

Rangeland Health Assessment
Ballantyne Section 15 Allotment (01198)

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General Allotment Information

The Ballantyne Section 15 Allotment (01198) is located one-half mile west of the tail waters of Anderson Ranch Reservoir, approximately two miles southwest of Pine, Idaho (Map 1). The allotment is comprised of approximately 723 acres of public land. This number represents the most current and accurate estimate of the allotment's acreage.

The allotment is located within the Central Rocky Mountains, 43B, US Department of Agriculture Major Land Resource Area (USDA, 2006). Elevations range from 4,600 feet to 5,000 feet. Major landforms consist of mountainsides and side slopes. The soils consist of Roanhide-Bauscher-Schoolhouse association (50%), Stavely-Coski-Switchback complex (30%), and Rainey-Schoolhouse-Oland association (20%). The north facing slopes are generally forested by Douglas-fir with some ponderosa pine. The south facing slopes are the South slope gravelly 12-16” ecological site; the characteristic plant community for this ecological site mountain big sagebrush with bluebunch wheatgrass [ecological sites are named by their general soil type and precipitation (inches); actual precipitation at nearby Anderson Dam and Glenss Ferry varied (Figure 1)]. Based on photos and field visits, south facing slopes were vegetated by a mosaic of mountain brush (e.g., snowberry, antelope bitterbrush, and bittercherry) and mountain big sagebrush communities.

Fire history records for BLM from 1957 to the present one wildfire occurred within the allotment. The Elk Complex Fire burned the entire allotment in 2013. The degree and severity of the burn is unknown. It likely had a significant effect on woody species and possibly herbaceous species depending on the severity of the fire. However, because no site visits have been made since the fire, the assessment reflects pre-wildfire conditions.

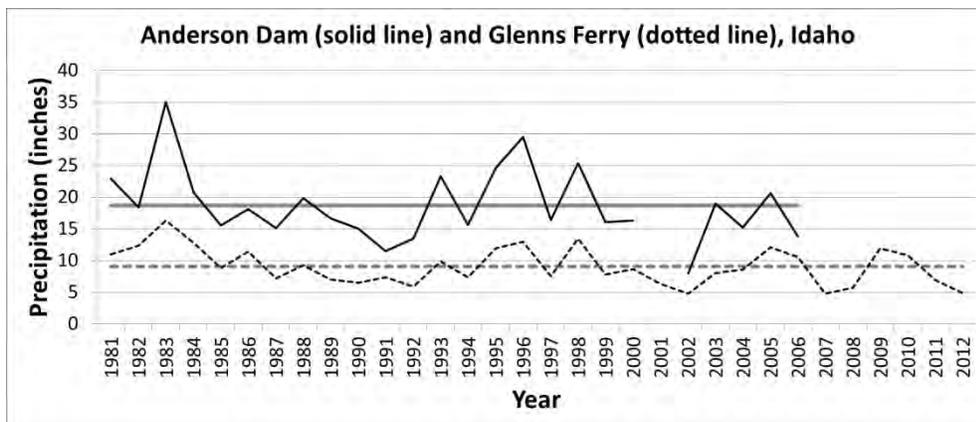


Figure 1. Annual and mean precipitation at Anderson Dam and Glenns Ferry, Idaho (Source: National Climate Data Center).

Livestock Grazing Management

The Ballantyne Section 15 Allotment was created through a Section 15 lease originally implemented in 1974. The grazing permit authorizes livestock use between June 1 and June 30, for a total of 142 Animal Unit Months (AUMs; Table 1).

Table 1. Authorized use summary, Ballantyne Section 15 Allotment, Elmore County, Idaho.

Authorization Number	Livestock		Season of Use		% Public Land	Authorized AUMs		
	Kind	Number	Begin	End		Active	Suspended	Permitted
1101643	Cattle	144	06/01	06/30	100	142	0	144

Based on actual use reports submitted by the authorized livestock operator or annual authorizations, annual use ranged from 7 to 142 animal unit months (AUMs) between 1997 and 2013 (Table 2).

Table 2. Actual use between 1997 and 2013, Ballantyne Section 15 Allotment, Elmore County, Idaho.

Grazing Year	Use Period		AUMs
	On Date	Off Date	
1998	06/01	06/30	142*
1999	06/01	06/30	Non-Use*
2000	06/01	06/30	142*
2001	06/01	06/30	142*
2002	06/01	06/30	142*
2003	06/01	06/30	142*
2004	06/01	06/30	142*
2005	06/01	06/30	142*
2006	06/01	06/30	142*
2007	06/15	08/03	7
2008	06/01	06/28	10
2009	06/01	06/29	11
2010	06/01	06/30	142*
2011	06/01	06/30	142*
2012	06/01	06/30	11
2013	06/01	06/30	20*

*AUM's based on annual billing, no actual use on file.

Idaho Standards for Rangeland Health

In 2004, the BLM conducted one rangeland health field assessment using *Interagency Technical Reference 1734-6, Interpreting Indicators of Rangeland Health ver. 3* (Map 1). The Elmore County Soil Survey (USDA-SCS, 1991) was used to identify ecological site descriptions, based on mapped soils and landforms, and verified during field visits. Natural resources were assessed according to the Idaho Standards for Rangeland Health, as adopted by Idaho BLM in 1997. The following subsections of this document discuss resource conditions as they relate to each of the applicable standards.

Rangeland health field assessments used a variety of indicators to help determine rangeland health. However, no single indicator provided sufficient information to determine rangeland health and only those indicators appropriate to a particular site were used. Therefore, not all indicators were given equal weight from in different locations. For example, indicators #1-Rills and #6-Wind-scoured Blowouts/Deposition would not occur on a site with flat terrain and a gravelly soil surface. These indicators would be rated “none to slight” by default; but, would not be given the same weight as more applicable indicators for that site, e.g. #4-Bare Ground and #10-Plant Community Composition Relative to Infiltration and Runoff, when determining overall attribute ratings for the site. In rangeland health field assessments, “none to slight” and “slight to moderate” categories reflected the normal range of variability expected for the ecological site. However, “moderate”, “moderate to extreme”, and “extreme” categories reflected a significant departure from expected conditions for the ecological site.

Standard 1: Watershed

Rangeland Health Field Assessment

Twelve of the 17 rangeland health indicators (1-11 and 14) relate to soil stability and hydrologic function (Table 3). The number in the range of departure columns represents the number of assessments with the indicator rating in that category. For example, the indicator for the water flow patterns (#2) rated in the “slight to moderate” range of departure from expected conditions for the ecological site at one site, etc.

Table 3. Watershed indicators of rangeland health, Ballantyne Section 15 Allotment, Elmore County, Idaho.

Indicators of Soil Site Stability and Hydrologic Function	Range of Departure				
	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
1-Rills					1
2-Water Flow Patterns				1	
3-Pedestals/Terracettes					1
4-Bare Ground					1
5-Gullies					1
6-Wind Scoured blowouts/depositions					1
7-Litter Movement					1
8-Soil Surface Resistance to Erosion					1
9-Soil Surface Loss or Degradation					1
10-Plant Community Composition and Distribution Relative to Infiltration and Runoff					1
11-Compaction Layer					1
14-Litter Amount				1	
Total Indicators = 12 (12@1 site)				2	10

All indicators of soil/site stability and hydrologic function rated within the normal range of variability for expected conditions for the ecological site (Table 3, Appendix 1).

Standard 2: Riparian Areas and Wetlands/Standard 3: Stream Channel and Floodplains

Perennial stream segments were examined and rated for functioning condition. Ephemeral (flowing naturally only in direct response to precipitation) and intermittent (naturally has a period of zero flow for at least one week during most years) streams are examined to determine if flow regimes validate delineations on National Wetlands Inventory maps (1996). Such streams are rated for functioning condition if obligate hydric vegetation is present. Obligate hydric vegetation are plant species that are dependent on available water, either as standing surface water or saturated soil, and do not persist in environments where substrates become seasonally dry.

Evaluations of Standards 2 and 3 are based on field inventories and examinations of streams and springs in 2009 and 2013 (Map 1). To assess stream and spring health, interagency technical references (TR-1737-15, 1998 and TR-1737-16, 1999) were applied which uses five general categories to rate the biological (plant life) and hydrological (physical) functioning condition of streams (lotic) or wetlands (lentic). Categories include: proper functioning condition (PFC); functioning-at-risk (FAR) with an upward trend; FAR with static trend; FAR with downward trend; and non-functioning (NF). Streams are reported by stream segment identification number, and springs are reported by name.

Elements of Standards 2 (e.g., vegetation that provides stream shading) and 3 (e.g., streambank stability and channel form) directly affect water quality (e.g., water temperature, sedimentation); therefore, Standards 2, 3, and 7 (Water Quality) and presence of redband trout were summarized in one table. Functioning condition ratings of stratified stream segments are discussed in this section. Water quality assessments for each stream are discussed in Standard 7: Water Quality. Fish are discussed in Standard 8: Threatened and Endangered Species.

Stream Conditions

In 2009, approximately 2.1-miles of intermittent stream flow regime streams were in PFC (Table 4, Map 1). The streams were examined again immediately following the August, 2013 Elk Creek Complex Fire, and other than a light burn in the riparian areas, still remained in PFC. These segments were vegetated with plant communities expected for this elevation, stream flow regime, and soil type, i.e., mixed conifers and deciduous mountain shrubs (snowberry). Few sedge populations were present in these systems due to the seasonal stream flows. Although these streams were incised at some point in the distant past, which was likely a result of failure of beaver dams creating headcuts, these stream segments were now laterally and vertically stable.

Spring Conditions

There are no springs on public lands in the Ballantyne Section 15 Allotment.

Table 4. Stream name, segment ID, segment length, and functioning condition ratings summaries for streams in the Ballantyne Section 15 Allotment, Elmore County, Idaho.

Stream Segment	Segment I.D.	Flow Regime	PFC	FAR	Total Stream Miles	Water quality met?	Redband Trout Present? ³
Badger Creek	BADGE-000.4	I	0.6		0.6	Yes	No
Goat Creek	GOAT-000.9	I	0.6		0.6	Yes	No
Silverton Creek	SILVE-000.5	I	0.9		0.9	Yes	No
Total Miles			2.1		2.1		
Percentage of Total			100%	0%	100%		

P = perennial flow regime I = intermittent flow regime
PFC= proper functioning condition, FAR = functioning-at-risk),

Standard 4: Native Plant Communities

Rangeland Health Field Assessment

The rangeland health field assessment was conducted in a native plant community (Map 1). Nine of the 17 rangeland health indicators (8, 9 and 11-17) relate to biotic integrity (Table 5). The number in the range of departure columns represents the number of assessments with the indicator rating in that category (see Standard 1 for explanation).

Table 5. Native plant community rangeland health indicators, Ballantyne Section 15 Allotment, Elmore County, Idaho.

Indicators of Biotic Integrity	Range of Departure				
	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
8-Soil Surface Resistance to Erosion					1
9-Soil Surface Loss or Degradation					1
11-Compaction Layer					1
12-Functional/Structural Groups			1		
13-Plant Mortality/Decadence					1
14-Litter Amount				1	
15-Annual Production				1	
16-Invasive Plants			1		
17-Reproductive Capability of Perennial Plants					1
Total Indicators = 9 (9x1 sites)			2	2	5

Two of the nine indicators of biotic integrity rated in the “moderate” range of departure from expected conditions (Table 5, Appendix 1). The indicator for functional/structural group diversity (#12) rated in the moderate range based on the lack of perennial bunchgrasses, and the indicator for invasive plants (#16) rated in the “moderate” range based on the presence of cheatgrass. Perennial bunchgrasses including bluebunch wheatgrass, western needlegrass, needle and thread, and basin wildrye were present only as minor components of the plant community. Cheatgrass was present in trace amounts.

Standard 5: Rangeland Seeding

No rangeland seedings are present in this allotment; therefore, this standard does not apply.

Standard 6: Exotic Plant Communities

Although exotic plant species occur, they are present in trace amounts and the plant communities are dominated by native species. Therefore, this standard does not apply.

Standard 7: Water Quality

Idaho Department of Environmental Quality (IDEQ) presumes that all intermittent streams meet minimum water quality standards (temperature standards for cold water biota), as the period of time in which flows are one-cubic-foot per second or greater commonly occurs only as a result of spring snowmelt, or short term summer rainfall events. Badger, Goat, and Silverton creeks have intermittent stream flow regimes, so IDEQ standards for seasonal cold water biota apply. Each stream segment is presumed to have met this standard. IDEQ lists these streams as fully meeting standards (IDEQ, 2010 Integrated Report).

Standard 8: Threatened and Endangered Species

Plants

No federally listed or BLM Special Status Species are known to occur. Approximately 640 acres were surveyed in July 2004. The survey area was dominated by ponderosa pine and Douglas-fir stands interspersed with dry shrub steppe. No federally listed or special status plants were found.

Wildlife

The general health of upland and riparian communities is important for a broad diversity of wildlife, including sensitive species. Habitat was evaluated using riparian information (Standard 2) and native upland plant community information (Standard 4). These assessments provide information regarding abundance, diversity, vigor, cover of plants, structure and trend of plant communities, grazing utilization, and weed presence.

The gray wolf was removed from the Endangered Species list in 2009. However, it remains a BLM Special Status Species. The nearest known wolf pack occurs to the northwest in the Trinity Mountain area.

North-facing slopes in the area consist predominately of mixed conifer forests comprised mainly of Douglas-fir and some ponderosa pine. Mountain brush, along with some mountain big sagebrush communities occur on south facing slopes. Because conifers and mountain brush are the primary vegetation, no sage-grouse lek surveys or breeding habitat assessments were conducted. These habitat types typically do not provide components necessary for lekking or breeding activities. Prior to the 2013 Elk Complex Fire, they provides suitable habitat for special status sagebrush obligate species.

Surveys for flammulated owls and northern goshawks were conducted in summer 2004. Flammulated owls responded to recorded territorial calls, but no goshawks were found. Bat surveys were also conducted. Unidentified bat species were seen foraging in the area. Riparian habitat occurs along three stream segments in the allotment (Badger, Goat, and Silverton creeks) provides suitable nesting and foraging cover for riparian-dependent species.

Non-forested habitat occurring on the south facing slopes provides habitat for both mule deer and elk.

Fish

No fish are present in Badger, Goat, or Silverton creeks due to the seasonal stream flow regimes.

Appendices and Maps

Appendix 1. Indicators of Rangeland Health

Allotment - Pasture		1198
Identifier		B-282
Location		01N09E01
Ecological Site		S. Slope Gravelly
Indicator	Attribute	
1. Rills	S-H	N-S
2. Water Flow Patterns	S-H	S-M
3. Pedestals/Terracettes	S-H	N-S
4. Bare Ground	S-H	N-S
5. Gullies	S-H	N-S
6. Wind Scoured, Blowouts and/or Depositions	S-H	N-S
7. Litter Movement	S-H	N-S
8. Soil Surface to Erosion	S-H-B	N-S
9. Soil Surface Loss or Degradation	S-H-B	N-S
10. Plant Community Composition and Distribution Relative to Infiltration and Runoff	H	N-S
11. Compaction Layer	S-H-B	N-S
12. Functional / Structural Groups	B	M
13. Plant Mortality / Decadence	B	N-S
14. Litter Amount	H-B	S-M
15. Annual Production	B	S-M
16. Invasive Plants	B	M
17. Reproductive Capability of Perennial Plants	B	N-S

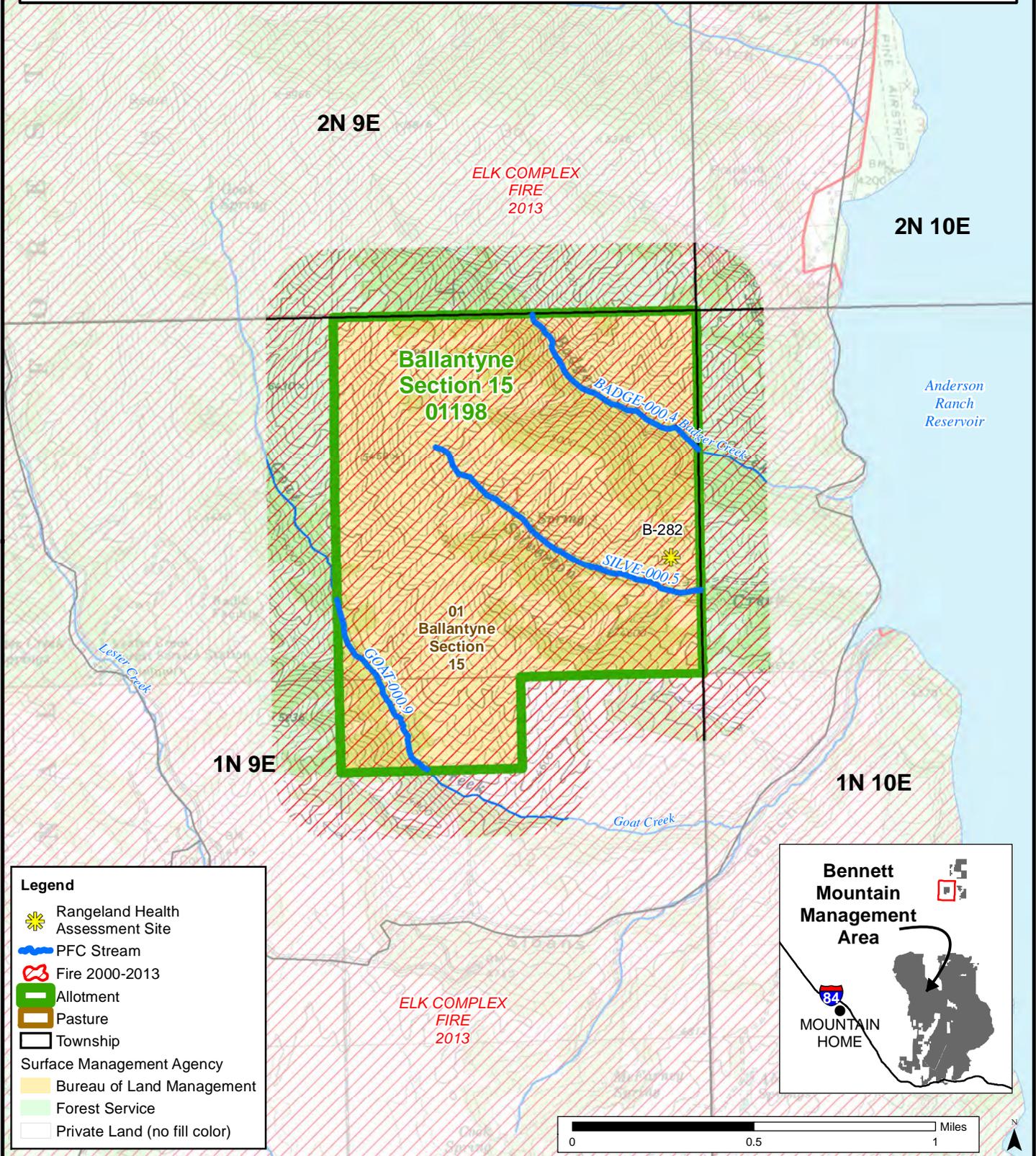
S= Soil/Site Stability; **H**= Hydrologic Function; **B**= Biotic Integrity

N-S = None to Slight departure from expected range **S-M** = Slight to Moderate departure from expected range
M = Moderate departure from expected range **M-E** = Moderate to Extreme departure from expected range
E = Extreme departure from expected range

Map(s)

Ballantyne Section 15 Allotment (01198)

Assessment Map 1: Fire History, Rangeland Health Assessment, Monitoring, and Riparian



Legend

- Rangeland Health Assessment Site
- PFC Stream
- Fire 2000-2013
- Allotment
- Pasture
- Township

Surface Management Agency

- Bureau of Land Management
- Forest Service
- Private Land (no fill color)



U.S. Department of the Interior
 Bureau of Land Management, Idaho
 Boise District, Four Rivers Field Office
 Map date: May 26, 2014



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EVALUATION REPORT

Achieving the Idaho Standards for Rangeland Health

Field Office: IDB010 Four Rivers

Allotment Name and Number: Ballantyne Section 15 (01198)

Name of Permittee(s): L.G. Davison & Son Inc. #1101643

Introduction

The Ballantyne Section 15 Allotment (01198) is located one-half mile west of the tail waters of Anderson Ranch Reservoir, approximately two miles southwest of Pine, Idaho. The allotment is comprised of about 723 acres of public land.

Applicable Standards

The Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management are used as management goals to maintain or improve resources, protect cultural resources, and sustain productivity of the land. Standards that are appropriate to a particular allotment are used, and provide information which is used to determine the health and condition of public lands. This document is the evaluation of information presented in the allotment rangeland health assessment and indicates whether rangeland health standards are being achieved. The determination of what significant factors or causal agents are involved and whether or not livestock management practices are in conformance with applicable guidelines is presented in the Determination Document.

Standards 1 (Watersheds), 2 (Riparian Areas & Wetlands), 3 (Stream Channels & Floodplains), 4 (Native Plant Communities), 7 (Water Quality), and 8 (Threatened and Endangered Plants and Animals) apply to the allotment. Standard 5 (Seedings) does not apply because no seedings have taken place. Standard 6 (Exotic Plant Communities) was not applied because exotic plant species occur in trace amounts and plant communities are dominated by native species; therefore, plant communities are assessed under Standard 4.

EVALUATE STANDARDS

Standard 1: Watersheds

_____ Standard does not apply
Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Evaluation and Information Sources

One rangeland health field assessment was conducted in 2004.

Rangeland Health

No historic or active erosion was occurring. Although there were some slight water flow patterns, all indicators of soil/site stability were within the normal range of variability.

Rangeland Health Changes

No long-term monitoring studies have been established to record trends in the plant communities. Watershed impacts from the 2013 wildfire are unknown.

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress towards meeting
- Not Meeting the Standard

Rationale for Evaluation Finding

Watersheds are providing proper infiltration, retention, and release of water to cycle nutrients and energy.

Standard 2: Riparian Areas and Wetlands

Standard does not apply
Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Evaluation and Information Sources

Topographic maps, aerial photography, GIS data and imagery, field visits, and functioning condition assessments.

Rangeland Health

Badger, Goat, and Silverton creeks were in PFC. Each stream segment was vegetated with mixed conifers and deciduous shrubs, with no sedges/rushes present due to deep shading and limited seasonal stream flows.

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress towards meeting
- Not Meeting the Standard

Rationale for Evaluation Finding

All streams in this allotment were in proper functioning condition (PFC) for Standard 2.

Standard 3: Stream Channel and Floodplains

Standard does not apply
Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size, shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Evaluation and Information Sources

Topographic maps, aerial photography, GIS data and imagery, field visits, and functioning condition assessments.

Rangeland Health

Badger, Goat, and Silverton creeks were in PFC. Woody vegetation communities were providing hydrologic stability to the systems. Stream channels and floodplains were vertically and laterally stable.

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress towards meeting
- Not Meeting the Standard

Rationale for Evaluation Finding

All streams were in PFC.

Standard 4: Native Plant Communities

Standard does not apply

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Evaluation and Information Sources

One rangeland health field assessment was conducted in 2004.

Rangeland Health

This location had a lower than expected amount of perennial bunchgrass and some cheatgrass was present in shrub interspaces, however there was a high diversity of native shrubs and forbs, indicating that the native plant community was relatively healthy.

Rangeland Health Changes

Long-term monitoring studies have not been established. Vegetation impacts from the 2013 wildfire are unknown.

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress towards meeting
- Not Meeting the Standard

Rationale for Evaluation Finding

Plant communities are moderately maintaining the necessary nutrient, energy, and hydrologic cycling to support diverse native animal habitat and native plant populations.

Standard 5: Seedings

Standard does not apply

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Evaluation and Information Sources

Rangeland health field assessments, site photographs, field visits, and allotment files.

Standard 6: Exotic Plant Communities, Other than Seedings X Standard does not apply
Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants.

Evaluation and Information Sources

Rangeland health field assessments, site photographs, field visits, and allotment files.

Standard 7: Water Quality _____ Standard does not apply
Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Evaluation and Information Sources

Idaho Department of Environmental Quality (IDEQ Integrated report 2010). Proper functioning condition surveys.

Rangeland Health

All segments of Badger, Goat, and Silverton creeks have intermittent stream flows, so the IDEQ standards for seasonal cold water biota apply; each segment met these standards.

Evaluation Finding – Allotment/watershed is:

- X Meeting the Standard
- _____ Not Meeting the Standard, but making significant progress towards meeting
- _____ Not Meeting the Standard

Rationale for Evaluation Finding

All segments of Badger, Goat, and Silverton creeks comply with the Idaho Water Quality Standards (IDEQ 2010 Integrated Report).

Standard 8: Threatened and Endangered Plants and Animals _____ Standard does not apply
Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Evaluation and Information Sources

Rangeland health field assessments, photographs, field visits, plant surveys and wildlife, and Conservation Data Center.

Rangeland Health

Plants

No federally listed or Special Status plant species are known to occur. Native plant diversity is being maintained. The limited occurrence of invasive annual plants has not compromised the capability to support a diversity of native plants.

Wildlife

No federally listed or candidate species are known to occur within the allotment. Surveys for flammulated owl and northern goshawk, BLM Special Status Species, were conducted in 2004. Flammulated owls responded to recorded territorial calls; surveys did not detect any goshawks.

Bats were detected foraging in the area during surveys, although species identification was not possible.

Riparian habitat occurs along Badger, Goat, and Silverton creeks providing nesting and foraging cover for riparian dependent species. The uplands provided suitable habitat for mule deer and elk.

Fish

Streams in this allotment do not support redband trout due to seasonal flow regimes.

Evaluation Finding – Allotment/watershed is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress towards meeting
- Not Meeting the Standard

Rationale for Evaluation Finding

Riparian and upland plant communities are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.