the improved habitat diversity and structure and the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function.

Overall, under Alternative 4, current upland and sage-grouse habitat conditions would be maintained and show further improvement in composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing and late brood-rearing and late brood-rearing periods. Terrestrial, avian, and aquatic wildlife would benefit because of improved re-generation and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic habitats. Under this Alternative, current upland and riparian conditions in this allotment would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.17.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. Deferred grazing and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.17.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.17.2.5 Alternative 5

3.3.17.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.17.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.17.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.17.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.17.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.17.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.18 West Maher FFR Allotment

3.3.18.1 West Maher FFR Allotment Affected Environment

3.3.18.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is met in pasture 2 and not met in pasture 3 (pasture 1 is all private) of the West Maher FFR allotment. Although evidence of historic grazing impacts are present throughout the allotment with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and juniper encroachment, presence of annual invasive plants is the causal factor in not meeting Standard 4.

Qualitative RHA data indicate that Standard 4 is not met in pasture 3, with moderate departure of plant mortality and plant community composition in the RHA dominated by shallow-rooted bunchgrass and juniper, rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within the West Maher FFR allotment. Vegetation communities dominated by shallow-rooted bunchgrasses and juniper encroachment lead to a conclusion that the vegetation management objective is not being met.

3.3.18.1.2 Soils

Current livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 2 and 3 of the West Maher allotment; pasture 1 is private, and therefore is not evaluated here. Conditions in pastures 2 and 3 are deteriorated by commonly observed loss of the soil surface horizon, active erosional features, extensive bare ground, and physical impacts from increased amounts of trails. In the broader basin of pasture 3, the trails have resulted in churned soils, while pasture 2 mostly reflects disturbances from compaction and soil loss along extensive networks of side hill trails.

The reduction in soil and hydrologic function is associated with the removal of vegetation and an altered plant community composition and distribution due to a decrease of large, deep-rooted native perennial bunchgrasses. As a result, historic and active accelerated erosional processes have increased pedestaling of plants that, along with accelerated physical damage from hoof action and mechanical damage to soils

by livestock, have also affected the biological soil crust component, especially in the interspatial areas. A network of trails has increased bare soil exposure and affects soil stability, especially on steeper slopes.

Degraded ecological conditions under current management schemes do not project improvement in watershed health, especially with spring grazing and limited rest. The decreased ability for proper nutrient cycling, hydrologic cycling, and energy flow due to reduced soil and hydrologic function lead to the conclusion that current livestock management is the primary causal factor in not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions for the West Maher allotment.

3.3.18.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[61]

Standards 2 and 3 are not being met in pasture 3 of the West Maher allotment. Approximately 0.8 mile of Lone Tree Creek has twice been assessed FAR (Table RIPN-28), primarily based on vegetation concerns; there was inadequate woody regeneration and the understory of herbaceous vegetation was composed of upland species. A MMIM site (Table RIPN-28) was established and the metrics collected identify short-term indicators that are not meeting standards: mean stubble height of 4.3 inches, 21 percent woody species use, and 46 percent bank alteration.

Table RIPN-28: West Maher FFR allotment riparian condition

	Allotment & Pasture Stream Miles & Conditon				
Stream Name	**West Maher FFR 03**		**Assessment Issues/Impacts Identified**		**Total Miles**
Lone Tree Creek	0.8 (FAR–2000/ FARS–2003)		inadequate woody regeneration/understory comprised of upland species		0.8
MIM Metrics					
Stream Name	**Mean Stubble Height (inches)**	**Woody Use (%)**	**Streambank Alteration (%)**	**Stable Bank (%)**	**Covered Bank (%)**
Lone Tree Creek	4.2	21.7	46	79	99

For IDEQ water quality information associated with the West Maher allotment, see table RIPN-1.

[61] For additional details on the current condition of the allotment, see the *Rangeland Health Assessments, Evaluation Reports and Determinations, for Glass Creek (0552), Gluch (0553), Gluch FFR (0466), West Maher (0567), and Warn (0596) Allotments* document in the project record or available from the Owyhee Field Office

3.3.18.1.4 Wildlife and Special Status Animals

Existing Conditions

Upland Habitat
Pasture 2 is managed as a native plant community. Plant community information in Standard 4 reveals that Rangeland Health Standards and Guides are being met. Because there is no other vegetation information to draw from (i.e., sage-grouse habitat assessments), and a favorable rangeland health assessment collected in 2013 reported adequate plant vigor, composition and production of native species, it is assumed that minimum upland habitat conditions for sagebrush steppe dependent species exist.

Standard 4 determined that pasture 3 of the West Maher allotment is not meeting Rangeland Health Standards due to invasive annuals and therefore is not meeting Standard 8. This is inconsistent with the sage-grouse habitat assessment that showed a productive understory of large perennial grasses. This is because the rangeland health assessment was conducted on a Shallow Claypan site and the sage-grouse assessment was conducted on Loamy site, which produced different results. Therefore, because annual species do not provide adequate habitat composition and structure for sagebrush steppe dependent species, this allotment therefore is not meeting Standard 8 due to the increased dominance of annual invasive species in the uplands.

Riparian Habitat
Evaluation of Standards 2 and 3 determined that a reach of Lone Creek within this allotment is FAR. Streams that are FAR are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive environment. Evaluation of Standard 7 also determined that IDEQ water quality parameters and beneficial uses for cold-water aquatic species were also not meeting Rangeland Health Standards. Because Standards 2, 3, and 7 are not being met, stream, spring, and wetland habitat conditions are not adequate to support viable terrestrial, avian, and aquatic species populations and therefore this allotment is not meeting Standard 8 due to current livestock grazing practices.

Focal Species

Sage-grouse
The West Maher allotment lies within PPH for sage-grouse (Table WDLF-20 and Map WDLF-1). No leks are documented to occur in this allotment. This allotment provides seasonal breeding, upland summer, and winter habitat for sage-grouse.

Breeding habitat conditions for sage-grouse in pasture 3 in the West Maher FFR allotment were found to be marginal. The breeding habitat assessments showed that the occurrence of perennial grass and height are favorable but that the canopy cover, height, and physical shape of the sagebrush overstory does not interface with the herbaceous understory adequately and reduces required nesting and hiding cover values. Because of the less-than-desirable breeding habitat conditions created by the sagebrush overstory, this allotment is providing less-than-adequate (marginal) nesting and early brood-rearing habitat conditions for sage-grouse and therefore is not meeting Standard 8 due to past grazing and annual invasive species.

Upland summer habitat provides important cover and forage for late brood-rearing sage-grouse as the season becomes drier and birds seek out vegetation communities with an abundance of forbs such as mesic areas and riparian zones. The assessment showed that combined canopy cover of perennial grasses and forbs was favorable but that the canopy cover and height of the sagebrush overstory does not interface with the herbaceous understory adequately and reduces required hiding and escape cover for late

brood-rearing sage-grouse; therefore, this allotment does not meet Standard 8 due to past grazing and annual invasive species.

Table WDLF-20: Acres[1] and portions of preliminary priority and general priority habitat within the West Maher FFR allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	552 (100%)	0	0	0	552 (100%)
Pasture 2	575 (100%)	0	0	0	575 (100%)
Pasture 3	261 (83%)	0	53 (17%)	0	261 (100%)
Allotment Total	1,388 (96%)	0	53 (4%)	0	1,441 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Habitat for the Columbia redband trout and the Columbia spotted frog are not documented to occur within this allotment.

3.3.18.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.18.1.6 Cultural Resources

There are no cultural sites recorded on BLM administered land in the West Maher allotment and no potential livestock congregation areas identified. No new surveys occurred.

3.3.18.2 W Maher FFR Allotment Environmental Consequences

3.3.18.2.1 Alternative 1

3.3.18.2.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is met in pasture 2 and not met in pasture 3 (pasture 1 is all private) of the West Maher FFR allotment. Implementation of Alternative 1 would continue current conditions of the West Maher FFR allotment. Pasture 3 would continue to not meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the RHA and Determinations Appendix E, for the West Maher FFR allotment.

Repeated April through May grazing during the critical growing period with recent slight utilization and AUMs ranging from 4 to 122 (see Appendix B), on the West Maher FFR allotment has allowed pasture 2 to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions. However, historic grazing in pasture 3 has caused the vegetation communities to be

dominated by shallow-rooted bunchgrasses, with the expansion of annual invasive grasses. Current livestock grazing is not the causal factor for not meeting vegetation standards or ORMP objectives. The effects of current livestock grazing would generate little to no change to improve unsatisfactory vegetation health and condition in pasture 3 of the West Maher FFR allotment.

3.3.18.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of not meeting Standard 1 and ORMP objectives (Section 3.1.2) and would provide no significant progress to ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would not be maintained or improved. Where soil impacts currently exist, conditions would remain impaired or display a downward trend and affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.18.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.18.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.18.1), the West Maher FFR allotment would be available to grazing year-round every year (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.1 miles of perennial, and 1.0 mile of intermittent stream would be affected by the impacts associated with all seasons of grazing. Recent actual use reported (Appendix B) indicates that the allotment has been primarily used during the spring, and occasionally during the winter. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The West Maher FFR allotment is not meeting the Standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation and the impacts of season-long grazing per Table RIPN-7 and section 3.2.3.1 would continue, it would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.18.2.1.4 Wildlife and Special Status Animals

The West Maher allotment is currently not meeting Standard 8 for upland habitat, riparian habitat, and sage-grouse habitat (Section 3.3.15.1.5). Pasture 2 is meeting Standard 8 for upland habitat and sage-grouse habitat.

Overall, under Alternative 1 existing conditions discussed in Section 3.3.18.1.4 would continue. Pastures not providing adequate upland and riparian habitat conditions for focal species would not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.18.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.18.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.18.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.18.2.2 Alternative 2

3.3.18.2.2.1 Vegetation, incl. Noxious Weeds

Rangeland Health Standard 4 is met in pasture 2 and not met in pasture 3 (pasture 1 is all private) of the West Maher FFR allotment. Implementation of Alternative 2 would continue current conditions of the West Maher FFR allotment. Pasture 3 would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 2 would authorize April through June grazing annually in pasture 2 currently meeting standards; and April through June grazing 2 out of three years in pasture 3 currently not meeting standards with a maximum of 118 head of cattle and 120 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of deferment in pasture 3 as compared to repeated spring grazing in Alternative 1 in the West Maher FFR allotment and would have the opportunity to move toward meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management in Pasture 3 would have the opportunity to improve unsatisfactory vegetation health and vigor as compared to Alternative 1, Current Situation.

3.3.18.2.2.2 Soils

Under Alternative 2, livestock grazing in West Maher FFR allotment would take place every year in the spring in pasture 2 (pasture 1 is private) and would not differ from Alternative 1. Physical impacts during the wettest period would continue and repetitive growing season use would not contribute to increase the ability of native plant communities to provide for soil stability. Pasture 3 would be deferred from spring and critical growing season use in 1 out of 3 years, which would reduce physical impacts to soils during the wettest period and increase active growth. As a whole, the allotment would not make progress toward improving soil and hydrologic function with Alternative 2 when compared to the current condition though pasture 3 would see improvements from added deferment (see Section 3.2.2.3).

3.3.18.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.18.2), the permittee proposes to graze the West Maher FFR allotment year-round annually without rest or growing season deferment (see Table RIPN-7 and Section 3.3.16.2.1.3 for specific impacts). The application requests the same terms as the current situation; therefore, the impacts would be the same as those described above under Alternative 1 (section 3.3.1.2.1.3), and the Standards would continue to not be met.

3.3.18.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee is proposing a defined three pasture, 2 year rotation in pastures 2 and 3 (Pasture 1 is private and is not included in this discussion). Pasture 2 would be grazed annually in the spring over the critical growing season. Pasture 3 would be grazed 2 out 3 years in the spring followed by a year of deferment. Stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.18.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently, pasture 2 is providing adequate upland and sage-grouse habitat conditions (Section 3.3.18.1.4). Under Alternative 2 repeated spring grazing would occur during the critical growth period (May 1–June 30) and during the sage-grouse nesting/early brood-rearing period (April 1–June 30). Under this Alternative, a defined shorten season of use is proposed that would impose concentrated grazing activity in the critical growth period. Although this pasture is currently providing adequate upland habitat conditions, concentrated and repeated spring grazing can negatively impact the current conditions. No deferment or rest would not allow plants to recover vigor and health and habitat composition and structure

can decline. Sage-grouse would further be negatively impacted because of the reduce security and escape available during the nesting/early brood-rearing period and the increased vulnerability of detection and predation by terrestrial and avian predators.

Currently, pasture 3 is not providing adequate upland and sage-grouse habitat conditions (Section 3.3.18.1.4). Under Alternative 2, upland habitat and sage-grouse habitat conditions would benefit by this grazing schedule and the incorporation of grazing deferment 1 out of 3 years out of the critical growth period (May 1-June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). This alternative would provide a defined grazing schedule that would modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season. Deferment from grazing would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian function and aquatic habitat conditions (Section 3.3.18.1.4). Under Alternative 2, 3 out of 3 years of grazing deferment would substantially benefit riparian habitat. Incorporating deferment would modify the grazing schedule and allow plants to grow without livestock grazing pressure during the riparian critical growth season (July 1–Sept. 30). This would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). Terrestrial, avian, and aquatic wildlife would benefit because of the improved habitat diversity and structure and the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function.

Overall, under Alternative 2, current upland and sage-grouse habitat conditions would be negatively impacted by a shorten grazing season concentrated in the repeated spring grazing during the critical growth season. Sage-grouse would not benefit because of the decline in habitat composition and structure and reduced security and escape cover. Upland habitat conditions in pasture 2 are expected to improve because of the incorporation of deferment into the grazing schedule that would subsequently benefit sage-grouse because of increased cover elements during the nesting/early brood-rearing period. Riparian habitat conditions are expected to improve and benefit terrestrial, avian, and aquatic species. Under this Alternative, upland habitat conditions in pasture 3 and riparian habitat conditions in pastures 2 and 3 are expected to improve. However, because of repeated spring grazing in pasture 2, upland habitat conditions are expected to decline and not maintain current conditions and not make progress toward meeting Standard 8 and ORMP objectives.

3.3.18.2.2.5 Social and Economic Values

See Section 3.2.9.3 above. A shorter grazing season, new pasture rotations, and deferred grazing on pasture 3 every 1 in 3 years may require additional labor or feeding costs.

3.3.18.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.18.2.3 Alternative 3

3.3.18.2.3.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is met in pasture 2 and not met in pasture 3 (pasture 1 is all private) of the West Maher FFR allotment. Implementation of Alternative 3 would allow opportunity to improve

conditions of the West Maher FFR allotment. Pasture 3 would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would authorize April through October (at least 1 of three years of deferment in critical growing period) in a three-year rotation with a maximum of 118 head of cattle and 120 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment in as compared to repeated spring grazing in Alternative 1 in the West Maher FFR allotment and would have the opportunity to move toward meeting vegetation Standards and ORMP objectives for vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation health and vigor as compared to Alternative 1 and 2.

3.3.18.2.3.2 Soils

Alternative 3 would provide 1 in 3 years of spring and critical growing season use deferment for both pastures. This would reduce physical impacts during the wet spring and also provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Additional deferment of summer riparian area use in pastures 2 and 3 would also be beneficial in reducing livestock congregation to surrounding upland soils every year. As a whole, progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 are therefore expected to be better compared with Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.18.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.18.3), the West Maher FFR allotment would be available to grazing during the spring and early summer for two years, and during the fall for the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.1 miles of perennial, and 1.0 mile of intermittent stream would be affected by the impacts associated with all seasons of grazing. Recent actual use reported (Appendix D) that the allotment has been primarily used during the spring, and occasionally during the winter, and Standards are not being met.

The West Maher FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year rotation that would incorporate growing season deferment all years under this alternative. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those all years. Therefore, the allotment would make progress toward meeting the riparian-wetland standards.

3.3.18.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that installs a grazing system that would create a minimum of 1 out of 3 years deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a three year, two pasture grazing rotation would occur. Both pastures would be grazed 2 out of 3 years in the spring followed by a deferment year. Maximum stocking levels and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.81.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate upland habitat and sage-grouse habitat conditions (Section 3.3.18.1.4). Under Alternative 2, sage-grouse habitat conditions would benefit by this grazing schedule and the incorporation of grazing deferment 1 out of 3 years out of the critical growth period

(May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). Deferment would modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.18.1.4). Incorporation of deferment would reduce grazing during the critical growth period (July 15-Sept. 30). This would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). This grazing schedule would result in improved plant vigor and health and improved habitat composition and structure and riparian function. Terrestrial, avian, aquatic wildlife would benefit because of the improved vegetation diversity and structure and the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function.

Overall, under Alternative 3, current upland and sage-grouse habitat conditions would show improvement. Habitat conditions would continue to improve as plant vigor and health improves along with composition and structure. Sage-grouse will benefit by the increased security and escape cover available during the nesting/early brood-rearing period. Terrestrial, avian, and aquatic wildlife would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic systems. Under this Alternative, current upland and riparian conditions would improve and make progress toward meeting Standard 8 and ORMP objectives.

3.3.18.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. Deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.18.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.18.2.4 Alternative 4

3.3.18.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is met in pasture 2 and not met in pasture 3 (pasture 1 is all private) of the West Maher FFR allotment. Implementation of Alternative 4 would allow opportunity to improve conditions of the West Maher FFR allotment. Pasture 3 would have the opportunity to move toward meeting Standard 4 and ORMP objectives.

Alternative 3 would authorize April through October (at least 2 of three years of rest or deferment in critical growing period) in a three-year rotation with a maximum of 100 head of cattle and 102 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of deferment and a reduction of 36 percent AUMs in a ten-year permit compared to Alternatives 1, 2 and 3 in the West Maher FFR allotment and would have the opportunity to move toward meeting vegetation standards and ORMP objectives for vegetation health and vigor. Vegetation resources not meeting ORMP vegetation management would have the opportunity to improve unsatisfactory vegetation health and vigor as compared to Alternatives 1, 2 and 3.

3.3.18.2.4.2 Soils

Alternative 4 would provide 2 out of 3 years of deferment or rest from spring grazing for all pastures that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from 2 out of 3 years of deferment or rest from critical growing season use and summer riparian grazing. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and would lessen concentrated summer use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing and adjustment in stocking rates would result in a reduction of livestock numbers and active AUMs that would benefit soils by limiting physical impacts from hoof action. As a whole, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting, and improving soil and hydrologic function over the life of the permit compared to Alternatives 1, 2, and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.18.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4and 2.4.18.4), the West Maher FFR allotment would be available to grazing during the spring and early summer for one year, during the fall for the second year, and rested the third year of a three year rotation (see Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.1 miles of perennial, and 1.0 mile of intermittent stream would be affected by the impacts associated with the spring, summer, and fall seasons of grazing alternating over the three years. Recent actual use reported (Appendix D) that the allotment has been primarily used during the spring, and occasionally during the winter, and Standards are not being met.

The West Maher FFR allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be managed under a defined three-year rotation that would incorporate two years of riparian area growing season deferment as well as one year of rest under this alternative. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated all years. Additionally, the changes in season of use would result in a 36 percent reduction in active AUMs over the 10 year permit. Therefore, the allotment would meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.18.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that implements a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a 3 year, 2 pasture grazing rotation would be implemented. Both pastures would be grazed 1 out of 3 years in the spring followed by deferment and rest. Maximum stocking levels would be decrease from 118 to 100 head and AUMs would be reduced 36 percent. The direct and indirect effects are the same as those discussed in Section 3.3.18.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is not providing adequate sage-grouse habitat conditions (Section 3.3.18.1.4). Under Alternative 2, sage-grouse habitat conditions would benefit by the 36 percent reduction in AUMs and the 100 percent absence of grazing 1 out of 3 years out of the critical growth period (May 1-June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30) and late brood-rearing period. Deferment/rest would modify the repeated spring grazing cycle and sufficiently allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.18.1.4). Under Alternative 4, riparian habitats would benefit by the 36 percent reduction in AUMs and the incorporation of deferment/rest 2 out of 3 years would be expected to show significant improvement. This strategy would significantly reduce grazing pressure on plants during the critical growth season (July 1–August 31). Combined deferment and rest would allow plants to grow through a minimum of two critical growing periods. This would result in improved plant vigor and health and improved habitat composition and structure and riparian function. Terrestrial, avian, aquatic wildlife would benefit because of the improved vegetation diversity and structure and the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function.

Overall, under Alternative 3, current sage-grouse habitat conditions would show improvement. Habitat conditions would substantially improve as plant vigor and health improves along with composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and late brood-rearing period. Terrestrial, avian, and aquatic wildlife would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic systems. Under this Alternative, current sage-grouse and riparian habitat conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.18.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. Deferred grazing and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.18.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.18.2.5 Alternative 5

3.3.18.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.18.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would make progress toward meeting Standard 1 (see Section 3.2.2.6). Additionally, the ORMP objective to maintain or improve watershed health and condition would be achievable. As a whole, Alternative 5 would make the most rapid progress toward improving soil and hydrologic function and allow for upward trend and improvement over the life of the permit compared to the previous alternatives.

3.3.18.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.18.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.18.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.18.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.3.19 Wroten Allotment

3.3.19.1 Wroten Allotment Affected Environment

3.3.19.1.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Wroten allotment. Although annual invasives are increasing on the site, which provide risk of future disturbance activities, all other indicators for productive native plants are maintained as appropriate to provide for proper nutrient cycling, hydrologic cycling, and energy flow on the allotment.

Qualitative rangeland health assessment data indicate that Standard 4 is met with moderate departure of annual invasive plants, as concluded on the RHA. This conclusion supports the finding that the allotment is meeting the standard.

Overall interpretations of trend data suggest that grass frequency are primarily static and biotic conditions are maintained with co-dominant shallow rooted bunchgrasses from historic livestock grazing; however, bluebunch wheatgrass remains static at 43 percent occurrence on the trend site and Idaho fescue is increasing significantly.

The ORMP management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also met. Static and short-term upward trend recorded in the vegetation communities lead to a conclusion that the vegetation management objective is being met.

3.3.19.1.2 Soils

Watershed indicators show some departure from expected conditions for the ecological sites, though none were excessive enough to determine that Standard 1 would not be met in the Wroten allotment. Erosion relics are present but are primarily related to past grazing management as gravel, vegetative cover, biological soil crusts, and plant litter stabilize the soil surface.

The ORMP management objective to improve unsatisfactory and maintain satisfactory watershed health/condition is also met, as indicators of bare ground, persistent cover, and canopy cover indicate a generally improving ground cover trend that has maintained. Biotic conditions reflect continued productivity and diversity of native plant species. Despite the continued presence of deep-rooted bunchgrasses, however, an increase in invasive annuals and shallow-rooted bunchgrasses is occurring so that the allotment is considered to be at risk.

An upward trend in ground cover, good representation of deep-rooted native bunchgrasses, and little departure from watershed reference conditions indicate that watershed function is maintained with proper nutrient and hydrologic cycling and energy flow. Although the allotment is at risk for invasive annuals, current livestock management remains compatible with attainment of Standard 1 and ORMP objectives for the Wroten allotment.

3.3.19.1.3 Riparian/Water Quality

A general, common to all allotments, description of the affected environment can be found above in section 3.1.3.

Existing Condition[62]
The Wroten allotment is not meeting Standards 2 and 3. Three main drainages occur within the single pasture allotment: Cattle Creek, a tributary to Cattle Creek, and Minear Creek. All three streams were rated functioning-at-risk (FAR) (Table RIPN-29). There was inadequate vegetation and woody material present to protect stream banks, the point bars were not revegetating, and the plants present had low vigor. Also, on the tributary to Cattle Creek, there was a headcut present that caused vertical instability, and the channel was incised. Subsequent to the assessments, two MMIM sites (Table RIPN-29) were established and the short-term metrics collected indicate that Standards are not being met. For the site established on the upper reach of Cattle Creek, the mean stubble height was 3.4 inches, there were not sufficient woody plants to measure, and the stream bank alteration was 38 percent. On Minear Creek, the mean stubble height was 4.4 inches, woody use was 20 percent, and the stream bank alteration was 44 percent.

Table RIPN-29: Wroten allotment riparian condition

	Allotment & Pasture Stream Miles & Condition		
Stream Name	**Wroten 01**	**Assessment Issues/Impacts Identified**	**Total Miles**
Cattle Creek	1.0 (FARU–2000/FARU–2003) 0.9 (FAR–2000)	2000: inadequate vegetation and woody material present to protect stream banks/point bars were not revegetating/plants had low vigor 2003: bank alteration/ bare ground/soughing banks/heavy browse/ headcut present/poor regeneration and recruitment/ incised channel	1.9
Cattle Creek Tributary	0.5 (FARS–2000)	lack of hydric species composition to protect stream banks/plants had low vigor/point bars were not revegetating	0.5
Minear Creek	1.1 (FARU–2000)	lack of hydric species composition to protect stream banks/plants had low vigor/point bars were not revegetating	1.1

MIM Metrics						
Stream Name	**Assess Year**	**Mean Stubble Height (inches)**	**Woody Use (%)**	**Stream bank Alteration (%)**	**Stable Bank (%)**	**Covered Bank (%)**
Cattle Creek	2011	3.4	NA	38	70	100
Minear Creek	2011	4.4	20.4	44	79	98

For IDEQ water quality information associated with the Wroten allotment, see table RIPN-1.

3.3.19.1.4 Wildlife and Special Status Animals

Upland Habitat
The Wroten allotment is managed as a native plant community and is determined to be meeting Standard 4 and providing for proper nutrient cycling, hydrologic cycling, and energy flow. Evaluation of Standard

[62] For additional details on the current condition of the allotment, see the *Rangeland Health Assessment, Evaluation Report and Determination, for the Wroten (0597) Allotment* document in the project record or available from the Owyhee Field Office

4 also noted a dominance of Sandberg bluegrass and an increase in annual invasive grass species, although bluebunch wheatgrass and Idaho fescue are near reference site conditions.

This information is inconsistent with vegetation data collected by sage-grouse assessments in 2012 that showed an absence of large perennial grasses. This discrepancy is due to the difference in data collection locations (e.g., shallow claypan sites vs.loamy sites), which reveals the variability of site conditions in the allotment. However, evaluation of Standard 4 notes a shift in the plant community composition and the increase of invasive annual grass species. These species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the understory plant composition, structure, and function for sagebrush steppe-dependent species. Because the plant community transition can be anticipated to deteriorate further overtime, this allotment therefore is failing to provide adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic grazing practices and the increase in annual invasive species.

Riparian Habitat

Evaluation of Standards 2, 3, and 7 identified streams and springs within this allotment that are not properly functioning or meeting water quality parameters due to historic and current grazing practices and therefore do not meet Standard 8. Streams, springs, and wetlands that are FAR or development in disrepair are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian conditions to support viable aquatic and terrestrial species populations and therefore is not meeting Standard 8 due to historic and current grazing practices.

Focal Species

Sage-grouse

The Wroten allotment lies within PPH sage-grouse (Table WDLF-21 and Map WDLF-1). No active leks are known to occur within this allotment. Leks are recorded within adjacent allotments. This allotment provides seasonal breeding, summer upland, riparian, and winter habitat for sage-grouse.

Both sage-grouse breeding and summer upland habitat conditions at two locations were found to be unsuitable. The habitat assessments recorded unsuitable habitat conditions on two out three assessment locations due to a substantial absence of large perennial grasses on the loamy sites. Because perennial grasses are absent in the understory and are critical for nesting and hiding structure, this allotment is therefore not meeting Standard 8 due to historic grazing practices.

This finding is inconsistent with the determination of Standard 4 that showed that this allotment was providing adequate nutrient cycling, hydrologic cycling, and energy flow. However, vegetation information recorded in sage-grouse assessments rated this allotment as not meeting Standard 8 due to the absence of large perennial grasses. This inconsistency is more than likely due to the variability in the data collection methods and/or locations that can influence the results of the information collected.

Table WDLF-21: Acres[1] and portions of preliminary priority and general priority habitat within the Wroten allotment

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment[2]	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Allotment Total	1,845 (100%)	0	0	0	1,845 (100%)

[1]PPH/PGH habitat acreage totals include public lands, state lands, and private property.
[2]PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

Columbia Redband Trout and Columbia Spotted Frog
Habitat for the Columbia redband trout and the Columbia spotted frog are not documented to occur within this allotment.

3.3.19.1.5 Social and Economic Values

See Section 3.1.9 above.

3.3.19.1.6 Cultural Resources

There are two previously recorded prehistoric sites, 10OE1417 and 10OE1418, within the Wroten allotment. The 37-year-old original site reports give scant information about the sites or the characteristics that qualify them as cultural resources locations. Their stated whereabouts are approximations. Neither given location is within 100 meters of an identified potential livestock congregation area and BLM staff made no monitoring visits. Of the four possible congregation areas identified in the allotment, none received surveys.

3.3.19.2 Wroten Allotment Environmental Consequences

3.3.19.2.1 Alternative 1

3.3.19.2.1.1 Vegetation, including Noxious Weeds

Rangeland health Standard 4 is being met in the Wroten allotment. Implementation of Alternative 1 would continue current conditions of the Wroten allotment. Warn allotment would continue to meet Standard 4 and ORMP objectives. This alternative would generate little to no change to existing vegetation communities.

Implementation of Alternative 1 would continue current livestock management, based on consequences of seasons and intensities of livestock grazing use (Reed et al. 1999). Section 3, Affected Environment, describes the effects of Alternative 1 by creating the existing vegetation condition from current management. Additional information for existing conditions is available in the Rangeland Health Assessment and Determinations Appendix E, for the Wroten allotment.

Repeated April through September grazing during the critical growing period with recent light to moderate utilization and AUMs ranging from 315 to 874 (see Appendix B), on the Wroten allotment has allowed the allotment to meet vegetation standards and maintain satisfactory ORMP objectives for vegetation health and conditions. The effects of current livestock grazing would continue to meet Standard 4 and maintain or improve ORMP objectives vegetation health and condition in the Wroten allotment.

3.3.19.2.1.2 Soils

The implementation of Alternative 1 would continue existing conditions of meeting Standard 1 and ORMP objectives (Section 3.1.2) and maintain ecological function and site potential because proper nutrient cycling, hydrologic cycling, and energy flow would be retained. The allotment is considered to be at risk due to invasive species, especially annual grasses, which have a tendency to alter soil infiltration and water holding capacity over time. Current conditions would continue to affect soil stability, productivity, and hydrologic function at various levels as described above in Section 3.3.19.1.2, in the Impacts Common to All Grazing Alternatives (Section 3.2.2.1), and in Environmental Consequences of Alternative 1 Common to All Allotments (Section 3.2.2.2).

3.3.19.2.1.3 Riparian/Water Quality

Under Alternative 1 (for details, see sections 2.2.1 and 2.4.19.1), the Wroten allotment would be available to grazing during the spring, summer, and fall every year, without deferment or rest (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.8 miles of perennial, and 2.7 miles of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix B) indicates that the allotment has been primarily used during the spring, summer, and fall. Therefore, the impacts associated with those seasons of use would likely continue to be most prevalent under Alternative 1.

The Wroten allotment is not meeting the standards associated with the riparian-wetland resources under current management. Therefore, since the allotment would be open to livestock grazing for the same seasons and under the same terms as the current situation, it would continue to not meet the riparian-wetland standards under this alternative. The management that led to the current condition is what defines this alternative and will form the baseline for comparison to the other alternatives.

3.3.19.2.1.4 Wildlife and Special Status Animals

The Wroten allotment is currently not meeting Standard 8 for riparian habitat and sage-grouse habitat (Section 3.3.19.1.5).

Overall, under Alternative 1 existing conditions discussed in Section 3.3.19.1.4 would continue and not progress toward meeting Standard 8 and provide desired habitat conditions (Section 3.1.5). The direct and indirect effects are the same as those discussed in Section 3.3.19.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.2 Environmental Consequences of Alternative 1 Common to All Allotments.

3.3.19.2.1.5 Social and Economic Values

See Section 3.2.9.2 above.

3.3.19.2.1.6 Cultural Resources

No known historic properties would be affected by this alternative.

3.3.19.2.2 Alternative 2

3.3.19.2.2.1 Vegetation, including Noxious Weeds

Rangeland health Standard 4 is being met in the Wroten allotment. Implementation of Alternative 2 would improve current conditions of the Wroten allotment. Wroten allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 2 would prescribe year-round for three years, and during the summer, fall, and winter the fourth year of a four-year grazing system with a maximum of 200 head of cattle and 400 AUMs (see Alternative 2 proposal for full details Section 2.4). Increased years of deferment as compared to repeated spring and summer grazing in Alternative 1 in the Wroten allotment would allow improvement in upland vegetation communities currently meeting vegetation Standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management the Wroten allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition as compared to Alternative 1, Current Situation.

3.3.19.2.2.2 Soils

Alternative 2 would provide yearly spring deferment and critical growing season use deferment for 1 out of 4 years. This would reduce physical impacts during the wettest period and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Although the allotment is already meeting Standard 1 and ORMP objectives, the rotation would be beneficial and make further progress toward maintaining and improving soil and hydrologic function with Alternative 2 compared to the current condition, though not as rapid as Alternatives 3, 4, and 5 (see Section 3.2.2.3).

3.3.19.2.2.3 Riparian/Water Quality

Under Alternative 2 (for details, see sections 2.2.2 and 2.4.19.2), the Wroten allotment would be available to grazing year-round for three years, and during the summer, fall, and winter the fourth year of a four year schedule (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.8 miles of perennial, and 2.7 mile of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) that the allotment has been primarily used during the spring, summer, and fall, and Standards are not being met.

The Wroten allotment is not meeting the standards associated with the riparian-wetland resources under current management. The allotment would be open to livestock grazing for a longer season three of four years, and the impacts from grazing during the summer per Table RIPN-7and section 3.2.3.1 would continue. Therefore, the allotment would continue to not meet the riparian-wetland standards under this alternative.

3.3.19.2.2.4 Wildlife and Special Status Animals

Under Alternative 2, the permittee is proposing is to implement a one pasture, 4-year grazing schedule. The allotment would be grazed 3 out for 4 years in the spring/summer/fall/winter followed by a deferment year of summer/fall/winter. No periodic rest is identified. Maximum stocking would be increased from 135 to 200 head and the AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.19.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.3 Environmental Consequences of Alternative 2 Common to All Allotments.

Currently this allotment is not providing adequate sage-grouse habitat conditions (Section 3.3.18.1.4). Under Alternative 2, this grazing proposal would continue to negatively impact sage-grouse habitat. The extended proposed grazing use would impose greater impact to the vegetation community than Alternative 1 and subsequently to sage-grouse habitat. Repeated spring use and 1out of 4 years of deferment outside the critical growing period (May 1–June 30) would not allow plants an adequate recovery period to restore vigor and health and habitat composition and structure would decline. Sage-grouse would not benefit because of the reduced availability of security and escape cover during the nesting/early brood-rearing period (April 1–June 30) and late brood-rearing period (July 1–August 31) and the increased vulnerability to predation from terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.19.1.4). Under Alternative 2, Under Alternative 2, 1 out of 4 years of grazing deferment would continue to negatively affect riparian composition and structure. Riparian function would decline due to repeated grazing use during the riparian critical growth period (July 15–Sept. 30) and the extended grazing duration from April through February. One year of deferment would not be sufficient for habitat to recover vigor and health subsequently reducing composition and structure and riparian function. The decline in riparian habitat function would decrease bank stability, increase erosion and sediment delivery, reduce woody debris and shade, and degrade water quality. Terrestrial, avian, aquatic wildlife would not benefit because of the decline in herbaceous and woody plant diversity and structure and the subsequent loss in stream shade, woody debris recruitment, pool development, and flow regulation, due to increased livestock activity and duration in the riparian and aquatic habitats.

Overall, under Alternative 2, increased grazing duration and repeated spring use would not benefit sage-grouse habitat values. Repeated spring grazing would negatively impact habitat composition and structure and reduce cover elements during the nesting/early brood-rearing period and late summer brood-rearing period. Riparian habitat conditions would decline because of repeated grazing in the critical growth period would reduce herbaceous and woody plant composition, structure, and riparian function. Increased bank erosion, increased sediment delivery, reduced stream shade, reduced woody debris, and reduced water quality would further impact aquatic species. Alternative 2 would not be an improvement over Alternative 1. Overall, this alternative would not progress this allotment toward meeting Standard 8.

3.3.19.2.2.5 Social and Economic Values

See Section 3.2.9.3 above. Changing seasons of use may result in additional labor or feeding costs.

3.3.19.2.2.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.19.2.3 Alternative 3

3.3.19.2.3.1 Vegetation, including Noxious Weeds

Rangeland health Standard 4 is being met in the Wroten allotment. Implementation of Alternative 3 would have the opportunity to improve current conditions of the Wroten allotment. Wroten allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 3 would prescribe April through September grazing two out of three years and October through January grazing in year three of a three-year grazing system with a maximum of 200 head of cattle and 400 AUMs (see Alternative 3 proposal for full details Section 2.4). Increased years of deferment as compared to repeated spring and summer grazing in Alternative 1 in the Wroten allotment would allow opportunity to improve vegetation communities currently meeting vegetation Standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management the Wroten allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition compared to Alternatives 1 and 2.

3.3.19.2.3.2 Soils

Alternative 3 would provide 2 out of 3 years of deferment from spring grazing and critical growing season use. This would reduce physical impacts during the wettest period and provide opportunity to increase soil stability due to the ability of native plant communities to remain healthy, vigorous, and productive during active growth. Additional deferment of summer riparian area use would also be beneficial in reducing livestock congregation to surrounding upland soils in 1 out of 3 years. Although

the allotment is already meeting Standard 1 and ORMP objectives, the rotation would be beneficial and provide progress toward maintaining, meeting, and improving soil and hydrologic function proposed with Alternative 3 that are expected to be better compared to Alternatives 1 and 2, though not as rapid as Alternatives 4 and 5 (see Section 3.2.2.4).

3.3.19.2.3.3 Riparian/Water Quality

Under Alternative 3 (for details, see sections 2.2.3 and 2.4.19.3), the Wroten allotment would be available to grazing during the spring and summer for two years, and during the fall, and winter the third year of a three year schedule (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.8 miles of perennial, and 2.7 miles of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) indicates that the allotment has been primarily used during the spring, summer, and fall, and Standards are not being met.

The Wroten allotment is not meeting the standards associated with the riparian-wetland resources under current management. Under Alternative 3, the allotment would be managed under a defined three year schedule that incorporates one year of growing season deferment. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated one year. Other mandatory terms and conditions of the permit under this alternative would include measures that would reduce impacts (stubble height, woody browse, and bank alteration associated with the riparian areas condition. Monitoring would be required the years that the riparian areas are utilized during the constraint period, and would add assurances that standards would make progress. Therefore, the allotment would make progress toward meeting the riparian-wetland standards under this alternative.

3.3.19.2.3.4 Wildlife and Special Status Animals

The concept of Alternative 3 is to propose a deferred grazing management strategy that installs a grazing system that would create a minimum of 1 out of 3 years of deferment from grazing use during the critical growing season and identified resource constraints (Section 2.2.3). Under Alternative 3, a three year, one pasture grazing rotation would be implemented. This allotment would be grazed 2 out of 3 years in the spring followed by a deferment year. Maximum stocking and AUMs would remain the same. The direct and indirect effects are the same as those discussed in Section 3.3.19.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.4 Environmental Consequences of Alternative 3 Common to All Allotments.

Currently this allotment is not providing adequate sage-grouse habitat conditions (Section 3.3.18.1.4). Under Alternative 3, sage-grouse habitat conditions would benefit by this grazing schedule and the incorporation of grazing deferment 1 out of 3 years out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30). Deferment would modify the repeated spring grazing cycle and allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.18.1.4). Incorporation of deferment would reduce grazing during the critical growth period (July 15–Sept. 30). This would improve the regeneration and establishment of herbaceous and woody plants in the riparian zone that function to dissipate energy of high flows, trap sediments, harden streambanks, provide shade to streams, deliver woody debris, and improve water quality (3.1.3 and 3.1.5). This grazing schedule would result in improved plant vigor and health and improved habitat composition and structure and riparian function. Terrestrial, avian, aquatic wildlife would benefit because of the improved habitat diversity and

structure and the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function.

Overall, under Alternative 3, current sage-grouse habitat conditions would show improvement. Habitat conditions would continue to improve as plant vigor and health improves along with composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period. Terrestrial, avian, and aquatic wildlife would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic systems. Under this Alternative, current upland and riparian conditions would improve and make progress toward meeting Standard 8 and ORMP objectives.

3.3.19.2.3.5 Social and Economic Values

See Section 3.2.9.4 above. A shorter grazing season and deferred grazing every 1 in 3 years may require additional labor or feeding costs.

3.3.19.2.3.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.19.2.4 Alternative 4

3.3.19.2.4.1 Vegetation, including Noxious Weeds

Rangeland Health Standard 4 is being met in the Wroten allotment. Implementation of Alternative 4 would have the opportunity to improve current conditions of the Wroten allotment. Wroten allotment would continue to meet Standard 4 and ORMP objectives.

Alternative 4 would prescribe April through September grazing one out of three years and October through January grazing one in three years and rest one in three years of a three-year grazing system with a maximum of 131 head of cattle and 398 AUMs (see Alternative 4 proposal for full details Section 2.4). Increased years of rest or deferment and reduction of 30 percent AUMs in a then-year permit compared to Alternatives 1, 2 and 3 in the Wroten allotment would allow opportunity to improve vegetation communities currently meeting vegetation standards and ORMP objectives for vegetation health. Vegetation resources meeting ORMP vegetation management the Wroten allotment would have the opportunity to improve vegetation or maintain satisfactory vegetation health and condition compared to Alternatives 1, 2 and 3.

3.3.19.2.4.2 Soils

Alternative 4 would provide 2 out of 3 years of deferment and rest from spring grazing that would reduce physical impacts to soils during the wettest and most susceptible period. Additional benefits are provided from 2 out of 3 years of deferment and rest from critical growing season use and summer riparian grazing. This offers native plant communities an opportunity to improve and respond with increased soil cover, decreased bare ground, reduced susceptibility to accelerated erosion, and lessen concentrated summer use on upland soils that surround riparian areas. Subsequently, the reduced spring and critical-growth-period grazing would result in a reduction of livestock numbers and a slight decrease in active AUMs that would benefit soils by limiting physical impacts from hoof action. Although the allotment is meeting Standard 1 and ORMP objectives, Alternative 4 would allow the greatest opportunity for making progress toward maintaining, meeting and improving soil and hydrologic function over the life of the permit compared to the current situation and Alternatives 2 and 3, though not as rapid as Alternative 5 (see Section 3.2.2.5).

3.3.19.2.4.3 Riparian/Water Quality

Under Alternative 4 (for details, see sections 2.2.4 and 2.4.19.4), the Wroten allotment would be available to grazing during the spring and summer for one year, during the fall and winter the second year, and rested third year of a three year schedule (sees Table RIPN-7 and Section 3.2.3.1 for specific impacts). Consequently, within the allotment, 3.8 miles of perennial, and 2.7 miles of intermittent stream would be affected by the impacts associated with those seasons of grazing. Recent actual use reported (Appendix D) that the allotment has been primarily used during the spring, summer, and fall, and Standards are not being met.

The Wroten allotment is not meeting the Standards associated with the riparian-wetland resources under current management. Under Alternative 3, the allotment would be managed on a defined three-year schedule that incorporates one year of growing season deferment as well as one year of rest. Thus, the impacts associated with grazing during the summer per Table RIPN-7 and section 3.2.3.1 would be eliminated those two years. Therefore, the allotment would meet the riparian-wetland standards and attain the ORMP objectives under this alternative.

3.3.19.2.4.4 Wildlife and Special Status Animals

The concept of Alternative 4 is to propose a deferred/rest grazing management strategy that installs a grazing system that would create a minimum of 2 out of 3 years deferment/rest from grazing use during the critical growing season and identified resource constraints (Section 2.2.4). Under Alternative 4, a 3 year, one pasture grazing rotation would occur. The allotment would be grazed 1 out of 3 years in the spring followed by deferment and rest. Maximum stocking would decline from 135 to 131 head with a 30 percent reduction in AUMs. The direct and indirect effects are the same as those discussed in Section 3.3.19.1.4, Section 3.2.5.1 Impacts Common to All Grazing Alternatives, and Section 3.2.5.5 Environmental Consequences of Alternative 4 Common to All Allotments.

Currently this allotment is not providing adequate sage-grouse habitat conditions (Section 3.3.18.1.4). Under Alternative 2, sage-grouse habitat conditions would benefit by the 30 percent reduction in AUMs and the incorporation of grazing deferment/rest 2out of 3 years out of the critical growth period (May 1–June 30) and sage-grouse nesting/early brood-rearing period (April l–June 30) and late brood-rearing period. Deferment/rest would modify the repeated spring grazing cycle and sufficiently allow plants the opportunity to grow during the critical growth season. This would improve plant vigor and health and improve habitat composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and the decreased vulnerability of detection and predation by terrestrial and avian predators.

Currently this allotment is not providing adequate riparian habitat conditions (Section 3.3.18.1.4). Under Alternative 4, riparian habitats would benefit by the 30 percent reduction in AUMs and the incorporation of deferment/rest 2 out of 3 years would be expected to show significant improvement. This strategy would significantly reduce grazing pressure on plants during the critical growth season (July 1–August 31). Combined deferment and rest would allow plants to grow through a minimum of two critical growing periods. This would result in improved plant vigor and health and improved habitat composition and structure and riparian function. Terrestrial, avian, aquatic wildlife would benefit because of the improved vegetation diversity and structure and the increased stream shade, woody debris, pool development, flow regulation, and less sediment delivery due to reduced livestock activity and improved riparian function.

Overall, under Alternative 4, current sage-grouse habitat conditions would show improvement. Habitat conditions would substantially improve as plant vigor and health improves along with composition and structure. Sage-grouse would benefit by the increased security and escape cover available during the nesting/early brood-rearing period and late brood-rearing period. Terrestrial, avian, and aquatic wildlife

would benefit because of improved regeneration and establishment of herbaceous and woody plants and improved riparian function. The reduced access of livestock to streams, wetlands, and springs would reduce trampling in aquatic systems. Under this Alternative, current sage-grouse and riparian habitat conditions would improve and make significant progress toward meeting Standard 8 and ORMP objectives.

3.3.19.2.4.5 Social and Economic Values

See Section 3.2.9.5 above. A shorter grazing season, deferred grazing, and resting the allotment every 1 in 3 years may require additional labor or feeding costs.

3.3.19.2.4.6 Cultural Resources

The effects to historic properties would be the same as Alternative 1.

3.3.19.2.5 Alternative 5

3.3.19.2.5.1 Vegetation, including Noxious Weeds

See the impacts described for all allotments under Alternative 5 in section 3.2.1.6 Environmental Consequences.

3.3.19.2.5.2 Soils

The implementation of this alternative would have the greatest benefit for upland soil resources because soils would continue to meet Standard 1 and ORMP objectives to maintain or improve watershed health and condition (see Section 3.2.2.6). Although the allotment is already meeting Standard 1 and ORMP objectives, Alternative 5 would make the fastest progress toward maintaining and improving soil and hydrologic function over the life of the permit compared to the previous alternatives.

3.3.19.2.5.3 Riparian/Water Quality

See the impacts described for all allotments under Alternative 5 in section 3.2.3.6.

3.3.19.2.5.4 Wildlife and Special Status Animals

See the impacts described for all allotments under Alternative 5 in section 3.2.5.6.

3.3.19.2.5.5 Social and Economic Values

See Section 3.2.9.6 above.

3.3.19.2.5.6 Cultural Resources

With the absence of livestock grazing, no cultural resources or unrecorded historic properties would be affected.

3.4 Cumulative Effects

3.4.1 Past, Present, and Reasonably Foreseeable Actions/Activities Common to All Allotments

Cumulative effects are presented in this section to capture projects or actions common to all resources (Tables CMLV 1, 2 & 3). Any additional projects or actions not described in this section will be described in the Cumulative Effects sections by resource below.

Livestock Grazing Management

Several allotments within and adjacent to the CIAA for any given resource have recently had permits issued or are under review for renewal according to the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, as listed in Table CMLV-3 below. The decisions associated with livestock grazing permits are assumed to meet or move allotments toward meeting the Standards required by the aforementioned regulations.

Climate Change

Changes in greenhouse gas levels affect global climate. Ring et al. (2012) reviewed scientific information on greenhouse gas emissions and climate change, including the four Assessment Reports of the Intergovernmental Panel on Climate Change between 1990 and 2007, and recognized a growing consensus within the scientific community that most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations. The additional analysis by Ring et al. (2012) included data through 2010 and supports the earlier conclusions by others.

A number of researchers, including Lapage et al. (2012), have recognized the potential impact to agricultural production that climate change scenarios, including altered temperature and precipitation regimes at the regional level, may induce. These researchers also recognize the inherent variability within the scenarios and appropriate application of global and regional climate models. Neilson et al. (2005), in summarizing output from seven models and possible scenarios of regional climate change in the Great Basin, identified long-term trends toward greater precipitation and warmer temperatures, although they noted inter-annual and inter-decadal variability that could account for short-term records that may differ. A similar summary of the available studies and models is presented by Chambers and Pellant (2008).

Possible consequences to vegetation communities resulting from climate change in the Great Basin include a dramatic increase and expansion of woody frost-sensitive species at the expense of shrubland and a corresponding increase in fire. Bradley (2009) modeled the consequences that altered summer precipitation and winter temperature could have on the potential risk of cheatgrass expansion or contraction, noting that climatic change will affect the potential geographic distribution of cheatgrass and will likely affect other plant invaders as well. Ash et al. (2012) identified that adaptation options will be required in different rangeland regions in response to climate change to enhance the development of sustainable livelihoods with both social and ecological resilience. Technical input to the 2013 National Climate Assessment identified the process of adjustment to actual and expected climate and its effects in order to moderate harm or exploit beneficial opportunities on biodiversity, ecosystems, and ecosystem services (Staudinger et al. 2012). Beschta et al. (2012) recommended strategies for western public lands to reduce anthropogenic stressors of terrestrial and aquatic ecosystems that may add to stressors from climate change, primarily reduction or elimination of ungulate use to help native species and ecosystems survive in an altered environment.

With consideration for anticipated stressors induced by climate change, appropriate livestock management practices that improve and maintain healthy and functioning vegetation communities that provide for proper nutrient cycling, hydrologic cycling, and energy flow remains the primary adaptation against changing precipitation and temperature regimes.

3.4.1.1 Actions/Activities Common to Cumulative Effects Analysis Area 1

The CIAA 1 was developed to capture projects or actions common to all resources that identify the allotments as the spatial scale necessary to incorporate all additive effects (Tables CMLV-1 and Maps CMLV-1 and -2). Those resources that utilize the allotments as their spatial scale are identified and

described below by resource. The figures in the following table of past, present, and reasonably foreseeable future actions within the analysis area relevant to cumulative impacts were calculated using BLM GIS data. The data used represent the best available information and the calculations based on the data are approximate.

Table CMLV- 1: Past, present, and foreseeable activities by allotment for the Group 5 allotments

Allotment Name	Past & Present Actions*	Wildfire (acres)	Noxious Weed Infestation Points	Agriculture (acres)	Roads (miles)	Livestock Trailing (miles)	Range Improvements		Powerline (miles)
							# of Reservoirs and Troughs	Exclosures (acres)	
Bachelor Flat FFR	P & P	604	4	169	10	0	3	0	0
Berrett FFR	P & P	144	0	175	16	4	0	0	1
Big Field FFR	P & P	8	16	0	7	0	0	0	0
Bogus Creek FFR	P & P	0	0	0	10	0	0	0	0
Boulder	P & P	0	0	0	7	4	1	0	0
Boulder Flat	P & P	0	17	3	3	4	2	0	0
Combination Creek	P & P	85	0	0	6	0	2	0	0
Feltwell	P & P	83	0	0	2	0	3	0	1
Glass Creek	P & P	1	4	7	11	7	0	0	8
Gluch	P & P	0	0	3	0	0	0	0	0
Gluch FFR	P & P	1	4	608	3	0	4	0	1
Jim's Peak FFR	P & P	62	0	0	7	0	2	0	0
Morgan	P & P	928	17	21	17	5	5	0	1
Rail Creek	P & P	344	0	0	8	1	2	0	1
South Mtn Indv	P & P	0	1	0	16	3	11	0	0
W. Maher FFR	P & P	472	0	1	1	0	0	0	0
Walt's Pond FFR	P & P	346	2	552	9	1	7	0	4
Warn	P & P	0	0	0	2	0	1	0	0
Wroten	P & P	1,073	0	0	0	0	0	0	0
Total		4,152	65	1540	132	29	43	0	17

*all of the reasonably foreseeable actions are unknown or not planned unless otherwise indicated

3.4.1.2 Actions/Activities Common to Cumulative Effects Analysis Area 2

The CIAA 2 was developed to capture projects or actions common to all resources that identify the watersheds as the spatial scale necessary to incorporate all additive effects (Tables CMLV-2 and Maps CMLV-1 and -2). Those resources that utilize the watersheds as their spatial scale are identified and described below by resource. The figures in the following table of past, present, and reasonably foreseeable future actions within the analysis area relevant to cumulative impacts were calculated using BLM GIS data. The data used represent the best available information and the calculations based on the data are approximate.

Table CMLV- 2: Past, present, and foreseeable activities by watershed CIAA for the Group 5 allotments

Type of Activity	Past & Present Actions*	Watersheds						
		Big Boulder Creek	Headwaters Deep Creek	Headwaters Jordan Creek	Jordan Creek – Sheep Spring Creek	Rock Creek	Soldier Creek	Trout Creek-Jordan Creek
Grazing Allotments	P & P[63]	29	16	14	19	23	14	38
Wildfire (instances)	P & P	11	5	11	37	7	21	19
Wildfire (acres)	P & P	10,993	1,624	2,301	32,633	5,316	3,614	12,052
Noxious Weed Infestation Points	P & P	248	47	74	139	303	7	72
Agriculture (acres)	P & P	638	31	810	5,491	1,360	723	5,190
Roads (miles)	P & P	217	112	253	372	232	255	202
Livestock Trailing (miles)	P & P	26	0	6	8	25	0	46
Range Improvements – Reservoirs and Troughs	P & P	23	39	8	112	66	94	34
Range Improvements - Exclosures (acres)	P & P	5	79	0	2,205	85	113	47
Fences (miles)	P & P	169	155	100	217	223	184	208
Mining Claims and Gravel Pits (acres)	P & P	0	0	8,399	0	219	111	10
Powerline (miles)	P & P	1	0	4	33	0	25	47

*all of the reasonably foreseeable actions are unknown or not planned unless otherwise indicated

3.4.2 Resource/ Alternative Specific Cumulative Effects

3.4.2.1.1 Vegetation, including Noxious Weeds

3.4.2.1.1.1 Resource Specific Analysis Area

Cumulative Impacts Analysis Area

The vegetation resource cumulative impacts analysis area (CIAA) was set to the Morgan Group allotment boundaries (Map CMLV-1), which covers 58,033 total acres; effects will not occur to vegetation beyond the allotments. Past, present, and reasonably foreseeable future actions outside the Morgan Group allotment boundaries will have little direct or indirect impact on vegetation resources in the allotment (see tables CMLV-1, CMVL-2 in Section 3.4 for a list of all actions). Plants, rooted in the soil, are not transient over long distances, with the exception of wind-distributed seeds. Indirect effects of actions affecting vegetation are spatially confined to a short distance from the action. The timeframe considers activities from past actions, which have influenced current conditions, activities planned within the next 3 years, and the expected life of the permits (10 years).

3.4.2.1.1.2 Common to All Grazing Alternatives

Past, Ongoing, and Reasonably Foreseeable Activities

Past, present, and reasonably foreseeable future activities within the CIAA relevant to cumulative effects were determined using approximated BLM GIS data and are displayed in Section 3.4. Several of the same past activities that have created the current condition on upland vegetation, including noxious weeds, would continue in the cumulative impacts analysis area. Vegetation and soils effects are interrelated, so for more associated effects of vegetation, see Section 3.4 Soils of this EIS. Table VEG-7 displays the likely magnitude and type of effects of past and ongoing activities on upland vegetation, including noxious weeds, in the cumulative impacts analysis area.

Table VEG-7: Past and Ongoing Activities and potential effects on upland vegetation including noxious weeds in the CIAA

Activity	**Magnitude of Effect on Vegetation**	**Type of Effect**
Livestock Grazing	Moderate, widespread	Direct Effect: herbivory and trampling plants; potentially reducing vigor and reproduction of individuals Indirect Effect: change in vegetation composition, non-native weed invasion, altered fire regime
Infrastructure (fences, reservoirs, troughs, structures, etc.)	Potentially high in a small percentage of vegetation CIAA acres	Localized elimination of individual plants and perhaps small occurrences; permanent degradation of vegetation
Roads	Potentially high in a small percentage of vegetation CIAA acres	Localized elimination of vegetation; permanent degradation of habitat
OHV	Moderate to high, localized to a small percentage of vegetation CIAA acres	Localized seedbank loss, elimination of individual plants.
Trailing	Likely minor to low in a small percentage of vegetation CIAA acres	Localized physical impact and elimination of individual plants
Noxious Weed Treatment	Likely low if at all in a small percentage of vegetation CIAA acres	Overspray potentially reducing vigor and reproduction of individuals and mortality of individuals
Wildfire & Fire Suppression	Low to moderate, widespread	Low elevation: Long-term (more than 10 years) shift to reduced species diversity, non-native weed invasion, and altered fire regime. High Elevation: Long-term (more than 10 years) shift from grass/forb/shrub community to localized late seral shrub dominated areas with reduced species diversity
Prescribed Burning	Likely moderate in a small percentage of vegetation CIAA acres	Short-term (less than 10 years) minor negative impact to habitat and change in competition; long-term (more than 10 years) shift from late seral shrub

Activity	Magnitude of Effect on Vegetation	Type of Effect
		dominated community to grass/forb/shrub community
Agriculture	Low in a small percentage of vegetation CIAA acres	Localized physical impact and elimination of individual plants; native vegetation has been entirely replaced by cultivated species.
Mining Claims	Potentially high in a small percentage of vegetation CIAA acres	Localized physical impact and elimination of individual plants and perhaps small occurrences; permanent degradation of vegetation
Powerlines	Moderatelyhigh in local areas; low across entire area	Localized physical vegetative impacts; can include a service road; permanent degradation of vegetation.

Cumulative Effects Common to all Grazing Alternatives

Vegetation in the CIAA has been affected by historic livestock grazing because livestock selectively eat larger bunchgrasses, altering the species composition and amount of fine fuels, which changes the fire regime. Until recently, most of that grazing has been repeated spring use. Rest and deferred use of pastures have increased in more recent management. Native ungulates (deer and elk) are common in the CIAA. Localized disturbances from wildfires, prescribed fires, and seedings have altered vegetation in recent years. Cumulative effects to vegetation have occurred, with multiple factors influencing the change in vegetation structure and composition. These factors include historic and current grazing, drought, fire, insects, climate and soil disturbance. Non-native invasive plants have been introduced and spread. Synergistic interactions of these changes over time have stressed the ecosystem (Nevada Agricultural Experiment Station 2008). An example of these interactions is the combination of increased non-natives, weeds, and selective grazing that affect late seral species. All of the projects, actions and activities that have occurred in the area to date have shaped or have had the potential to cumulatively shape or influence vegetation as it presently existand is reflected in the descriptions of the affected environment conditions presented in Section 3. Table VEG-6 above describes the BLM acres meeting or not meeting vegetative community Standards as compared to total CIAA acres.

Changes in species composition, with shifts toward early seral bunchgrass species and the presence of non-native plants and annual invaders, are evident across the 19 Morgan Group allotments, although some areas are dominated by non-natives. As a result, late seral bunchgrasses like bluebunch wheatgrass, which are expected to be co-dominant with sagebrush in most ecological sites, have been reduced (although not eliminated) across the landscape.

The reasonably foreseeable fence maintenance and noxious weed treatment would have small, short-term effects by removing vegetation within a limited area; within the cumulative effects area as a whole, this impact would be negligible.

Roads, trails, structures, and other recreation facilities and activities have extensively fragmented native vegetation in the landscape by creating bare ground and weedy openings within the sagebrush steppe plant communities. Vehicles and travel-ways act as noxious and invasive weed vectors for the spread of weed seed. Ongoing noxious weed treatment (usually spot herbicide application) helps to keep these invaders from spreading into native plant communities, but several noxious weeds (particularly whitetop and Russian knapweed) are quite widespread and well-established in lower elevations within the analysis area.

Agricultural lands make up at least 3% of the cumulative effects analysis area, and include riparian floodplains converted to grass hay meadows and upland grain, alfalfa, or other crop irrigated fields in the uplands. Within these agricultural areas, native vegetation has been entirely replaced by cultivated species.

Trailing

Cumulative effects on upland vegetation by implementing trailing would authorize 219 AUMs of the 2,303 AUMs annually authorized for trailing. This short-duration trailing could potentially affect approximately 29 miles in short-term trailing events. The permitted AUMs for the cumulative effects area will have short-term direct effects of removal and trampling of vegetation. The routes and miles directly affected by trailing would make up less than 1 percent of the cumulative effect analysis area, and not all of these acres would actually be affected. These additional AUMs would consume very little forage when livestock are actively trailed, resulting in much less than the 340 AUMs authorized. Reasonably foreseeable projects are expected to have short-term disturbance to the cumulative effects analysis area. Trailing effects are limited in both time (short duration per year) and space, and so the cumulative effects of trailing on upland vegetation, when combined with the short-term disturbance but

anticipated from foreseeable activities described in Section 3.2 above, is expected to be only slight. All other direct indirect and cumulative effects are the same as described in the 2012 Trailing EA (USDI BLM 2012b) and Chipmunk Group 2 EIS # DOI-BLM-ID-B030-2012-0014-EIS. When these consequences are combined with the past, present, and reasonably foreseeable future actions that have impacted vegetation resources within the CIAA, vegetation conditions and health within the Morgan Group allotments would meet or move toward meeting ORMP vegetation management objectives and the Idaho Standards for Rangeland Health. Progress would be made toward maintaining or improving vegetation condition below the threshold[64] of unacceptable change.

Noxious Weeds

The Big Boulder Creek and Rock Creek watersheds have relatively high occurrence and diversity of noxious weeds. The remaining watersheds have relatively low diversity and low occurrence of noxious weeds. Table VEG-8 below shows the noxious weed occurrences by watershed. Noxious weeds are expected to continue to be frequent throughout the area, but not increasing.

Table VEG-8: Noxious weeds and other weedy species occurrences by watershed

Watershed Name	Broadleaf Pepperweed	Bull Thistle	Canada Thistle	Diffuse Knapweed	Dolls Eyes	Hoary Cress	Houndstongue	Jointed Goatgrass	Leafy Spurge	Puncturevine	Russian Knapweed	Scotch Thistle	Spotted Knapweed	Whitetop	Yellow Star Thistle	Grand Total
Big Boulder Creek				2					245			1				248
Headwaters Deep Creek												4		43		47
Headwaters Jordan Creek			2						1			8	8	55		74
Jordan Creek-Sheep Spring Creek	4			6	2			1		2	9	53	19	42	1	139
Rock Creek			6						210			4	1	82		303
Soldier Creek						1					4	1		1		7
Trout Creek-Jordan Creek		1	4	1			1		1		3	52		9		72
Grand Total	**4**	**1**	**12**	**9**	**2**	**1**	**1**	**1**	**457**	**2**	**16**	**123**	**28**	**232**	**1**	**890**

3.4.2.1.1.3 Alternative 1

The primary past, present and future activities that may cumulatively impact the vegetation communities are listed in Section 3.4 above. Native plant communities would continue to meet Standards on 20,797 of 57,055 CIAA acres (36 percent). Seeding communities would continue to meet the Standard on 834 of 834 CIAA acres (100 percent). Exotic plant communities would continue to meet the Standard on 0 of 144 CIAA acres (0 percent) (see Table VEG-6 in Section 3.1 above). These acres take into account all acres, including state and private lands associated with the Morgan Group allotments. The conclusions

[64] Cumulative effects concept of exceeding a "threshold" or "limit" is a key aspect of defining the significance of cumulative effects. The proposal may incremental push effects over a threshold of acceptable change that would cause the vegetative communities to move into not meeting a standard or moving a vegetative community into a new community phase that is away from potential natural community.

regarding whether BLM acres were meeting Rangeland Health Standards was extended to all acres in the pasture, including associated state and private lands, because all lands in the pasture are managed the same way.

Upland vegetation in the CIAA acres would remain as described under the existing condition and the table above. Vegetative communities currently meeting or moving toward desired conditions would continue to do so because no changes would occur under this alternative. The repeated spring and summer grazing during the critical growing period will not allow ample deferment or rest to upland vegetation currently not meeting vegetation standards, which could potentially continue a shift in early seral bunchgrasses and invasive annuals. When these consequences are combined with the past, present and reasonably foreseeable future actions that have impacted vegetation resources within the CIAA, vegetation resources not meeting ORMP vegetation management objectives would not have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas. The threshold for unacceptable change in the vegetation condition would be exceeded.

3.4.2.1.1.4 Alternative 2

The primary past, present and future activities that may cumulatively impact the vegetation communities are listed in Section 3.4 above. Native plant communities would continue to meet Standards on 20,797 of 57,055 CIAA acres (36 percent); acres not currently meeting would maintain or slowly improve in 10 years. Seeding communities would continue to meet the Standard on 834 of 834 CIAA acres (100 percent). Exotic plant communities would continue to meet the Standard on 0 of 144 CIAA acres (0 percent) (see Table VEG-6 in Section 3.1 above). These acres take into account all acres, including state and private lands associated with the Morgan Group allotments. The conclusion regarding whether BLM acres were meeting Rangeland Health Standards was extended to all acres in the pasture, including associated state and private lands, because all lands in the pasture are managed the same way.

Upland vegetation in the CIAA acres would remain the same as described under the existing condition and the table above, however those acres currently not meeting would have the opportunity to move toward meeting Standards and ORMP objects on 12 of the 19 allotments; these acres are expected to remain the same or have the opportunity to move toward meeting Standard 4 and ORMP objectives over the permitted period of 10 years. The increased years of rest or deferment, during the critical growing period will allow opportunity for vegetation currently not meeting vegetation standards to improve health and vigor at a faster rate than alternative 1, but not compared to Alternatives 3, 4 and 5. Slow recovery of vegetation will occur and shift toward a reference vegetation community as compared to Alternative 1. When these consequences are combined with the past, present and reasonably foreseeable future actions that have impacted vegetation resources within the CIAA, vegetation resources not meeting ORMP vegetation management objectives would have the opportunity to improve unsatisfactory vegetation or maintain satisfactory vegetation health and condition on all areas. The threshold for unacceptable change in the vegetation condition would not be exceeded.

3.4.2.1.1.5 Alternative 3

The primary past, present and future activities that may cumulatively impact the vegetation communities are listed in Section 3.2 above. Native plant communities would continue to meet Standards on 20,797 of 57,055 CIAA acres (36 percent); acres not currently meeting would maintain or slowly improve in 10 years. Seeding communities would continue to meet the Standard on 834 of 834 CIAA acres (100 percent). Exotic plant communities would continue to meet the Standard on 0 of 144 CIAA acres (0 percent; see Table VEG-6 in Section 3.1 above). Proper livestock grazing, including deferment and rest, has been prescribed under this alternative; therefore, acres not meeting would continue to not meet because of other causal factors (see Table VEG-6 in Section 3.2 above). These acres take into account all

acres, including state and private lands associated with the Morgan Group allotments. These acres take into account all acres including state and private lands associated with the Morgan Group allotments. The conclusion regarding whether BLM acres were meeting Rangeland Health Standards was extended to all acres in the pasture, including associated state and private lands, because all lands in the pasture are managed the same way.

Upland vegetation in the CIAA acres would continue to meet or move toward meeting vegetative Rangeland Health Standards. Alternative 3, with the implementation of seasonal constraints on periods of grazing use to meet resource objectives and with its reduction in livestock grazing use, would result in improved native perennial plant health and vigor. The allotments will have the opportunity make progress toward a full complement of native perennial species consistent with the reference site described in ecological site descriptions and will make progress toward meeting rangeland vegetative Standards within the 10-year term of the permit. The deferment and rest from grazing during the critical growing period will allow recovery to upland vegetation currently not meeting vegetation Standards. Slow recovery of vegetation will occur and shift toward a reference vegetation community as compared to Alternative 1. When these consequences are combined with the past, present, and reasonably foreseeable future actions that have impacted vegetation resources within the CIAA, vegetation conditions and health within the Morgan Group allotments would meet or move toward meeting ORMP vegetation management objectives and the Idaho Standards for Rangeland Health. Progress would be made toward improving vegetation condition below the threshold of unacceptable change.

3.4.2.1.1.6 Alternative 4

The primary past, present and future activities that may cumulatively impact the vegetation communities are listed in Section 3.1.2 above. Native plant communities would continue to meet Standards on 20,797 of 57,055 CIAA acres (36 percent); acres not currently meeting would maintain or slowly improve in 10 years. Seeding communities would continue to meet the Standard on 834 of 834 CIAA acres (100 percent). Exotic plant communities would continue to meet the Standard on 0 of 144 CIAA acres (0 percent; see Table VEG-6 in Section 3.1 above). Proper livestock grazing has been prescribed under this alternative, deferment and rest; therefore acres not meeting would continue to not meet because of other causal factors. However, acres currently not meeting vegetative standards would improve rangeland health faster than in Alternatives 1, 2 and 3. See Table VEG-6: Acres by Allotment and Pasture meeting or not meeting standards 4, 5 and 6 in section 3.3.2 above. These acres take into account all acres including state and private lands associated with the Morgan Group allotments. The conclusion regarding whether or not BLM acres were meeting a Rangeland Health Standard was extended to all acres in the pasture, including associated state and private lands, because all lands in the pasture are managed the same way.

Upland vegetation in the CIAA acres would continue to meet or move toward vegetative Rangeland Health Standards. Alternative 4 implements seasonal constraints on periods of grazing use (Rest) and stocking rate adjustments to meet resource objectives; effects would result in improved native perennial plant health and vigor. The allotments will have the opportunity make progress toward a full complement of native perennial species consistent with the reference site described in ecological site descriptions and will make progress toward meeting rangeland vegetative Standards within the 10-year term of the permit. The deferment and rest from grazing, during the critical growing period will allow ample recovery to upland vegetation currently not meeting vegetation Standards. Gradual recovery of vegetation will occur and shift toward a reference vegetation community, but at a faster rate than Alternatives 2 and 3. When these consequences are combined with the past, present, and reasonably foreseeable future actions that have impacted vegetation resources within the CIAA, vegetation conditions and health within the Morgan Group allotments would meet or move toward meeting ORMP vegetation management objectives and the Idaho Standards for Rangeland Health. Progress would be made toward improving vegetation condition below the threshold of unacceptable change.

3.4.2.1.1.7 Alternative 5

Native plant communities would continue to meet Standards on 20,797 of 57,055 CIAA acres (36 percent). Acres not meeting Standards would move toward meeting Standards without the effects of livestock to BLM acres. Seeding communities would continue to meet the Standard on 834 of 834 CIAA acres (100 percent). The rangeland would continue a transition back to a native plant community with the absence of livestock. These acres take into account all acres, including state and private lands associated with the Morgan Group allotments. The conclusion regarding whether BLM acres were meeting Rangeland Health Standards was extended to all acres in the pasture, including associated state and private lands, because all lands in the pasture are managed the same way.

Exotic plant communities would continue to not meet the Standard on 0 of 144 CIAA acres (0 percent); however, all acres in exotic plant communities may remain in exotic plant communities without mechanical manipulation, and livestock grazing would not influence this process (see Table VEG-6 in Section 3.2 above). Restoring areas dominated by exotic annuals to shrubs and deep-rooted perennial grasses would not occur through a simple modification or even cessation of livestock grazing. Rather, such restoration would require targeted vegetation treatments such as seeding and herbicide applications. These acres take into account all acres, including state and private lands associated with the Morgan Group allotments.

Progress toward a full complement of native perennial species more consistent with ecological site potential would result from 10 years of rest from livestock grazing. Livestock grazing would be eliminated from the effects of vegetation conditions. When these consequences are combined with the past, present, and reasonably foreseeable future actions that have impacted vegetation resources within the CIAA, upward trend in the vegetation communities within the 19 Morgan Group allotments would have the opportunity to meet or move toward ORMP vegetation management objectives and the Idaho Standards for Rangeland Health for vegetative communities.

Although improved conditions of vegetative communities would be most rapidly obtained under this alternative, a shift of livestock grazing timing, intensity and duration would likely occur, resulting in adverse impacts to other land ownerships. The magnitude of this potential effect depends on the degree to which current grazing is shifted to other areas and what level or intensity of management opportunities was applied. When these consequences are combined with the past, present, and reasonably foreseeable future actions that have impacted vegetation resources within the CIAA, vegetation conditions and health within the Morgan Group allotments would meet or move toward meeting ORMP vegetation management objectives and the Idaho Standards for Rangeland Health. Progress would be made toward improving vegetation condition below the threshold of unacceptable change.

3.4.2.1.2 Soils

3.4.2.1.2.1 Resource Specific Analysis Area

The cumulative impact analysis area (CIAA) for upland soils and watershed is the extent of the 19 Morgan Group allotments and their associated pastures. This is an appropriate scale for assessing cumulative soil environmental effects because soil productivity is a site-specific attribute of the land and is not dependent on the productivity of an adjacent area. Similarly, if one acre of land receives incremental soil impacts—i.e., reduced soil porosity, water holding capacity, aeration, long-term productivity, etc.—and a second management activity is planned for that same site, then cumulative effects to soil are possible. The CIAA was selected because the effects of grazing management on upland soils, as well as hydrologic function and energy flow, only apply within the allotment boundary. With

increasing distances from the allotment, it becomes difficult to determine impacts due to the dilution effect that comes with increased acreage.

Through erosional and depositional processes, upland soils provide the sediment that enters riparian areas and is transported within stream systems throughout the watershed and beyond. While the watershed level was initially considered to serve as the CIAA for upland soils, soil and hydrologic function are site-specific. To the extent that soil movement in stream channels affects resources outside of the allotment, the direct/indirect effects and cumulative effects are considered in detail in the Riparian/Water Quality Section 3.1.3, 3.2.3, and 3.4.2.1.3.

Past, present, and reasonably foreseeable future activities within the analysis area relevant to cumulative effects were analyzed using approximated BLM GIS data and are displayed in Section 3.2. The Idaho Standards for Rangeland Health (Appendix A), ground cover trend (2013 Morgan Group RHAs and Determinations–Appendix E), and the ORMP (USDI BLM 1999a) were used as a basis for setting thresholds for measurable or observable soil properties or conditions. The threshold values, along with aerial extent limits, serve as an early warning signal of reduced soil and hydrologic function. Significant changes in soil productivity of the land are indicated by changes in soil properties that are expected to result in a reduced productive capacity over the planning horizon. Likewise, declining conditions for rangeland vegetation contribute to deteriorating soil and hydrologic function. Therefore, vegetation serves as the primary indicator of upland watershed health.

Additionally, in Section 3.1.1 and 3.1.2, influences on soils and watershed function from grazing of vegetative cover, season of use, and invasive species are discussed in greater detail. While they do not address every issue, the intent is to provide an overview of commonly observed impacts, trends, and potential consequences associated with range management. These impacts are relevant to all alternatives and provide the background for the comparison of effects.

Analysis timeframes for cumulative effects include past and present activities that have created the present conditions, including historic grazing over the past century, and reasonably foreseeable future activities planned within the next 3 years, including the expected duration of short- and long-term effects from current and future activities. Reasonably foreseeable actions include activities with completed NEPA, scoping, or decisions, and with implementation planned within 3 years. For this evaluation, short-term effects are those that occur approximately within the first 10 years following permit renewal, long-term effects are those that expand 10 years or beyond.

3.4.2.1.2.2 Common to All Grazing Alternatives

The CIAA for upland soils is delineated by the allotment boundaries that lie within portions of the Big Boulder Creek, Headwaters Deep Creek, Headwaters Jordan Creek, Jordan Creek-Sheep Spring Creek, Rock Creek, Soldier Creek, and Trout Creek-Jordan Creek watersheds, and encompasses a total of 58,033 acres (Table SOIL-14). Soil conditions throughout the analysis area are as described in Section 3.1.2, 3.2.2, and 3.3 and are generally related to elevation, precipitation, and animal use levels.

Table SOIL-14: Morgan Group allotment acre distribution by watershed

5th Field HUC	Allotment Use Acres within Watershed	Percent of Watershed Affected
Big Boulder Creek	22,259	26
Headwaters Deep Creek	1,470	1
Headwaters Jordan Creek	117	<1
Jordan Creek-Sheep Spring Creek	421	<1
Rock Creek	1,765	2
Soldier Creek	377	<1
Trout Creek-Jordan Creek	31,624	37
Total	**58,033**	

Over the past decades, livestock grazing has been the dominant land use activity in the area. Wildfires have caused localized disturbances, while recreation has had limited effects due to its localized and small geographic extent. No wild horse Herd Management Areas are present.

Current and past fire and fire-suppression activities have had an additional influence on the allotments. Consequently, the CIAA has been altered from what would be expected under a natural disturbance regime, mainly as a result of an increase in invasive annuals. No records of prescribed burning and juniper treatments are available, though it can be assumed that these additional activities have taken place in the past. The allotments have been primarily grazed throughout the spring and summer and a variety of range improvement projects, such as spring developments, fences, cattle guards, and troughs have been implemented across the landscape to aid in grazing management.

The movement of upland sediment across the landscape is initiated by erosion and, over time, enters a water source that allows for further transport. Erosion rate, amount, and magnitude are dependent on slope, topography, climatic events, parent material, soil characteristics, vegetation, and potential localized impacts. As previously mentioned, the majority of erosion potential within the CIAA is slight to moderate (Section 3.1.2). The greatest cumulative effects occur where uplands encounter non-functioning degraded riparian areas, especially perennial streams that are not meeting water quality standards (Water Resources Section 3.1.3).

However, grazing management on BLM-administered lands periodically changes in order to meet Standards, which have been in place since 1997, to assess grazing activities and their impacts on resources. These periodic management changes to meet or make significant progress toward meeting standards are put in place to improve overall resource conditions.

Past, Ongoing, and Reasonably Foreseeable Activities

The table of past, present, and reasonably foreseeable future actions (Section 3.4 - Table CMLV-1) within the analysis area relevant to cumulative impacts was developed using BLM GIS data. The data used represent the best available information and the calculations based on the data are approximate. Table SOIL-15 attempts to serve a as a quick reference that summarizes soil specific effects to past, present, and reasonably foreseeable future actions for the soils CIAA.

Table SOIL-15: Morgan Group allotment CIAAs – summary of effects on soils (also see Section 3.4 - Table CMLV-1)

Type of Activity	Timeframe	Degree	Extent	Magnitude of Effect on Soils	Type of Effect
Fences	Most constructed before 1980; few additions each decade	About 178 miles of fence on all land	Distributed across analysis area, but cumulatively covering a small percentage of area	Low	Short-term, localized construction and maintenance disturbance; chronic cattle trails often compact soils along fences
Range Improvements	Most constructed before 1980; some additions each decade	Minimum of 32 reservoirs and 11 developed springs	Distributed across analysis area, but cumulatively covering a small percentage	Low to Moderate	Short-term, localized construction and maintenance disturbance; chronic cattle congregation trampling soils
Wildfire & Fire Suppression	Ongoing, continuous	Moderately effective given distance to fire facilities, etc.	About 4,152 ac across entire analysis area	Moderate	Pros: suppression maintains stabilizing ground cover on soils; Cons: long-term shift from grass/forb/shrub/tree community to localized late seral shrub/tree dominated areas with reduced watershed function
Prescribed Fire	Primarily 1983	About 3,220 acres in selected allotments	Across target acres within the analysis area	Low to High	Pros: reduction of juniper, introduction of fire where fire regime is off; Cons: potential increase in invasive annuals, localized soil burn impacts
Juniper Treatment	No records for past	Potential in the future	Patchy within analysis areas	High within cutting areas; moderately low across entire area	Shift to grass/forb/shrub community increases soil stability, hydrologic function, and improves nutrient flow
Roads	Nearly all in place before 1980	About 132 miles of roads and routes total	Distributed across analysis area, but cumulatively covering a small percentage of area	High but localized; overall moderately low	Physical soil impacts; increased bare soils, decreased soil stability, hydrologic function, and reduced nutrient flow
Trailing	Spring and/or fall	Primarily on existing paved, gravel, or native surface roads and some cross-country trails	Approximately 4,640 acres along about 29 miles	Low to moderate (herding); moderately to high (overnight)	Localized physical impacts (compaction, pugging etc.); limited duration and spatial extent; greater impacts in overnight locations; dust
Recreation	Ongoing, continuous	Low to mod. visitor use; hunting season off-road travel and dispersed camping	Mostly along roads	Low to high in local areas; low across entire area	Localized physical soil impacts
Weed Treatments	Ongoing, continuous	About 65 recorded acres of infestations	Patchy, mostly along main routes	Low	Increased soil moisture, nutrients, and stability
Utilities/ Powerlines	Nearly all in place before 1980	About 17 miles of transmission and power lines	Far reaching but small scale; isolated	Mod. high in local areas; low across entire area	Localized physical soil impacts; can include a service road
Mining Claims & Gravel Pits	No records for past	Small likelihood in the future	Localized	High	Complete removal of topsoil; reduced productivity

Range Improvements: Most range improvements are in the form of reservoirs, troughs, and fences (Table SOIL-15; Section 3.4 - Table CMLV-1). Impacts to soils are greatest when mechanical equipment is used to create or maintain reservoirs and stock tanks. Troughs are less impacting since generally a smaller area is affected. Removal and construction of fences have impacted soil quality in the past depending on time and duration of activities; however, the disturbance is temporary and localized.

In many cases, livestock tend to congregate along fence lines so that the adjacent soils often show increased impacts. Fence lines can also accumulate weeds and add to increased fuel loads, especially in wind-prone areas. The construction of these different range improvements can add an initial short-term negative disturbance to soil quality while localized indirect impacts over small portions of the allotment can continue over the long-term. Although the current permitting process is not considering range improvements, it is anticipated that they will continue to be part of the landscape into the future, and that some lesser number will be added and/or modified to meet the needs of the livestock grazing industry.

Vegetation Treatments: Vegetation treatments, such as prescribed fires and juniper, conifer, and sagebrush control, have had limited effects on the allotment due to their localized and small extent. In 1983, 3,005 acres of prescribed fire were used to treat vegetation in the Big Field FFR, Combination Creek, Gluch, and Gluch FFR allotments. No records of juniper control were found. No treatments are scheduled for the reasonably foreseeable future, though vegetation treatments at a later point are likely to continue and would have short-term localized impacts on upland soils, but they would benefit watershed health over the long term.

Wildfires, Prescribed Fires, and Fire Suppression: Wildfires have burned and re-burned a total of approximately 4,152 acres in the analysis area between 1970 and 2013 and mainly affected the western third during the 1999 Horse Creek fire (Map FIRE-1; Section 3.4 - Table CMLV-1). The most recent fires of 2013 have burned portions of pasture 1 of the Bachelor Creek and pasture 2 of the Boulder Creek allotment. Consequently, resource damage from suppression activities and burn severity have caused short-duration disturbances to soils that range from negligible to severe, depending on location, size, and severity of burn (Table SOIL-15).

Lower to mid-elevation wildfires have been more dominant and have contributed to the spread of invasive annuals. Mid- and higher elevation fires have removed juniper and often provide for a good mosaic that allows for a diversity of vegetation and different age classes to re-establish, especially if precipitation is favorable. However, the greatest threat can be associated with the establishment of invasive annuals and the consequent reduction in fire intervals that leads to repeated re-burning and loss of soil production and overall watershed health. In general, when wildfires have burned across upland soils, the compounding impacts from temporary loss of infiltration capacity, overland flow, and increased soil erosion, have occurred in localized areas but generally decrease within 1 to 6 years (DeBano 1981) (Dyrness 1976) (Huffman et al. 2001). The change in vegetation, however, can be long-term.

Primary risks from wildfires in the foreseeable future are associated with upland water erosion from breaklands, steep slopes, and roads, especially at stream crossings. Wind erosion can transport soil over large distances while burned and disturbed landscapes are particularly susceptible to the spread of annual grasses. Loss of soil productivity could be extended depending on burn severity, location, and post-fire climate characteristics. Following a severe fire, rehabilitation efforts to mitigate the fire's effects on erosion and sediment delivery could occur and reduce potential negative effects. Grazing may also be suspended for a minimum of two growing seasons to allow vegetation to recover and would reduce additional impacts to soils.

Long-term effects to soils from wildfire are favorable where juniper has been removed from sagebrush ecosites and deep-rooted native bunchgrasses have re-established. Past and current fire suppression,

however, has influenced fire frequency contributing to an increase in juniper across the landscape. The continual incremental effects of juniper encroachment, primarily affecting the South Mountain area and the eastern and south-easternmost allotments of Morgan Group, contribute to a cumulative increase in upland erosion since juniper suppresses understory vegetation. If juniper encroachment is allowed to progress to the point where understory vegetation is lost, soil erosion and degradation is expected to increase. Subsequently, these areas often have a more difficult post-fire recovery time due to the absence of a seedbank.

Weed Treatments: There are 65 documentations of weed infestations in the analysis area (Table SOIL-15; Section 3.4 - Table CMLV-1). Disturbed soils, for example, around salting areas or water developments, provide an optimal location for weed establishment and subsequent invasion and have the potential to increase localized erosion, deplete soil moisture, and alter nutrient levels. The majority of chemical weed treatments occur along roadsides. Activities associated with the small areas impacted by weed treatments would have no measurable effect on upland soils and watershed health.

Trailing: Cattle and sheep trailing have occurred in the past and are currently taking place on about 29 miles of existing routes (Table SOIL-15; Section 3.4 - Table CMLV-1). All possible segments are reviewed on an annual basis so that changes to routes, AUMs, and livestock type may change in the foreseeable future. The Owyhee Field Office recently finalized the 2012 Trailing EA; the analysis specific to soils is incorporated here by reference (Sections 3.1 and 3.8.3 of the 2012 Trailing EA (USDI BLM 2012b). Additional trailing segments were evaluated in the Chipmunk Group FEIS; the analysis specific to soils is therefore also incorporated here by reference (Chipmunk Group EIS # DOI-BLM-ID-B030-2012-0014-EIS).

Effects to upland soils and watershed health from trailing would be minor when cattle are actively herded along established routes, although increased physical soil impacts are possible in overnight locations, especially if soils are wet and vegetation is removed. Cumulative effects of trailing are slight because they disturb a small proportion of the landscape (less than 9 percent of the CIAA) over very short durations. Consequently, cumulative impacts from trailing are not expected to have lasting adverse effects on watershed and upland soils.

Roads: The construction of roads on public lands has resulted in the removal of soils from the productive land base on approximately 132 miles of gravel, native, and paved roads that traverse the analysis area (Table SOIL-15; Section 3.4 - Table CMLV-1). Depending on location, the amount of traffic that occurs on a given road, road conditions, and movement of soils, allow for sediment transport over various distances at a local or broad-scale level. This adds to localized accelerated erosion across the analysis area but cumulatively covers only a small percentage of the CIAA.

Road Maintenance: Additional soil impacts from proposed road maintenance activities such as grading, drainage improvements, and surfacing on existing dedicated roads will be ongoing and would produce localized soil disturbance associated with the use of heavy equipment. Some roads will receive little to no maintenance, especially if restricted or gated.

Recreation, OHV Use, and Other Activities: The analysis area is open for general motorized use that allows for hunting, fuel wood gathering, collection of miscellaneous products, camping, and motorized touring on established roads. Recreation has had localized resource effects by exposing or compacting soil due to driving, dispersed camping, or by impacting vegetation. Those areas that are frequented by recreationists are disturbed where soils and associated vegetation are permanently or semi-permanently altered from heavy use (Table SOIL-15). Several maintained roads (e.g. Owyhee Scenic Backcountry Byway, South Mountain Road, Flint Creek Road) provide easy access and are well utilized. Off-highway vehicle (OHV) use does occur in some areas and will continue to have localized impacts on upland soils,

especially when it involves unauthorized cross-country trails. Cumulatively, they are of little issue in the Morgan Group CIAA.

However, with the increase in population in the Treasure Valley and the surge in OHV use, current and future pressures on upland soils are expected to increase, especially if vehicular use and recreation illegally expands beyond existing roads and trails. Unauthorized OHV routes have been responsible for loss of vegetation, accelerated soil erosion, and establishment and spread of invasive and noxious weeds in the analysis area. Although travel management planning and enforcement has reduced this expansion, effects to soils and vegetation continue.

A transportation plan for Owyhee County is expected in the near future and may alleviate some concerns associated with OHV use because routes would be designated, reducing cross country and unauthorized travel. However, products resulting from travel management, such as maps and signage, are likely to result in greater visitor use, which may increase pressure on upland soils and watershed resources.

Utilities/Powerlines: There are approximately 17 miles of transmission and powerlines within the allotments (Table SOIL-15; Section 3.4 - Table CMLV-1). Transmission structures and power line construction have high-intensity but short-term effects on vegetation and soils. Vegetation is set back to an earlier, native seral stage for a few years, and soils are moved and/or compacted; however, these areas usually grow back and become stable with a mature native plant community, except where a service road is present.

Mining Claims and Gravel Pits: There are no records of mining activities within the CIAA.

3.4.2.1.2.3 Alternatives 1

Alternative 1 would have direct and indirect effects to upland watershed soil and hydrologic function as described in Sections 3.1.2, Section 3.2.2., and Section 3.3. When added to the past, present, and reasonably foreseeable future actions that will affect vegetation and associated upland watershed health, Alternative 1 would continue current conditions. Where Standard 1 and ORMP objectives are not met, Alternative 1 would cumulatively have small incremental negative effects on upland soils and their associated processes.

Past and present livestock grazing has affected soils in the CIAA by reducing and altering vegetative cover with the utilization of key forage species during critical growth periods and by increasing physical soil disturbance. The reduction in vegetative cover and the increase in compaction result in reduced infiltration of water and exposed soils, making them susceptible to accelerated wind and water erosion. These impacts are most prevalent in easily accessible terrain or livestock congregation areas.

Other activities that continue to occur within the CIAA include range improvements, wildfires, weed and vegetation treatments, trailing, roads, and recreation (Table SOIL-15). Since the grazing proposed under the alternatives would contribute to a decrease in soil stability and hydrologic function, it would add to the overall impacts within the CIAA.

While the cumulative effects would be small, the negative effects of the grazing scheme would contribute to a cumulative increase in soil and hydrologic impacts and promote upland erosion. The continued poor conditions within the allotments would add to overlapping impacts from activities within the CIAA and contribute to the decline in upland watershed health.

3.4.2.1.2.4 Alternative 2

Where Alternative 2 is the same or similar to Alternative 1 (see Table SOIL-11), Alternative 2 would have direct and indirect effects to upland watershed soil and hydrologic function as described in Section 3.1.2, Section 3.2.2, and Section 3.4.2.1.2.3 (above). When added to the past, present, and reasonably foreseeable future actions that will affect vegetation and associated upland watershed health, Alternative 2 would continue current conditions and cumulatively have incremental negative effects on upland soils and their associated processes.

Where Alternative 2 is the same or similar to Alternative 3 (see Table SOIL-10), Alternative 2 would have direct and indirect effects to upland watershed soil and hydrologic function as described in Section 3.1.2, Section 3.2.2, and Section 3.4.2.1.2.5 (below). When added to the past, present, and reasonably foreseeable future actions that will affect vegetation and associated upland watershed health, Alternative 2 would have a positive cumulative effect by reducing soil impacts and by decreasing sediment movement that would otherwise be destined to reach riparian areas and streams.

3.4.2.1.2.5 Alternatives 3, 4, and 5

Alternatives 3, 4, and 5 would have direct and indirect effects to upland watershed soil and hydrologic function as described in Section 3.1.2, Section 3.2.2, and Section 3.3. Specifically, the alternatives would improve plant communities at increasing magnitudes and result in improved soil and hydrologic function that reduce erosion potential at the corresponding levels. When added to cumulative actions that will affect vegetation and associated upland watershed health, Alternatives 3, 4, and 5 would cumulatively have small incremental improving effects on upland soils and their associated processes.

Alternative 3 incorporates deferment of grazing during the critical growing season and would have beneficial effects on soils, even in the absence of decreased stocking rates, because recovery of plant species composition and biodiversity of key forage species would be enabled. The resulting increased soil surface protection and decrease in sediments would improve upland soil and watershed health. Considering the past, present, and reasonably foreseeable future actions influencing soils in the CIAA, the impacts from Alternative 3 would have a positive cumulative effect by reducing soil impacts and by decreasing sediment movement that would otherwise be destined to reach riparian areas and streams.

Alternative 4 is expected to have similar positive cumulative effects as Alternative 3; however, because restrictions to grazing during the critical growth season and wet spring months would further benefit upland soils by providing extended rest and deferment as well as result in reduced active AUMs for some allotments, Alternative 4 would provide additional protection compared to the implementation of Alternative 3.

Alternative 5 would provide extended rest from livestock grazing over the life of the permit. The improvements would be similar to Alternatives 3 and 4, though the incremental effects associated with the recovery of soil stability, hydrologic function, and nutrient cycling affecting upland soils and watershed health would be faster. Despite a potential increased risk of wildfire where monocultures of invasive annuals dominate, Alternative 5 would cumulatively offer the greatest benefits to the CIAA.

All three alternatives would maintain and benefit upland soils to varying degrees and result in the increased capture, storage, and safe release of precipitation, as well as improve energy flow and nutrient cycling in the analysis area. When these effects are considered in conjunction with the past, present, and reasonably foreseeable future actions that also affect soils in the CIAA, Alternatives 3, 4, and 5 would have positive cumulative effects on upland soils and watershed function.

3.4.2.1.3 Riparian/Water Quality

3.4.2.1.3.1 Resource Specific Analysis Area

The water and riparian resource CIAA was set to the eight IDEQ 5th field HUCs (watersheds; Table RIPN-30, Map CMLV 1) that incorporate and extend beyond the Morgan Group 5 allotments boundary. The watersheds comprise assessment units that were established to incorporate groups of similar streams with the same stream order, and with similar land use practices, ownership, or land management.

The watersheds that make up the CIAA include Big Boulder Creek, Headwaters Deep Creek, Headwaters Jordan Creek, Jordan Creek-Sheep Spring Creek, Rock Creek, Soldier Creek, and Trout Creek-Jordan Creek. The BLM chose this CIAA because the direct and indirect effects of grazing management on riparian and watershed resources, as well as on specific impacts such as stream sediment and water temperature, would be experienced within these IDEQ 5th field HUCs. Outside of this area, however, direct and indirect effects of the grazing scheme would not be experienced and/or would be too small to create identifiable cumulative effects.

Analysis timeframes include past activities that have created the present conditions, and future activities planned within the next 3 years, including the expected duration of effects from current and future activities (generally up to 10 years).

Table RIPN-30: IDEQ 5th field hydrologic unit codes (watersheds) and acres for the Morgan Group 5 allotments

5th Field HUC (watershed)	Watershed Acres
Big Boulder Creek	85,579
Headwaters Deep Creek	97,933
Headwaters Jordan Creek	73,305
Jordan Creek-Sheep Spring Creek	133,436
Rock Creek	106,101
Soldier Creek	115,427
Trout Creek-Jordan Creek	85,097
Total Acres	**696,838**

3.4.2.1.3.2 Common to All Grazing Alternatives

Livestock: Livestock grazing is the dominant land use activity in the area, and almost all of the land area is managed for grazing (Table CMLV-2). There are 153 grazing allotments that are contained fully or partially within the CIAA and 17 allotments are analyzed in the direct and indirect effects for the riparian resource. In the 1990s, BLM initiated a series of range reform activities in response to poor range conditions. Since the Standards were implemented in 1997, Idaho BLM has reviewed and issued grazing permits on approximately half of the available allotments in the general area. The final decisions for these allotments have been implemented to make significant progress toward meeting Standards. Currently, the allotments in the area are primarily grazed throughout the spring and summer. The allotments in the analysis area are in various stages of the 10-year permit cycle, and as expiration dates approach, each allotment will be evaluated for rangeland health and progress toward meeting Standards prior to the authorization of a new permit. Overall, past and current grazing in the CIAA has had an adverse effect on riparian and watershed resources (Table ALLOT-2 and Appendix A) because grazing has primarily occurred during the spring and summer months when the riparian area soil and vegetation are most vulnerable. Reasonably foreseeable future grazing is expected to improve the condition of the

riparian areas and watersheds at a minimum to make significant progress toward meeting the Idaho Rangeland Health Standards.

Range Improvements: Additionally, a variety of range improvement projects such as spring developments, fences, cattle guards, and troughs have been implemented across the landscape to aid in livestock grazing management. Idaho's current range improvement database identifies 484 reservoirs and troughs within the allotments. Although the current permitting process is not considering range improvements, it is anticipated that they will continue to be part of the landscape into the future, and that some lesser number will be added and/or modified to meet the needs of the livestock grazing industry. The development of reservoirs and troughs across the landscape has impacted the natural state of the springs, often reducing the other values they provide (i.e., ground water infiltration and wildlife habitat).

Trailing: Multiple livestock trailing routes currently traverse the Morgan Group 5 allotments as well as the CIAA (Tables CMLV-1 and -2, and Map CMLV-1). There are 111 miles of trails documented in the CIAA and 29 within the allotments. Livestock would typically be allowed to trail on existing roadways for 1 day during the spring and a second day during the fall. It was assumed that the routes would continue to be authorized into the future. Trailing would occur regardless of the scheduled use within a pasture (i.e., use would occur when pastures are otherwise rested). However, this amount of use would not have discernible effects on the riparian and water resources because the cattle are required to trail on existing roadways and would not congregate in the streams and/or springs.

Wildfires: Wildfire records maintained by the Idaho BLM State Office indicate that 54,087 acres (8 percent of CIAA) burned through the 2013 fire season within the analysis area (Table CMLV-1 and -2, and Maps FIRE-1, FIRE-2, FIRE-3). Wildfires have caused disturbances within the watersheds, increasing the potential for overland flows, soil erosion, and increased stream sedimentation. When wildfires have burned and removed riparian vegetation, the compounding impacts such as increased stream temperatures, loss of water infiltration, decreased bank stability, and impaired aquatic species habitat have occurred within the CIAA.

Recreation & OHV Use: Increasing population in the Treasure Valley and an increasing popularity of off-highway vehicles (OHVs) are creating additional pressures on the water-riparian resources from recreation uses. The recent Wilderness and Wild and Scenic River designation is also expected to increase recreation use of this general area. There are approximately 1,642 miles of unpaved roads traversing the analysis area (Table CMLV-1 and -2, and Maps RNGE-1, RNGE-2, RNGE-3). Depending on the amount of traffic that occurs on a given road, the stream crossings increase erosion and sedimentation, and disturb vegetation and aquatic species both on a site specific scale as well as downstream of the crossings.
A transportation plan for Owyhee County is expected in the near future, which may alleviate OHV resource concerns because routes would be designated, reducing cross country and unauthorized travel. However, products resulting from travel management such as maps and signage are likely to result in increased visitor use, which may increase pressure on the water/ riparian resources.

Mining Claims and Gravel Pits: The CIAA area contains both historic as well as active mining. There are about 8,739 acres of mining claims recorded within the CIAA. It is unlikely that new mining activity would begin in the foreseeable future. However, the past and current activity has impacted the riparian condition and the water quality within the CIAA. The streams adjacent as well as those downstream would be influenced by the mining activity. The IDEQ assessment for the Jordan Sub-basin (Table RIPN-32), which encompasses the southern watershed and allotments, lists mining as one of the major land uses within the area.

Existing Conditions and Baseline

The water-riparian resource cumulative impact analysis area is 696,838 acres, consists of seven watersheds (5th field HUCs), and contains approximately 49 miles of perennial streams, 102 miles of intermittent streams, and 7 springs (NHD). As discussed in the affected environment section 3.1.3, many of the streams designated as intermittent are actually ephemeral and are covered in the watershed/soils sections. There are 20.8 miles that are not supporting the watershed's beneficial uses, 8.1 miles that are fully supporting, and 36.4 miles of stream that have not been assessed by IDEQ for beneficial uses. Beneficial uses are assigned by the IDEQ on a sub-basin scale and within the CIAA they include: cold-water aquatic life, salmonid spawning, drinking water supply, special resource water, and primary and secondary contact recreation. Additionally, all of the streams that are not supporting the beneficial uses (20.8 miles) have been placed on the 303(d list by the State and are water quality-impaired (Maps RIPN-1; (Idaho DEQ 2013)).

Seventeen of the 19 Morgan Group 5 allotments contain measurable streams (NHD). The allotments contain approximately 49 miles of stream that have been assessed that occur on BLM lands; currently, approximately 38 miles (78 percent) of these are not meeting Standards 2 and 3 (are not in PFC) (Table RIPN-31). The Idaho Rangeland Health Standards 2 and 3, as well as the ORMP objective for riparian-wetland areas, state that the riparian-wetland areas are to be maintained or improved to attain proper functioning condition. Proper functioning condition is a minimal standard and since all streams, springs, seeps, and wetlands should attain PFC, the baseline for the cumulative effects analysis was set to a PFC rating. Although there is natural variability for the riparian systems, streams in PFC would have the resiliency to withstand high water flows because deep-rooted vegetation would be present to stabilize streambanks and shorelines and the morphological indicators (width/depth ratio, gradient, and sinuosity) would be appropriate for the valley bottom type, hydrology and soils. Additionally, the presence of hydric vegetation would control erosion, shade water to reduce stream temperature, filter sediment, aid in floodplain development, delay flood water, and increase recharge of groundwater.

Table RIPN-31: Morgan Group 5 miles of stream accomplishing and not accomplishing the cumulative effects baseline

Allotment	Perennial & Intermittent Streams on BLM lands (NHD miles)	Perennial & Intermittent Streams Assessed (miles)	Condition Rating	% of Total that has been Assessed
Bachelor Flat FFR	11.9	0.5 1.5	PFC FAR	25
Berrett FFR	4.6	1.3	FAR	100
Big Field FFR	5.6	1.2 1.2	PFC FAR	50 50
Bogus Creek FFR	3.3	0.25	FAR	100
Boulder	9.5	1.6	FAR	100
Boulder Flat	18.8	2.3 7.2	PFC FAR	24 76
Combination Creek	12.4	1.6 4.7	PFC FAR	25 75
Feltwell	5.0	1.5	FAR	100
Glass Creek	5.8	1.0	PFC	100
Jim`s Peak FFR	3.3	0.9 0.6	NF FAR	60 40

Allotment	Perennial & Intermittent Streams on BLM lands (NHD miles)	Perennial & Intermittent Streams Assessed (miles)	Condition Rating	% of Total that has been Assessed
Morgan	30.0	1.3 3.4	PFC FAR	28 72
Rail Creek FFR	4.7	0.7	FAR	100
South Mtn Indv	18.3	1.3 2.5	PFC FAR	34 66
West Maher FFR	4.1	0.8	FAR	100
Walt's Pond FFR	9.4	0.6 2.0	PFC FAR	23 77
Warn	6.1	1.1	FAR	100
Wroten	6.5	3.5	FAR	100

Cumulative Effects Common to all Grazing Alternatives

A network of overlapping effects from the proposed action and alternatives as well as the past, present, and foreseeable activities was developed (Table RIPN-32). Only the activities where effects overlap with effects from other activities and those impacts are displayed.

Table RIPN-32: Past, present, and foreseeable activities and the overlapping effects

Other Activities	Impacts
Livestock Grazing	• Increased erosion • Soil Compaction • Sediment loading of riparian areas and streams • Decreased vegetation • Manure deposition in and near streams • In-stream trampling and congregation • Decreased stream bank stability • Change in channel shape, structure, and form • Reduced water infiltration • increased flooding • Reduced groundwater recharge • Lowered water table • Increase stream bank erosion • Removal of submerged vegetation • Increased runoff • Increased water velocity • Less shade and higher stream temperatures • Less sediment trapping • Decreased water infiltration • Reduced aquatic habitat • Reduced fish spawning habitat • Loss of wildlife habitat

Other Activities	Impacts
Range Improvements	• Trampling and congregation • Decreased vegetation • Increased erosion • Decreased stream bank stability Loss of form and function
Fires	• Decreased vegetation • Increased erosion • Decreased stream bank stability • Change in channel shape, structure, and form • Increased erosion • Increased runoff • Less shade and higher stream temperatures • Less sediment trapping • Reduced aquatic habitat • Reduced fish spawning habitat • Loss of wildlife habitat
Roads/ OHV use	• Increased erosion • Decreased stream bank stability • Higher sediment & stream temperatures • Reduced aquatic habitat
Mining	• Increased erosion • Flow alteration • Increased nutrients: metals, pH, mercury • Increased temperature

3.4.2.1.3.3 Alternative 1

The following analyses would not apply to the Gluch and Gluch FFR allotments because it was determined that there are no measureable riparian-wetland resources and that Standards 2 and 3 do not apply. They would also not apply to the Bachelor Flat FFR, Glass Creek, and Morgan allotments because they are currently meeting the riparian Standards under Alternative 1. The analyses in this section apply for the remaining 14 Group 5 Morgan allotments.

As described above in the direct and indirect effects Sections 3.2.3.2 and 3.2.3.3, the general theme of the alternatives would be to authorize livestock use during the spring, summer, and fall. Specifically, approximately 49 miles of perennial streams, 102 miles of intermittent/ephemeral streams, and 7 springs would be affected by the impacts associated with those seasons of use. The alternatives would continue to degrade the riparian areas because the removal of riparian vegetation, deposition of fecal matter, and livestock trampling would continue. Furthermore, the associated secondary impacts, including sedimentation, increased water temperatures, lowered water table, and decreased suitability of aquatic species habitat, would also remain the same.

All of the streams within the analysis area have been affected by past and present livestock grazing because the allotments within the CIAA have been and continue to be grazed during the vulnerable riparian area growing season, and livestock congregate in riparian areas during the hot season. Under Alternatives 1 and 2, the streams in the Morgan Group 5 allotments would continue to be impacted by

grazing during the riparian area's vulnerable time, and the continued impacts, when combined with those occurring on the other allotments within the analysis area, would continue to alter stream banks because deep-rooted riparian vegetation would be removed and channels would be trampled.

Present and future proposed changes in grazing management within the CIAA to make progress toward meeting Rangeland Health Standards could improve wetlands and riparian areas by increasing woody and herbaceous plant communities. As plant communities change, stream banks would stabilize due to increases in deep-rooted riparian vegetation that bind the stream banks. Fine sediments would decrease and stream shade would increase due to the development of riparian communities. Eventually the channels would narrow and deepen and aquatic habitat conditions would improve as channel form recovers. The continued degradation from the action expected within the allotment would be added to the expected improvements occurring in the adjacent allotments. However, overall, the small improvements expected in the adjacent allotments would not be enough to offset the continued poor condition of the riparian and watershed conditions within the allotment under these alternatives, and the conditions within the CIAA would continue to be degraded.

Past and present range projects such as spring developments, fences, cattle guards, and troughs occur across the landscape to aid in livestock grazing management. The development of reservoirs and troughs across the landscape has impacted the natural state of the springs, often reducing the other values they provide (i.e., ground water infiltration and wildlife habitat). BLM has authorized spring developments, fencing, and the placement of watering troughs in an attempt to re-distribute livestock away from the spring sources. However, currently, many of the developments are not maintained and are in disrepair. The spring source may be excluded, but often the area fenced is too small to protect the riparian area fully and the majority of the water is piped to troughs away from the source, causing a loss of functionality and values. Additionally, livestock concentrate around the troughs causing compaction of soils, altered flow patterns, and loss of vegetation.

A general impact associated with both roads crossing streams and the loss of vegetation caused by wildfires is an increase in sediment and stream temperatures and thus less-suitable aquatic species habitat. The sediment increase from roads occurs where the roads cross the streams, after which the effect is apparent downstream of the crossings. The sediment increase caused by fires occurs because erosion increases when overland flows increase due to the loss of vegetation. Past fires have overlapped with riparian areas and have impacted about 8 percent of the CIAA and the streams and springs that occur within that area. Since the grazing proposed under the alternatives would contribute to an increase in sediment and stream temperatures, it would add to the sediment increase caused by stream crossings and loss of vegetation due to fires and would increase the overall impact within the CIAA. The cumulative impact would be small, but when added to the impact from the other activities, the condition of the riparian areas and watersheds would continue to be degraded.

Mining claims and surface gravel pits occupy approximately 8,739 acres of the CIAA. Active mining impacts the water quality of streams through the introduction of heavy metals and pollutants. Stream temperatures and sediment levels increase reducing the aquatic species habitat quality. Since these impacts overlap with some of those caused by livestock use, the overall impact within the CIAA would add to the poor condition of the streams.

Overall, implementation of either of the alternatives would continue degradation of the riparian-wetland areas within the allotments, and 38 miles (about 78 percent) of the streams that have been assessed would continue to fail to meet the Standards associated with the riparian-wetland areas. The continued poor conditions within the allotments would add to overlapping impacts from activities within the larger CIAA and contribute to the streams and springs not attaining the PFC baseline.

3.4.2.1.3.1 Alternative 2

The following analyses would not apply to the Gluch and Gluch FFR allotments because it was determined that there are no measureable riparian-wetland resources and that Standards 2 and 3 do not apply. The cumulative effects from Alternative 2 would be the same as those described above under Alternative 1 for the Berrett FFR, Big Field FFR, Boulder, Feltwell, Morgan, Rail Creek, West Maher FFR, Walt's Pond, and Wroten allotments. The following analyses of the cumulative effects from Alternative 2 would apply to the Bachelor Flat FFR and Glass Creek allotment that would continue to meet the riparian Standards; and to the Bogus Creek FFR, Boulder Flat, Combination Creek, Jim's Peak FFR, South Mountain Individual, and Warn allotments where progress would be made toward meeting the riparian Standards.

The direct and indirect effects from Alternative 2 (described in Section 3.2.3.2) would allow sufficient herbaceous and woody vegetation to remain after the growing season to protect the stream banks during high flow events, allow vegetation to regenerate, and protect riparian soils from physical alterations. When the direct and indirect effects of the alternatives are added to the other past, present, and reasonably foreseeable future actions described above, the condition of the streams, springs, and associated riparian-wetland areas within the analysis area watersheds would see an overall small improvement. The improvements in the condition of the streams and springs would lead to increased riparian area function (i.e., increased water infiltration and improved aquatic and fish habitat).

Past and current livestock grazing within the CIAA generally occurs during the spring and summer months, degrading the riparian areas because streams are trampled and herbaceous and woody riparian vegetation are removed during the vulnerable riparian area growing season. Although there would be an incremental improvement from the implementation of this alternative, it would be small overall when related to the livestock grazing within the CIAA because the past and current practices in the adjacent allotments are degrading the riparian habitat. However, since future proposed changes in grazing management to make progress toward meeting Rangeland Health Standards is expected to occur, there would be an improvement in the condition of the wetlands and riparian areas because an increase in the riparian woody and herbaceous communities would occur. As the plant communities change, stream banks would stabilize due to increases in deep-rooted riparian vegetation that bind the stream banks. Fine sediments would decrease and stream shade would increase due to the development of riparian communities. Eventually the channels would narrow and deepen and aquatic habitat conditions would improve as channel form recovers. Overall, the improvements expected within the allotment as well as within the adjacent allotments would lead to an overall improvement in the condition of the riparian areas and watersheds within the CIAA.

Other activities that have and continue to occur within the CIAA and have impacts that affect the riparian areas and that overlap with those caused by livestock grazing include wildfires, roadways that cross streams, off-road OHV use, and range projects.

The improvement resulting from the implementation of this alternative would help offset the impacts from the other activities occurring within the CIAA, and the condition of the streams and springs that occur within the analysis area would make progress toward an improvement in condition and attaining the cumulative effects baseline.

3.4.2.1.3.2 Alternatives 3 and 4

The direct and indirect effects from Alternatives 3 and 4 (described in Sections 3.2.3.4 and 3.2.3.5) would allow sufficient herbaceous and woody vegetation to remain after the growing season to protect the stream banks during high flow events, allow vegetation to regenerate, and protect riparian soils from

physical alterations. When the direct and indirect effects of the alternatives are added to the other past, present, and reasonably foreseeable future actions described above, the condition of the streams, springs, and associated riparian-wetland areas within the analysis area watersheds would see an overall improvement. The improvements in the condition of the streams and springs would lead to increased riparian area function (i.e., increased water infiltration and improved aquatic and fish habitat).

Past and current livestock grazing within the CIAA generally occurs during the spring and summer months, degrading the riparian areas because streams are trampled and herbaceous and woody riparian vegetation are removed during the vulnerable riparian area growing season. Although there would be an incremental improvement from the implementation of either of these alternatives, it would be small overall when related to the livestock grazing within the CIAA because the past and current practices in the adjacent allotments are degrading the riparian habitat. However, since future proposed changes in grazing management to make progress toward meeting Rangeland Health Standards is expected to occur, there would be an improvement in the condition of the wetlands and riparian areas because an increase in the riparian woody and herbaceous communities would occur. As the plant communities change, stream banks would stabilize due to increases in deep-rooted riparian vegetation that bind the stream banks. Fine sediments would decrease and stream shade would increase due to the development of riparian communities. Eventually the channels would narrow and deepen and aquatic habitat conditions would improve as channel form recovers. Overall, the improvements expected within the allotment as well as within the adjacent allotments would lead to an overall improvement in the condition of the riparian areas and watersheds within the CIAA.

Other activities that have and continue to occur within the CIAA and have impacts that affect the riparian areas and that overlap with those caused by livestock grazing include wildfires, roadways that cross streams, off-road OHV use, and range projects.

The improvement resulting from the implementation of either of the alternatives would help offset the impacts from the other activities occurring within the CIAA, and the condition of the streams and springs that occur within the analysis area would make progress toward an improvement in condition and attaining the cumulative effects baseline.

3.4.2.1.3.3 Alternative 5

Under Alternative 5 (for details, see Section 3.2.3.5), the elimination of grazing for a period of 10 years would restore the riparian ecosystem because the rest from livestock grazing would allow for the recovery of the stream bank and a functional riparian plant community. Information is lacking on the length of rest required for recovery of riparian vegetation; however, shrubs often require longer periods of recovery than herbaceous vegetation (Powell, Cameron and Newman 2000). Improvement in stream channel form and function would only occur if the channel is at a stage where improvement is possible; for example, downcut systems would need to reach a new base level and widening would have to occur to allow vegetation establishment sufficient to resist higher flows (Leonard and Karl 1995). Recovery would also be dependent on the levels of degradation and the climatic variables (Bellows 2003). Since the allotments occur in an arid region and most of the riparian areas are degraded, 10 years of rest would not generate riparian-wetland areas that historically existed. However, research has found that in ungrazed areas, streams experienced decreased widths and depths (Clary 1999), vegetation cover increased two-fold, stream bank stability increased by 50 percent (Scrimgeour and Kendall 2002), and stream bank erosion was 3.3 times less in an ungrazed area compared to an area grazed at a moderate stocking rate and level of use (Kauffman 1982).

The implementation of this alternative would have the greatest benefit for the riparian and water resources within the allotments and the CIAA because the riparian ecosystem would recover most of the structural

and functional diversity that should occur within the allotments. Thus, the allotments would make progress toward meeting the water and riparian Standards 2, 3, and 7. Additionally, the ORMP objective to maintain or improve riparian-wetland areas to attain PFC for all lotic and lentic systems would be achievable the most quickly. Similarly, progress would be made toward meeting the ORMP objective to meet or exceed State water quality standards.

3.4.2.1.4 Special Status Plants

3.4.2.1.4.1 Resource Specific Analysis Area

The Cumulative Impacts Analysis Area (CIAA) for special status plants encompasses the collective outside boundary of all watersheds in which the Morgan Group allotments occur: Big Boulder Creek, Headwaters Deep Creek, Headwaters Jordan Creek, Jordan Creek-Sheep Spring Creek, Rock Creek, Soldier Creek, and Trout Creek-Jordan Creek (Map CMLV-1). This area is appropriate because the same types of disturbances and ecological processes function at this landscape scale on special status plant occurrences. Extending the CIAA beyond this boundary would dilute the impacts of the proposed action within the project area. The timeframe considers past actions that have influenced current conditions, activities planned within the next 3 years, and the expected life of this permit (10 years). The life of the permit was chosen because the effects of the proposed action and alternatives would change in 10 years, as it is assumed the permit would be reevaluated at that point.

Past, Ongoing, and Reasonably Foreseeable Activities

Past, present, and reasonably foreseeable future activities within the CIAA relevant to cumulative effects were determined using approximated BLM GIS data and are displayed in Section 3. 2. Several of the same past activities that have created the current condition of upland vegetation also apply to special status plants in the cumulative effects analysis area. However, special status plants occupy a drastically smaller portion of area than upland vegetation and, as a result, localized activities are less likely to impact special status plants unless they intersect with an area of species occurrence. Because there is limited monitoring information available on the special status plants in the CIAA, it is difficult to determine the degree of effects from past and ongoing activities, but general trends for special status plants are likely to be similar to upland vegetation, as they tend to be conjugates of each other. Table SSPS-2 displays the likely magnitude and type of effects of past and ongoing activities on special status plants in the cumulative effects analysis area.

Table SSPS-2: Past and Ongoing Activities and potential effects on Special Status Plants (SSP) in the CIAA

Activity	Magnitude of Effect on SSP	Type of Effect
Historic Livestock Grazing	Moderate, widespread	Direct Effect - herbivory and trampling plants; potentially reducing vigor and reproduction of individuals Indirect Effect- change in vegetation composition, non-native weed invasion, altered fire regime, habitat fragmentation; potentially decreasing suitable habitat, unknown effects on populations
Herd Management Area	Moderate in localized pasture within HMA	Direct Effect - trampling plants; potentially reducing vigor and reproduction of individuals

Activity	Magnitude of Effect on SSP	Type of Effect
		Indirect Effect- change in vegetation composition, non-native weed invasion, altered fire regime, habitat fragmentation; potentially decreasing suitable habitat, unknown effects on populations
Infrastructure (fences, reservoirs, troughs, structures, etc.)	Potentially high in a small percentage of occupied habitat	Localized elimination of individual plants and perhaps small occurrences; permanent degradation of habitat
Roads	Potentially high in a small percentage of occupied habitat	Localized elimination of individual plants and perhaps small occurrences; permanent degradation of habitat
OHV	Moderate to high, localized to a small percentage of occupied habitat	Localized seedbank loss, elimination of individual plants and perhaps small occurrences; severe habitat degradation
Trailing	Likely minor to low in a small percentage of occupied habitat	Localized physical impact and elimination of individual plants and perhaps small occurrences
Noxious Weed Treatment	Likely low if at all in a small percentage of occupied habitat	Overspray potentially reducing vigor and reproduction of individuals and mortality of individuals; unknown effects on populations
Wildfire & Fire Suppression	Minor to moderate, widespread	Low elevation: Long-term (>10 years) shift to reduced species diversity, non-native weed invasion, and altered fire regime. High Elevation: Long-term (>10 years) shift from grass/forb/shrub community to localized late seral shrub dominated areas with reduced species diversity and stress to special status plant occurrences
Prescribed Burning	Likely low if at all in a small percentage of occupied habitat	Short-term (<10 years) minor negative impact to habitat and change in competition; long-term (>10 years) shift from late seral shrub dominated community to grass/forb/shrub community with greater diversity and stability to special status plant occurrences
Mining Claims	Potentially high in a small percentage of occupied habitat	Localized physical impact and elimination of individual plants and perhaps small occurrences; permanent

Activity	Magnitude of Effect on SSP	Type of Effect
		degradation of habitat

Historic Livestock Grazing: This is the dominant land use activity in the area, with almost all of the acreage being managed for grazing. Historically, season-long grazing was common, which, in some areas, has precipitated a shift from a mid- to late seral perennial-dominated system to an early successional, non-native weed-dominated system increasing the amount of fine fuels and subsequently changing the fire regime. Currently, allotments in the CIAA are primarily grazed in the spring and summer months when vegetation (native and special status plants) and habitat are most vulnerable due to the critical growing season and saturated soils. Rested and deferred-use pastures have increased in more recent management with the initiation of range reform in the 1990s and the implementation of the Idaho Standards for Rangeland Health in 1997. Livestock grazing has varying degrees of adverse effect on special status plants (Section 3.7.2) and their habitats. However, grazing permit renewals typically implement grazing systems that minimize impacts to special status plants by adjusting the timing and intensity of livestock use in occupied habitat thereby reducing cumulative effects from these activities.

3.1.2.1.4.2 Common to All Grazing Alternatives

Infrastructure (fences, reservoirs, troughs, structures): A variety of infrastructure projects have been implemented across the landscape to aid in livestock grazing management. While no infrastructure projects are being considered within the purpose and need of this EA, it is anticipated that they would continue to be part of the landscape and that some lesser number would be added and/or modified to meet the needs of the livestock grazing industry in the future. Infrastructure throughout the landscape has created congregation areas with potentially localized impacts and elimination of plants possibly small occurrences. Further impacts from infrastructure are not likely as avoidance measures are adhered to in occupied habitats where new infrastructures and maintenance of existing infrastructures would occur.

Trailing: Cattle and sheep trailing routes currently traverse the CIAA and the project area (Section 3.2 - Table CMLV-2; Map RNGE-2). Trailing would typically occur on existing roadways for one day during the spring and a second day during the fall. While trailing permits are renewed on an annual basis, it is assumed the activity would continue to be authorized into the future. Trailing impacts on special status plants would be minor, if at all, given the mandatory term and condition of a narrowed width buffer (240 feet) along trailing routes within pastures containing special status plants (Section 3.7.2 Environmental Consequences and the 2012 Trailing EA (USDI BLM 2012b)) and the limited frequency and duration. The Owyhee Field Office recently finalized the OFO Livestock Trailing EA; the analysis specific to special status plants is incorporated here by reference (2012 Trailing EA (USDI BLM 2012b)).

Roads: There are 1,641 miles of gravel, native, and paved roads within the CIAA. It is anticipated that future roads would be constructed in association with range improvement and renewable energy projects, but direct impacts to special status plants are not likely to occur as avoidance measures would be included in the design features. However, where disturbance occurs from new roads at lower elevation there is potential for weed patches rather than native early seral species. Potential indirect impacts are non-native weed invasion in the short term (less than 10 years) and an altered fire regime and habitat fragmentation in the long term (more than 10 years).

OHV: The majority of the CIAA is open for general motorized use allowing for travel on established roads. However, unauthorized use does occur and has had negative localized resource effects where special status plant habitats are permanently or semi-permanently altered from repeated heavy use. With the increased popularity of OHV use and expanding population in the Treasure Valley, impacts to the

resource are expected to increase. While the resource in the southern part of the CIAA is subject to OHV use, the greatest pressure is in the northernmost allotments around the Owyhee Front, which share proximity to the lower Treasure Valley.

According to the ORMP (USDI BLM 1999a), OHV use is expected to increase 70 percent from 1999 to 2029 (RMP III-24); areas of low elevation, such as lakebed sediments along the Owyhee Front, are expected to be the highest use areas. This is a common theme for the CIAA within Oregon. In the near future, both Owyhee County, Idaho, and Malheur Resource Area in Oregon are expected to have travel management plans in place which may alleviate OHV resource concerns because routes would be designated, potentially reducing cross country and unauthorized travel. Even with a travel management plan, it is unlikely that unauthorized OHV activities would decrease without law enforcement considering the expected increase in pressure throughout the CIAA and the attraction of the sparsely vegetated rolling outcrops of the special status plant habitats to OHV enthusiasts.

Impacts to the resource from OHV use are likely to be of moderate to high magnitude, depending on the intensity (number of OHVs), frequency, and timing of the disturbance. Effects include localized seedbank loss, elimination of individual plants, decreased vigor, and habitat disturbance all of which could contribute to loss of an entire occurrence.

3.4.2.1.4.2 Alternative 1

No cumulative effects for this alternative are expected since there are no SSPS plant populations within the CIAA project area.

3.4.2.1.4.3 Alternative 2

Cumulative effects for this alternative are the same as in Alternative 1.

3.4.2.1.4.4 Alternative 3

Cumulative effects for this alternative are the same as in Alternative 1.

3.4.2.1.4.5 Alternative 4

Cumulative effects for this alternative are the same as in Alternative 1.

3.4.2.1.4.6 Alternative 5

Cumulative effects for this alternative are the same as in Alternative 1.

3.4.2.1.5 Wildlife and Special Status Animals

3.4.2.1.5.1 Resource Specific Analysis Area

A Cumulative Impact Analysis Area (CIAA) can vary greatly by species and their distribution across the landscape. Given the focal and current conservation importance of greater sage-grouse and their dependence on sagebrush steppe habitat, it is logical to choose an analysis area that is biologically relevant to their distribution. Sage-grouse are part of a larger regional population within north-central Nevada, southeastern Oregon and southwestern Idaho.

The greater sage-grouse is the primary focal species guiding the CIAA for wildlife. Considering their regional distribution and relationship with neighboring populations, the Northern Great Basin population of greater sage-grouse encompasses 5.7 million acres of north-central Nevada, southeastern Oregon, and southwestern Idaho (Map CMLV-2) and fits well with what is thought to be likely sage-grouse lek connectivity in the northern Great Basin (Makela and Major 2012).

Overall, a CIAA delineated for sage-grouse will provide meaningful context and relevance for other large and/or highly mobile species (e.g., big game, raptors, and migratory birds), while greatly exceeding the range of many resident fish, amphibians, reptiles and other wildlife species. This cumulative effects area encompasses all sage-grouse habitat within the OFO boundary, as well as additional adjacent habitat in southeastern Oregon, northern Nevada, and a substantial portion of the Bruneau Field Office in Idaho. Analysis timeframes include past activities that have created the present conditions and future activities planned within the next 3 years, including the expected duration of effects from current and future activities up to the life of this permit (10 years).

Sage-grouse PPH/PGH within the Morgan Group allotments is extensive and is connected to sage-grouse core habitat areas in Oregon (Map WDFL-1). Sage-grouse leks within the Morgan Group allotments are located on the eastern periphery of larger populations in the Jordon Valley and are constrained by the west slope of the Owyhee Mountains. Corridors of limited habitat quality (i.e., deep canyons, mixed shrub-juniper) are located in the Big Boulder Creek drainage that may allow sage-grouse to travel to other habitats to the east.

In much of the analysis area, upland, riparian, and stream habitats have been adversely affected by past grazing practices and rangeland management infrastructure, wildfire, vegetation treatments, and habitat fragmentation due to buildings, roads, and transmission line. As a result, wildlife habitat quality, quantity, and connectivity within the CIAA have been altered and populations of sage-grouse and other shrub steppe associated species have declined.

Disease such as West Nile virus (WNV) has been documented to have negative effects to sage-grouse populations and prompted IDFG to close the hunting season on grouse in western Owyhee County in 2006 due to concerns of WNV impacts (Idaho Sage-grouse Advisory Committee 2008). West Nile virus is carried by mosquitos that require an adequate water source for individuals to breed and eggs to hatch. Artificial water sources known to support breeding of the *Culex tarsalis* mosquito in sage-grouse habitat include overflowing stock tanks, stock ponds, seeps and overflow areas below earthen dams, and irrigated agricultural fields. Sage-grouse are at risk to WNV because they congregate in mesic areas in late-summer, often near artificial water sources. In addition, sage-grouse are considered a component amplifying host and capable of infecting naïve (non-infected) mosquitos, which may lead to a more rapid spread of the virus and increased mortality within flocks (Walker and Naugle 2011).

3.4.2.1.5.2 Common to All Grazing Alternatives

The effects of livestock grazing discussed in Section 3.2.5 can be anticipated to occur on other grazing allotments within the CIAA on federal, state, and private lands. Grazing during the critical growing season and the development of water sources (i.e., spring development, reservoirs), along with construction and maintenance of fences for livestock purpose, can be expected to occur. As a result, upland, riparian, and stream habitats have been adversely affected and fragmented over much of the CIAA.

Other activities that are expected to occur into the future include wildfire, agriculture, vegetation treatments, development, roads, and energy transmission, as well as recreation management. These activities either singularly or combined can cause the fragmentation, alteration, and loss of shrub steppe habitat and encourage the invasion of exotic species and increase fire frequency.

Past, Present, and Reasonable Foreseeable Future Conditions

Livestock Grazing

Livestock grazing has occurred over much of the area since the late 1880s. Presently, grazing is still a mainstay of individuals, families, and communities within the CIAA. It is anticipated that livestock grazing will continue into the future and that allotment assessments/evaluations/determinations will occur and adjustments made to meet Rangeland Health Standards and Guides as 10-year permits come up for renewal and issues are identified.

There are 251 active BLM grazing permits within the sage-grouse CIAA. Livestock grazing has occurred within the analysis area since the late 1800s. Livestock grazing over this period is a contributing factor to shifts in the plant community composition and diversity favoring smaller more grazing tolerant species and invasion annual exotic grasses. The impact of this plant community shift has reduced understory cover critical for nesting, brood-rearing, hiding, and escaping predators. Riparian areas are habitat features that attract livestock. These areas are important for early brood-rearing chicks that depend on the flush of insects where a diversity of forbs persist and are available into the late summer.

Trailing

Cattle and domestic sheep trailing have occurred in the past and are currently taking place on an annual basis. Trailing by nature is usually of short duration as animals are moved from one allotment/pasture to the next. Distances will vary depending on location of grazing allotments. Livestock consume very little forage when actively trailed. The effects of trailing are defined by the both time and space. The Owyhee Field Office recently finalized the 2012 Trailing EA; the analysis specific to sage-grouse is incorporated here by reference (Sections 3.4.1.1, 3.4.2.1 and 3.8.5 of the 2012 Trailing EA (USDI BLM 2012b). Additional trailing segments were evaluated in the Chipmunk Group FEIS; the analysis specific to sage-grouse is therefore also incorporated here by reference (Chipmunk Group EIS # DOI-BLM-ID-B030-2012-0014-EIS).

Trailing of livestock is confined to a defined corridor. Impacts to vegetation and sage-grouse cover elements are minimal because the effects are localized within a contained within the trailing corridor usually along a road. However, because trailing does occur during the lekking period and near display sites, livestock can cross areas where bids are congregating and my displace individuals. Temporal and spatial mitigations are required along the route that cross areas used for lekking as well conditions to avoid trailing activities in areas of sagebrush (Sections 3.4.1.1, 3.4.2.1 and 3.8.5 of the 2012 Trailing EA (USDI BLM 2012b). The cumulative effects of trailing are considered to be minimal due to localized disturbance along normally established road corridors and application of the spatial and temporal terms and conditions near areas used for lekking.

Range Improvement Projects (RIPs)

Range improvements in the form of reservoirs, spring developments, troughs, and fences have accompanied grazing throughout the CIAAs. The benefit of range improvements for wildlife is debatable; while some species may benefit from these developments, others may not. Of concern are the developments that are not to current BLM standards or are in disrepair. These developments often disconnect ground water flow, are over-grazed, or are transitioning to invasive species and reduce habitat quality near the development. Any future developments will be to BLM standards and undergo environmental review. Maintenance of developments occurs on a case-by-case basis and is usually not subject to additional environmental review unless substantial reconstruction or additional impacts may occur.

Fences have been developed to delineate allotments and pastures and to control livestock. New fences maybe constructed on a case-by-case basis as needed, under appropriate NEPA analysis, for improving

livestock use and distribution. However, fences can eventually come into disrepair and require regular maintenance to maintain and control of livestock.

Sage-grouse derive much of their water from the forage they consume; however they will use free water if available. Riparian areas associated with streams, wetlands, seeps, and springs are important habitat features for sage-grouse because of the availability of forbs as well as insects for early brood-rearing chicks. Proper design, placement, and maintenance of these improvement projects are critical to their use and to reduce impacts. Riparian fences in disrepair allow livestock to freely congregate and degrade riparian habitat conditions, alter ground/surface water flow and encourages establishment of invasive species. Non-functional troughs that allow unchecked overflow create bogs and mud holes that can facilitate the growth of mosquitoes and the spread of West Nile Virus. Relict troughs can also trap and drown wildlife.

Fences can cause direct mortality to sage-grouse. Hazard fences within high risk areas are located within 1.25 miles of a lek; on flat topography; where spans exceed 12 feet between posts; without wood posts; and where densities exceed 1.6 miles of fence per section (i.e., 640 acres; USDI BLM 2012a). Fences also create corridors and perches for predators such as ravens, hawks, owls, and eagles.

Wildfires and Fire Suppression

Wildfires historically were natural disturbance events that overall were beneficial to the diversity, composition, and distribution of the plant community and in turn provided abundant forage and cover for wildlife. However, in present times, the wildfire interval has become more frequent and, with the invasion of noxious species, has increased the risk of the native plant community shifting to a community dominated by an increasing presence of annual grasses and other exotic species. Wildfires at lower elevations have the greatest impact to the natural community and the shift in community composition. This condition decreases habitat structure and function and provides unsuitable forage and cover conditions for many shrub-steppe associated species.

Suppression activities can remove sagebrush vegetation, create linear openings, and fragment habitat. Pre-suppression activities are required to occur to identify sensitive resource issues to reduce suppression impacts. Post-fire rehabilitation efforts reseed disturbed areas to stabilize soils and improve habitat conditions. Current reseeding projects are now requiring the use of native seed if available.

Wildfires have the potential to burn over large areas and can contribute to plant community change. Wildfires at lower elevations are susceptible to invasions of cheatgrass and medusahead. Once established these exotic communities out compete and replace native communities. This change in the vegetation community does not have the composition and structure to create adequate nesting and hiding cover for sage-grouse and fragments habitat over a large area. Herbaceous composition post fire is generally the same species before the fire less the shrub cover; thus it is important to have a good species composition prior to disturbance.

Vegetation Treatments

Historically, wildfire disturbance intervals were adequate to control juniper encroachment and diversify shrub-steppe community composition and structure. Prescribed fire to control sagebrush and juniper has used this philosophy to improve grazing conditions for livestock. Mechanical treatments (i.e. chaining, chainsaws) to control juniper and sagebrush have also been used. The results often have mixed results for wildlife in that a period of restoration often needs to occur to realize the benefits or outcomes of the projects. Given the issues surrounding sage-grouse and sagebrush ecosystems, future vegetation treatment objectives will be very specific and localized to minimize broad-scale impacts.

Vegetation treatments can fragment habitat, displace individuals, and reduce important overstory and understory cover requirements for sage-grouse. There has been more than 28,000 acres (less than 1 percent) of primarily juniper control within the CIAA. Overly aggressive treatments can create large openings of stunted vegetation favoring predators such as coyotes. In addition, persisting juniper snags are used by as perch locations for hawks, eagles, owls, and ravens. However, project objectives to reduce juniper expansion and improve sagebrush steppe habitat conditions may be achieved over time and benefit sage-grouse when effective vegetation structure and composition are restored.

Roads

The construction of roads on public lands has resulted in the removal of habitat and contributes to fragmentation of the landscape. It is anticipated that any future road development will be project specific in association with range improvement and renewable energy projects rather than new transportation routes. Roads create openings that expose wildlife to predators and can disrupt movement patterns. In addition, mortality of wildlife often results when collisions with vehicles occur.

Depending on the construction, location, use, and maintenance of roads, they are open linear features on the landscape with reduced to no vegetation cover and forage. There are 8,083 miles (less than 1 percent) of road network within the CIAA. These linear features create open strips of non-habitat that allow sage-grouse to be located by predators and also increase the potential for collisions with vehicles. Inversely, roads also function as firebreaks and can work to control the spread of some fires and protect habitat for sage-grouse. Powerlines associated with roads create elevated perches and corridors for predators such as eagle, owls, hawks, and ravens.

Recreation

The CIAAs are open for general motorized use that allows for hunting, fuel wood gathering, collection of miscellaneous products, camping, and motorized touring on established roads. Recreation can limit and disrupt movement patterns of wildlife and cause species to avoid areas where intense and excessive activities are occurring.

Sage-grouse occur in natural areas that are also used by outdoor recreationists. Recreation can range from bird-watching to motorcycle racing. Areas closer to urban settings receive the highest use. Sage-grouse avoid humans and human activity. Recreation can disrupt movement patterns and seasonal behavioral activities and may cause individuals to abandoned nests and relocate depending in the intensity of the recreation.

Agriculture

Agriculture ranging from pastureland to grain crops occurs within the CIAA for sage-grouse and bighorn sheep. A majority of the agricultural activity occurs along the Snake River and in the Jordan Valley areas, with scattered homesteads along more prominent roads. Agriculture is anticipated to occur into the future.

Large portions of sagebrush-steppe habitat have been converted to agricultural uses and contributed to the loss and fragmentation of sage-grouse habitat. There are currently over 620,000 acres (approximately 1.0 percent) of agriculture lands within the CIAA. Sage-grouse are attracted to fields such as alfalfa because of the high availability of quality forage and insects and will visit these fields, often at the expense of their own security. Mortality of individuals may occur because of increased predation and road-related fatalities.

Mining Activity

Limited mining activity does occur within the CIAA for sage-grouse and bighorn sheep. The size and purpose of the mine dictates the impacts that can be anticipated. Surface mining can alter the topography,

permanently remove native habitat and encourage the spread of noxious weeds. Limited smaller scale mining activity is anticipated to occur in the future.

Limited mining activity is anticipated to continue in the CIAA. Machinery and increased human activity can cause sage-grouse to alter behavior activities and avoid the area. Surface activities will contribute to habitat loss and fragmentation. Increased structures provide perch locations for predators such as hawks, owls, and ravens.

Energy Development and Transmission Lines
Energy development (i.e., wind, geothermal, solar) is a rather new demand. Energy exploration, development and transmission are anticipated to be constructed as the national demand for energy increases. Construction of collection and generation facilities can require large tracts of land and increase human activity. Transmission structures can span multiple states and require maintenance of tower structures and access routes.

The construction and operation of energy facilities can permanently remove sage-grouse habitat. Associated with these facilities is increased machinery and human activity. The impacts of these facilities expand beyond their operational footprint, making the adjacent habitat less desirable. Sage-grouse will avoid these areas and possibly relocate. Transmission lines also increase road densities and human activity. However, transmission lines create perch locations for predators such as hawks, eagles, owls, and ravens.

3.4.2.1.5.3 Alternative 1

The effects of Alternative 1 are discussed in Section 3.2.5.1 and 3.2.5.2 Grazing during the critical growing season, the development of water sources (i.e., spring development, reservoirs), and placement of fences for livestock purposes are contributing factors to the current conditions of upland, riparian, and aquatic habitats over much of the CIAA. When the effects of Alternatives 1 are added to past, present, and reasonably foreseeable future actions within the CIAA, the culmination of effects would continue to maintain or contribute to negative trends in wildlife habitat and populations. These alternatives are not anticipated to progress the allotments toward achieving ORMP management objectives or meeting Standard 8 and do not contribute to improved or enhanced health to the CIAA.

The amount of PPH/PGH modeled sage-grouse habitat within the Morgan Group allotments is approximately 43,050 acres and makes up a about 0.76 percent of the CIAA. It is difficult to determine the level of unacceptable change in the Owyhee sage-grouse subpopulation and other wildlife populations due to the extent of rangelands that are currently not meeting Idaho Rangeland Health Standards. However, given current upland and riparian health conditions, it can be anticipated that sage-grouse populations will not respond favorably to another 10 years of static or downward-trending habitat conditions.

3.4.2.1.5.4 Alternative 2

Where Alternative 2 is the same or similar to Alternative 1, the effects of Alternative 2 as well would be expected to be similar to Alternative 1. Review Section 3.4.2.1.5.3 Alternative 1 for further discussion.

Where Alternative 2 is the same or similar to Alternative 3, the effects of Alternatives 2 as well would be similar to Alternative 3. Review Section 3.4.2.1.5.5 Alternative 3 of the effects of Alternative 2 that can be anticipated.

3.4.2.1.5.5 Alternative 3, 4, and 5

Under Alternatives 3, 4 and 5, wildlife habitat conditions are expected to improve and progress toward meeting ORMP management objectives, as well as Standard 8 (see Sections 3.2.5.1, 3.2.5.4, 3.2.5., 3.2.5.6). Implementation of Alternatives 3, 4, or 5 would incrementally improve wildlife habitat conditions within the CIAA and substantially increase the quality, quantity, and connectivity of upland and riparian vegetation communities, therefore benefiting wildlife populations, including sage-grouse, within the CIAA. When added to past, present, and reasonably foreseeable future actions, the benefits of Alternatives 3, 4, and 5 are anticipated to advance the condition of the sagebrush-steppe habitat and not negatively contribute to conditions in the CIAA.

Sage-grouse habitat is expected to improve under Alternatives 3, 4, and 5. Improved grazing practices under Alternatives 3 and 4, or no grazing under Alternative 5, will progress vegetation composition and structure toward improving sage-grouse cover and forage. Because of the small percentage of the Morgan Group allotments within the CIAA, it is difficult to ascertain the incremental benefits to sage-grouse; however, implementing Alternatives 3, 4, or 5 will only contribute to improving the quality and quantity of sagebrush-steppe habitat and benefitting conditions in the CIAA. By implementing these alternatives, these actions would contribute a net benefit of approximately 29,766 acres (around 0.5 percent) of improved upland and riparian habitat for sage-grouse on BLM lands within the CIAA (includes pubic, state, and private). Proportionally, the contribution of BLM lands in the of the Morgan Group allotments to the larger Owyhee 68 allotments (604,008 acres of BLM, Map CMLV-2) is approximately 5 percent.

3.4.2.1.6 Recreation and Visual Resources

3.4.2.1.6.1 Resource Specific Analysis Area

Cumulative effects to recreation and visual resources within the Allotments would primarily be the result of grazing, future vegetation treatment projects (such as broadcast burning in surrounding areas), and current and future actions that stem from the OMA. The area of analysis boundaries for cumulative effects would be Highway 95 to the west, MudFlat Road to the south, Triangle on the east, and Jordan Creek on the North. This area is a good representation of the recreation activity that occurs within the area. The timeframe considered is activities since OMA for current conditions and activities planned within the next 3 years, and the expected duration of effects from those activities (generally 10 to 20 years).

3.4.2.1.6.2 Common to All Alternatives

Recreation – All Alternatives

Cumulative analysis of the alternatives when added to past, present, and future actions, within the analysis area, would have minimal effects to recreation overall. Because few effects are expected from any alternatives, cumulative effects would be minimal for recreation. Opportunities for recreational activities in the cumulative analysis area are abundant and would sustain minimal impact from the alternatives. Access would be limited during the burn treatments in the southern portion of the analysis area which, depending on the timing, would affect the ability to access areas for hunters and other recreationists. Range improvements in neighboring allotments would reduce some opportunities for non-motorized cross country travel. Cumulatively with road closures as a result of wilderness designations, accessibility in the area for hunters and other recreationists who rely heavily on roads and trails for motorized access would be reduced. The expected vegetative improvement from the alternatives, along with development of a travel management plan, would result in an improved recreation experience. During periods of livestock use, there would be an increase in potential human/livestock interactions.

In the long term, the combined effects of suitable grazing management, travel management planning, and vegetative treatment projects planning within the cumulative analysis area would be beneficial to the overall health and scenic quality of the area, which in turn would result in an improved recreation experience.

Visual Resources – All Alternatives

Grazing activities throughout the analysis area would contribute in varying magnitudes toward cumulative effects by influencing plant species composition within the uplands as well as riparian areas. While these impacts may be greater or lesser within differing allotments, overall these impacts would be considered minimal throughout the cumulative analysis area as a whole.

In the short-term some visual impacts would occur within the cumulative analysis area during construction of any range improvement projects as new areas of disturbance are created. However, because of the excellent vegetative screening and rugged topography throughout much of the analysis area and minimal construction techniques, these types of features are substantially unnoticeable except at very close distances.

Juniper treatment projects within the southern portion of the analysis area would have extensive effects on visual resources. An estimated 50-70% reduction in seral junipers would have a beneficial long-term effect on visual quality as scenic vistas open up and aspen, perennial grasses and other vegetation increase as a result of juniper removal. Additionally, retaining 30-50% of the existing juniper as well as old growth juniper and mahogany stands would remain and assist in maintaining the scenic quality throughout the area. The girdling of trees would provide the landscape with a more natural appearance as trees slowly expire, which helps maintain the visual characteristics of the area. Girdling, as opposed to the dropping of trees on site, gives casual observers/sightseers traveling through the area the appearance that the area was once burned by wildfire.

The effects of future actions such as travel management planning throughout the cumulative analysis area would be beneficial to the overall health and scenic quality as resources are further protected.

Overall, the combined effects of suitable grazing management, or no grazing, travel management planning, and vegetative treatment projects within the cumulative analysis area would be beneficial to the overall health and scenic quality of the area

3.4.2.1.7 Wilderness Areas

3.4.2.1.7.1 Resource Specific Analysis Area

Cumulative effects to wilderness would primarily be the result of grazing, and current and future actions that stem from OPLMA that was passed by congress on March 30, 2009 (P.L. 111-11). The passing of the Act designated roughly 517,000 acres of wilderness and 316 miles of wild and scenic rivers within Owyhee County. In addition, the Act also mandates the BLM to complete a transportation plan for all of Owyhee County. The area of analysis for cumulative effects is the North Fork Owyhee Wilderness area. The wilderness area in its entirety was selected as the analysis area due to the fact that activities that occur within wilderness, whether throughout the entire wilderness area or only a portion of the wilderness, influence the character, and values as a whole. The timeframe considered is activities since OMA for current conditions and activities planned within the next 3 years, and the expected duration of effects from those activities (generally 10 to 20 years).

3.4.2.1.7.2 Common to All Alternatives

Wilderness – All Alternatives

Effects to wilderness and wild and scenic rivers are expected to be negligible under these alternatives. There are no proposed range improvement projects within the wilderness area, thus there would be no impacts associated with these projects. Grazing activities throughout the analysis area would contribute in varying magnitudes toward cumulative effects by influencing plant species composition within the uplands and riparian areas, thus impacting wilderness character to a greater or lesser degree. While these impacts may fluctuate within differing allotments, overall these impacts would be considered insignificant throughout the cumulative analysis area as a whole and would not impair wilderness characteristics. Cumulatively, the impacts to solitude or primitive and unconfined recreation within designated wilderness areas would be inconsequential.

In the long term, the combined effects from suitable grazing management within the cumulative analysis area, and travel management planning outside the wilderness boundaries would be beneficial to wilderness areas and wild and scenic rivers, as the lands within and surrounding these areas improve overall.

3.4.2.1.8 ACECs

3.4.2.1.8.1 Resource Specific Analysis Area

Cumulative effects to ACECs would primarily be the result of grazing, and current and future actions that stem from OPLMA. The area of analysis for cumulative effects is the Boulder Creek ACEC. The ACEC area in its entirety was selected as the analysis area due to the fact that activities that occur within ACEC, whether throughout the entire ACEC area or only a portion influence the character as a whole. The timeframe considered is activities since OPLMA for current conditions and activities planned within the next 3 years, and the expected duration of effects from those activities (generally 10 to 20 years).

3.4.2.1.8.2 Common to All Alternatives

Effects to the Boulder Creek ACEC are expected to be minimal under any of the alternatives alternatives. There are no proposed range improvement projects within the ACEC, thus there would be no impacts associated with these projects. Grazing activities throughout the analysis area would contribute in varying magnitudes toward cumulative effects by influencing plant species composition within the uplands and riparian areas, thus impacting ACEC character to a greater or lesser degree. While these impacts may fluctuate within different area, overall these impacts would be considered insignificant throughout the cumulative analysis area as a whole and would not impair the ACEC.

In the long term, the combined effects from suitable grazing management and travel management planning within the cumulative analysis area, would be beneficial to the ACEC, as the lands within and surrounding the ACEC improve overall.

3.4.2.1.9 Social and Economic Values

3.4.2.1.9.1 Resource-Specific Analysis Area

The scope of this analysis covers Owyhee County, ID, and Malheur County, OR, because although the Owyhee Field Office has jurisdiction only over the allotments within the Owyhee Resource Area, the ranchers applying for livestock grazing permit renewals maintain base ranches near Jordan Valley, Oregon.

Past, Present, and Reasonably Foreseeable Future Actions

As stated in the background section of this EA, the BLM Owyhee Field Office prioritized and grouped allotments to fully process and renew grazing permits in accordance with the Order Approving Stipulated Settlement Agreement (United States District Court for the District of Idaho Case 1:97-CV-00519-BLW) dated June 26, 2008. The agreement defined a schedule for completing the environmental analyses and final decisions for grazing permits in a number of allotments.

Past actions taken regarding grazing permit renewals will affect the socioeconomic conditions in both counties because they influence decisions the operators make regarding their ranches. There are 124,251 active use AUMs permitted in Owyhee County (135,116 active use AUMs in the ORMP (USDI BLM 1999a) minus the 9,558-AUM reduction in the Final Decisions for the Owyhee River Group Final EA (DOI-BLM-ID-B030-2012-0012-EA), the 576-AUM reduction in the Final Decision for the Pole Creek Allotment Final EA (DOI-BLM-ID-B030-2009-0004-EA, and the 731-AUM reduction in the Proposed Decision for the Final Trout Springs and Hanley FFR EA (DOI-BLM-ID-B030-2009-0003-EA; the Proposed Decision for the Final Nickel Creek FFR EA (DOI-BLM-ID-B030-2011-0006-EA) includes no changes in AUMs), and 407,473 active use AUMs permitted in the Malheur and Jordan Resource Areas in Oregon (USDI BLM 2002). Proposed Decisions and the Final EIS (DOI-BLM-ID-B030-2012-0014-EIS) for the Chipmunk Group, which is the second of six groups in the Owyhee 68 priority allotments, will be released in October 2013; the economic impact figures used in that EIS will be used for this cumulative effects analysis. Table SOCE-13 shows the value to the community of AUMs for each of the alternatives in this EA, combined with the final changes in the Owyhee River Group and proposed changes in the Chipmunk Group and the Group 6 allotments (Fossil Butte Group, Nickel Creek FFR, Trout Springs, Hanley FFR, and Pole Creek), as well as estimated possible changes for the Toy Mountain and South Mountain Groups.

3.4.2.1.9.2 Cumulative Effects for Alternatives 1 through 5

Currently, for Alternatives 1-4 in this EA, as long as the ranches remain in business, they will continue contributing to employment and the purchase and sale of goods and services in the local areas, and community cohesion will be maintained. For Alternative 5, not renewing the permits would mean that the BLM would no longer be contributing to the ranching community by providing grazing land, and if the ranches chose to close, the operators would no longer be contributing to employment or the purchase and sales of goods and services in the community. The U.S. government would continue contributing to the county through payments in lieu of taxes (PILT), which totaled more than $9.5 million in Owyhee County from 2003 to 2012, for an average of about $956,000 per year. Ranching plays a large role in both counties, so although the loss of any or all of the Morgan Group ranches alone could have a substantial impact on the local communities, the loss, which is small in proportion to the total livestock operations' contributions to the two-county area, likely would not have a cumulative effect on a larger scale. However, AUM changes incorporated in the alternatives presented here, combined with proposed or final AUM reductions in the Owyhee River Group and some Group 6 (Pole Creek, Nickel Creek FFR, Trout Springs, and Hanley FFR[65]) allotment permits, could have either positive or negative impacts to local suppliers, since the operators associated with all of these allotments might choose to alter ranch operations in ways that would require either increases or reductions in supply purchases.

Allotments in the analysis area are in various stages of the 10-year permit cycle, and as expiration dates approach, each allotment is evaluated for rangeland health and progress toward meeting the Fundamentals of Rangeland Standards prior to the authorization of a new permit. Following these evaluations, the BLM

[65] The Group 6 allotments listed above all have either Proposed or Final Decisions that have recently been released for public review. Grazing permit renewals for the remaining Group 6 allotments (Fossil Butte, Sinker Butte, Con Shea, Murphy FFR, Montini FFR, and Joyce FFR) are currently being developed, and Draft and Final EAs, as well as Proposed and Final Decisions, will be released within the same timeframe as Groups 3 through 5, with Final Decisions released before December 31, 2013.

will prepare NEPA documents, either in the form of Environmental Assessments or Environmental Impact Statements. As noted in Section 1.3 of the EA, livestock grazing permits for all of the Owyhee 68 allotments must be renewed by December 31, 2013; draft Environmental Assessments are currently being prepared for the Toy Mountain and South Mountain priority allotment groups (Groups 3 and 4), as well as some of the Group 6 allotments, all of which will be released within a few weeks of each other. These documents will analyze the social and economic impacts of implementing multiple alternatives, just as this Group 5 EA does, and will be followed by Proposed and Final Decisions regarding renewal of each of the grazing permits. While it is not possible to analyze those impacts in this EIS because future possible changes in the management of the Toy Mountain and South Mountain groups have not been released, estimates of impacts based on a range of AUMs are presented below.

It would be speculative at this time for this EA to include the cumulative impacts from those future actions not yet defined, and for which final decisions have not been issued. Future NEPA analysis in all Owyhee planning area grazing permit renewal efforts will include the cumulative effects of past, present, and foreseeable actions at that point in time. That analysis will include the cumulative effects to the social and economic environment that result from implementing the selected alternative in this EA. For any allotments in Groups 3 through 6 that meet all Standards and Guidelines, reductions in AUMs may not occur; renewing permits for all of the allotments in Groups 3, 4, and 6 (for Group 6, this includes only the allotments without recent proposed or final decisions) at currently permitted levels would maintain active permitted use at 24,350 AUMs. However, because reductions in AUMs have been proposed on allotments in the Owyhee River, Chipmunk, and Morgan Groups that have not met Standards or Guidelines, it is reasonable to assume that future reductions may occur on any allotments in Groups 3, 4, and 6 that are not meeting Standards or Guidelines as well. Those potential reductions, combined with any impacts that may result from changes in management of the Owyhee Group and some Group 6 allotments and proposed changes in the Chipmunk Group and Morgan Group allotments, could have substantial impacts on local economic activity. Social and economic effects experienced locally from reductions on each permit would be compounded on a county-wide or regional basis.

In addition to the Owyhee 68 permits, there have been decisions recently issued by the BLM Owyhee Field Office that, when implemented, will contribute cumulative effects to the social and economic environment in the analysis area (See Section 2.2 for a description of the grazing permit renewal summary). The Pole Creek Allotment Final EA analyzed, and the proposed decision selected, a 576-AUM reduction. The Final EA and Proposed Decision for the Trout Springs and Hanley FFR allotments was released September 20, 2013, and selected an authorization of 699 active use AUMs, for a reduction of 731 active use AUMs. The Final EA and Proposed Decision for the Nickel Creek FFR allotment selected an authorization of 109 AUMs, which is the same as the previous grazing permit. In the context of cumulative effects analysis, these reductions are considered foreseeable actions rather than speculative because the NEPA analysis is completed and the proposed or final decisions have been issued.

A number of permit renewals have been completed and implemented since implementation of the ORMP in 1999 that may have residual effects to the social and economic environment today. Eighteen of the 134 allotments in the Owyhee Field Office considered in this cumulative effects analysis have had AUM reductions and include Castlehead-Lambert, Cliffs, Elephant Butte, Garat, Hardtrigger, Rockville, Rabbit Creek/Peters Gulch, Swisher Springs, Strodes Basin, Trout Springs, Bull Basin, Nickel Creek, Gusman, Silver City (which was combined with Diamond Creek after ORMP publication), Louse Creek, Burghardt FFR, ‘45’, and Tent Creek. The effects of issuing these permits resulted in AUM reductions totaling 20,766 within the planning area (ORMP table LVST-1, RAS data (available from the Idaho BLM State Office project record upon request).

The cumulative effects to the social and economic environment analyzed in this EA are within the context of the following three analysis assumptions:

- When it was completed in 1999, the Owyhee Resource Management Plan (ORMP) identified 135,116 active use AUMs in the planning area (Proposed RMP at 23). The Final EIS projected that meeting the rangeland health objectives through the implementation of Alternative E (the selected RMP) would cause substantial adjustments to be made in livestock grazing throughout the planning area (EIS at IV-269). The EIS concludes in the effects to livestock management section (IV-271) that active use AUMs would decrease 22 percent, or about 30,000 AUMs over the estimated 20-year life of the plan. The level of AUM reductions analyzed in the grazing alternatives in this EA, added to all AUM reductions implemented or proposed in other permit renewal actions within the planning area, would result in 115,320 active use AUMs permitted, and would be within the AUM reduction levels analyzed in the Final ORMP/EIS (105,899 AUMs by 2019)[66].

- In pursuit of meeting the resource objectives in the ORMP as well as the Standards for Rangeland health, the above AUM numbers are approximate estimates and future authorized levels of livestock use may change. If future AUM reductions within the Owyhee Field Office are greater than those analyzed in the ORMP/EIS, they will be subject to further NEPA analysis.

- The CEQ regulations state that the *"Human environment" shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of "effects" (Sec. 1508.8). This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment* (40 CFR 1508.14).The effects analysis in this EA discusses the social, economic, natural, and physical environment in this context.

Table SOCE-13: Total value of Owyhee 68 Groups 1-6 permitted AUMs to the community[1]

Alternative	Value of AUMs to community	Total value to community with full authorization of Groups 3&4 AUMs	Total value to community with 75% authorization of Groups 3&4 AUMs	Total value to community with 50% authorization of Groups 3&4 AUMs	Total value to community with 25% authorization of Groups 3&4 AUMs	Total Value to community with no grazing in Groups 3&4
1 (Current Situation)	$2,257,418	$3,649,703	$3,301,631	$2,953,560	$2,605,489	$2,257,418
2	$2,316,191	$3,708,476	$3,360,405	$3,012,333	$2,664,262	$2,316,191
3	$2,079,156	$3,471,441	$3,123,370	$2,775,299	$2,427,228	$2,079,156
4	$1,929,679	$3,321,964	$2,973,893	$2,625,822	$2,277,751	$1,929,679
5 (No Grazing)	$966,078	$2,358,363	$2,010,292	$1,662,221	$1,314,149	$966,078

[1]Based on estimates by Darden et al (See Section 3.10.1 above)
[2] The first column is the value of AUMs to the community from the Owyhee River Group, Chipmunk Group (minus Alternative 5), and Morgan Group allotments, as well as the Group 6 allotments with proposed or final decisions (Pole Creek, Nickel Creek FFR, Trout Springs, and Hanley FFR) allotments; all other columns include the total value from column 1 plus the total value of the AUMs in Groups 3 and 4 at different possible authorization levels.

[66] This document tiers to the ORMP Final Decision and incorporates the Final ORMP EIS by reference.

3.4.2.1.10 Cultural Resources

3.4.2.1.10.1 Resource Specific Analysis Area

The scope of analysis for the Morgan Group allotments is considered to be the individual allotment boundaries. The range of known cultural site characteristics is similar to those in the surrounding areas, the group is not part of a historic district under which sites could have a contributing element potential or would need additional protection, and there are no recorded or known Traditional Cultural Properties or scared sites within the allotments.

3.4.2.1.10.2 Common to All Grazing Alternatives

The potential effects from livestock grazing upon cultural resources are discussed in section 3.2.10. The greatest threat to the resources is the congregating of animals at site locations. If historic properties experience ground disturbances deeper than 10 centimeters below surface level, there is the possibility of affecting buried cultural deposits and the site's potential eligibility for the NRHP may be compromised.

3.4.2.1.10.3 Alternatives 1 to 5

Alternatives 1 and 2 would fundamentally continue the current grazing systems of the expiring permits. Under these systems, generally the minor effects to sites caused by livestock grazing could be expected to continue, but would not be expected to affect a site's NRHP eligibility. Alternatives 3 and 4 can decrease the possibility of grazing impacts by changing the season of use, reducing the numbers of livestock and/or including pasture rest cycles. Potential and actual effects as previously discussed would apply to these two alternatives. Any effects to unrecorded sites may continue depending on their locations. Because any new undertakings proposed for the allotments would receive a separate cultural resources review under NHPA, no cumulative effects are expected under these alternatives.

Alternative 5 would remove any possibility of livestock grazing effects to cultural resources and since any future proposed undertakings unrelated to these permit renewals would be subject to a separate NHPA compliance review, there are no cumulative effects expected under this alternative.

Paleontological Resources

Because of the absence of fossil-bearing strata underlying any of the allotments in the Morgan Group and the subsequent lack of any fossil sites, there would be no cumulative effects to paleontological resources.

4 CONSULTATION AND COORDINATION

As per 4130.3-3, "Following consultation, cooperation, and coordination with the affected lessees or permittees, the State having lands or responsible for managing resources within the area, and the interested public, the authorized officer may modify terms and conditions of the permit or lease when the active use or related management practices are not meeting the land use plan, allotment management plan or other activity plan, or management objectives, or is not in conformance with the provisions of subpart 4180 of this part. To the extent practical, the authorized officer shall provide to affected permittees or lessees, States having lands or responsibility for managing resources within the affected area, and the interested public an opportunity to review, comment and give input during the preparation of reports that evaluate monitoring and other data that are used as a basis for making decisions to increase or decrease grazing use, or to change the terms and conditions of a permit or lease." The BLM has completed extensive consultation, cooperation, and coordination with affected permittees and interested publics.

In addition to the scoping document sent out February 11, 2013, several meetings were held in April and May of 2013 to coordinate with permittees to amend applications submitted in late 2011, several follow-up phone conversations were made to further clarify permit applications (Appendix D). In addition Idaho State department of Lands (IDSL) were invited to join on these meetings. Permittees that BLM met with include:

- ✓ Dale Berrett
- ✓ Tom Gluch
- ✓ David Rutan, Morgan Ranches
- ✓ Mindy Kershner, for WF & Carolyn Peton
- ✓ Terry Warn
- ✓ Phillip & Ben Williams
- ✓ Bob Wroten, Wroten Land & Cattle Co.

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Bonnie Claridge	Fisheries Biologist	BLM, 15 years
Jim Priest	Wildlife Biologist	Colville Tribes, 8 years BLM, 12 years
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Ryan Homan	Outdoor Recreation Planner	BLM, 10 years
Brian McCabe	Archaeologist	BLM, 15 years
Jessica Gottlieb	Writer/Editor	USDA, 3 years BLM, 2 years
Jayson Murgoitio	GIS Specialist	DOD, 8 years Environmental Conservation Services, 3 years BLM, 2 years
Eric Mayes	NEPA Specialist	BLM, 11 years
Seth Flannigan	NEPA Specialist	BLM, 3 years

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7 APPENDICES

See accompanying document.

8 MAPS

See accompanying document.