BOHANNON CREEK ALLOTMENT EVALUATION

Achieving the Idaho Standards for Rangeland Health
And
Conformance with the Guidelines for Livestock Grazing Management

Introduction

This document is an evaluation of Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management of the public lands administered by the Salmon Field Office (SFO) of the Bureau of Land Management (BLM) within the Bohannon Creek Allotment.

This is the first in a series of documents, including the Bohannon Allotment Evaluation, and the appropriate National Environmental Policy Act (NEPA) documentation and subsequent Decision(s) that would change management where needed on the Bohannon Creek Allotment.

This Evaluation reports the condition and/or function of public land resources within the Bohannon Creek Allotment to the authorized officer, the Salmon Field Manager. The authorized officer reviews the findings in this evaluation to determine whether the eight Standards for Rangeland Health are being met and whether current livestock management conforms to the Idaho Guidelines for Livestock Grazing Management.

The assessed condition/function of the Bohannon Creek Allotment Evaluation will be used in the NEPA process. An environmental assessment (EA) will be written addressing all resource concerns identified within the Bohannon Creek Allotment. If existing grazing management practices or levels of grazing use on the Bohannon Creek Allotment are determined to be a significant factor in failing to achieve one or more of the eight Standards, the BLM is required by regulation (43 CFR 4180.1) to make grazing management adjustments.

Implementation of new management will begin following completion of the NEPA process, but full implementation of revised grazing plans, if needed, and/or range improvement projects associated with these plans may take several years. The new plans will be developed in consultation and coordination with the affected permittees, the agency having lands or managing resources within the area and other interested parties.

The SFO completed a Resource Management Plan (RMP) in 1987 and amended that plan in 2001. The Lemhi RMP will provide program guidance in the SFO until replaced by a new Land Use Plan. The Lemhi Resource Area Ecological Site Inventory of 1983 provides documentation of rangeland conditions.

Background

The Bohannon Creek Allotment is located in Lemhi County, Idaho and comprises 6,249 acres of public land and 636 acres of State land. The allotment lies within Townships 21 & 22 North and Ranges 23 & 24 East, Boise Meridian (Map 1). This evaluation addresses land health conditions on BLM public lands only.

Elevations range from approximately 5,000 feet to 9,000 feet. Topography varies from stream drainage bottoms to steep mountain ravines and ridge tops with rocky outcrops. Slopes range from 15% to 50%. Average annual precipitation varies from 7 inches at the lower elevations to 21-31 inches in the higher elevations, most of which occurs in May and June as rain (Western Regional Climate Center, 2007). Soils in the Bohannon Creek Allotment are predominantly gravelly loams ranging from shallow to deep. These soils are affected by climate and parent material, and were formed primarily from alluvium.

Vegetation in the Bohannon Creek Allotment reflects the diversity of ecological conditions across the landscape. The dominant plant communities and habitat types vary depending upon the soils, precipitation, elevation, slope, and aspect. Vegetation includes wetland and riparian communities, drier upland sites, and forested habitats at higher elevations.

Livestock Grazing History

Livestock have grazed in the Lemhi valley since the 1860's, after the discovery of gold. Large bands of sheep and herds of cattle grazed the valley, often season long or until winter snows began to limit forage availability.

For the past 15 years, the allotment was grazed by 280 cow/calf pairs for 30 days in the spring (May 17 to June 16) and 60 days in the late summer (August 1-September 30) under a 3 pasture deferred rotation system. The season of use on the grazing permit was changed from spring/summer to fall (332 cow/calf pairs from September 15 to November 30) in September 2007. The grazing system currently is similar to the past with deferment time and pasture use based upon water availability. The allotment encompasses 6,249 acres of public land. Inventory data found 2,015 acres in Good ecological condition, 734 acres in Fair condition, and 3,499 acres unmapped due to timber and rock outcrops. The allotment is stocked at approximately 7.4 acres to the AUM.

Figure 1: Ecological conditions of the Bohannon Allotment (ESI, 1983).

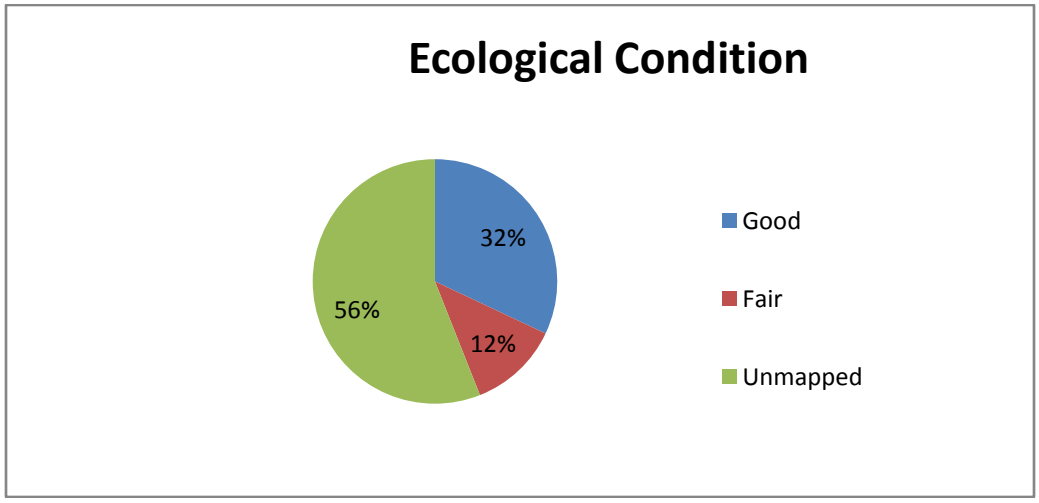

Table 1: The current permit/preference on the Bohannon Creek Allotment:

No. Livestock/Kind	Dates	% Public Land	Permittee
332 Cattle	09/15 – 11/30	100%	Eagle Valley Ranch L.L.C.
Preference:	842 AUMs Active	1,262 AUMs Suspended	2,104 AUMs Total

Table 2: The objectives for the number of AUMs for the Bohannon Creek Allotment from the RMP, as well as the average actual grazing use on the allotment from 1999 to 2008 as reported by actual use booklets submitted by the permittees at the end of the grazing season.

AUMs from the RMP:		**Average Actual Use for the previous 10 years:**
RMP short-term objective: 842		**663 AUMs**
RMP long-term objective: 842		
RMP Active preference: 842		

Process

This evaluation was completed in accordance with BLM regulations regarding Rangeland Health Standards. Rangeland Health Standards are described in detail in the *Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management*. Standards are statements of physical and biological condition or degree of function required for healthy sustainable lands. Achieving or making significant progress towards these functions and conditions is required of all uses of public lands, as stated in 43 CFR 4180.1.

This evaluation will report condition and/or function for the following eight Idaho Standards for Rangeland Health:

Standard 1: Watersheds
Standard 2: Riparian and Wetland Areas
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
Standard 8: Threatened and Endangered Plants and Animals

Procedure to determine conformance with the standard(s):
The Bohannon Creek Allotment was assessed according to Interagency Technical Reference 1734-6 "Interpreting Indicators of Rangeland Health." This qualitative process evaluates 17 "indicators" to assess three interrelated components of rangeland health: soil/site stability, hydrological function, and biotic integrity. Trend monitoring data, existing inventories, field visits, and historical photographs are used by the ID team to assess condition and function. The Natural Resource Conservation Service (NRCS) has developed Ecological Site Descriptions (Site Guides) based on specific soil types, precipitation zones and location. These describe various characteristics and attributes including the vegetative species and relative percentage each are expected to be present on the site. The ID team refers to these site descriptions while completing the Rangeland Health Assessment (RHA), which helps the ID team determine the

departure from what is expected for the site assessed based upon soil/site stability, hydrologic function, and biotic integrity.

Rangeland Health Assessment Site Selection:
The sites selected for the RHAs were chosen based upon representative soil type and ecological sites of the allotment, and are representative of rangeland conditions occurring on the Bohannon Creek Allotment. Soil type was determined by digging soil pits and comparing soils maps of the area, ensuring that the ID team collected data for the RHAs on soils representative of that portion of the allotment. This RHA was conducted at 6,370 feet elevation on the Klug Povey Association comprised of very gravelly loams within a mountain big sagebrush/Idaho fescue (*Artemisia vaseyana/Festuca idahoensis)* rangeland site.

Standard 1 (Watersheds) □ Standard doesn't apply

Evaluation and Information Sources (*required regardless of which box is checked*): Rangeland Health Assessments (June 3, 2008) including visual observations, line-point intercept data, field visits and project inspections throughout the allotment in 2008, and ID team meetings on 04/16/2008 and 10/29/2008.

Watersheds should provide proper infiltration, retention, and water release that are specific to the soil type, vegetation, climate, and landform in order for proper nutrient and hydrological cycling as well as energy flow to occur. The rangeland health assessment conducted on 25% -30% slopes revealed no evidence of rills, gullies, water flow patterns, plant pedestals, or fine litter movement. The site was well vegetated with good ground cover evident. Bare ground was estimated at 16% with 52% canopy cover which is expected for this rangeland site (35%-50%) according to the site guide description. Due to the amount of ground cover, degradation and subsequent erosion of the soil surface was not evident.

Table 3: Hydrologic Function, Soil and Site Stability indicators within the Bohannon Creek Allotment

Hydrologic Function		**Soil and Site Stability**	
	Rating	**Rating**	
Indicators:	**South Pasture RHA**	**Indicators:**	**South Pasture RHA**
Rills	*None to Slight*	Rills	*None to Slight*
Water-flow patterns	*None to Slight*	Water-flow patterns	*None to Slight*
Pedestals and/or terracettes	*None to Slight*	Pedestals and/or terracettes	*None to Slight*
Bare ground	*None to Slight*	Bare ground	*None to Slight*
Gullies	*None to Slight*	Gullies	*None to Slight*
Soil surface resistance to erosion	*None to Slight*	Wind Scour	*None to Slight*
Soil surface loss or degradation	*None to Slight*	Litter movement	*None to Slight*
Plant community composition and distribution relative to	*None to Slight*	Soil surface resistance to erosion	*None to Slight*

Hydrologic Function		Soil and Site Stability	
	Rating	Rating	
Indicators:	**South Pasture RHA**	**Indicators:**	**South Pasture RHA**
infiltration			
Compaction layer	*None to Slight*	Soil surface loss or degradation	*None to Slight*
Litter Amount	*None to Slight*	Compaction layer	*None to Slight*
Overall Ratings:	***None to Slight***	**Overall Ratings:**	***None to Slight***

Overall, the watershed within the Bohannon Creek Allotment provide for water infiltration, retention, and release appropriate for the soils, vegetation, climate, and land forms present. Attribute rating justification for soil & site stability; All indicators are at a "*none to slight"* departure and site is stable.

1 **X** Meeting the Standard	4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors
2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

Standard 2 (Riparian Areas and Wetlands) □ Standard doesn't apply

Evaluation and Information Sources (*required regardless of which box is checked*): Rangeland Health Assessments including ID team meetings, visual observations, and Proper Functioning Condition assessments completed during field visits throughout the allotment in 2006-08.

Riparian and wetland areas should be in properly functioning condition appropriate to the soil types, climate, geology, and landform to provide for proper nutrient and hydrologic cycling, as well as, energy flow. The ID team members evaluated undeveloped springs and used data from stream condition class ratings to determine the vigor, age-class distribution, and composition of riparian and wetland vegetation present on the allotment. Riparian and wetland vegetation should also control erosion, stabilize streambanks, provide shading, filter sediment, aid floodplain development, dissipate energy, delay flood water, and increase groundwater recharge.

The Bohannon Creek Allotment contains about 1.8 miles of the mainstem of Bohannon Creek and about 3.2 miles of the EF Bohannon Creek stream channels. The mainstem Bohannon Creek was fenced in 2005 to exclude livestock and is rated as Proper Functioning Condition except for the lowest ¼ mile portion on BLM which is rated as Functioning at-Risk with an upward trend. The EF Bohannon Creek on BLM is rated as Proper Functioning Condition that has received very light grazing outside of the hot-season and has good-to-excellent vegetative and stream habitat characteristics. See Standard 3 below.

The allotment also contains 20 undeveloped springs, nine of which are very high elevation in the conifer forest and are rarely used by livestock. The others are scattered in the steep draws and are overall well vegetated and in Proper Functioning or Functional at-Risk condition. There are seven developed springs of which have fenced spring sources and have associated water troughs.

All riparian species appeared to be healthy and were reproducing. Multiple age-classes of aspen were present throughout the complex, with many new aspen seedlings interspersed among older age-class stands. Several species of willows were identified with all age-classes represented. The herbaceous riparian species including sedges, rushes, and riparian grasses help stabilize the soils and banks along the springs and help maintain the integrity of the wetland soil characteristics within the spring complex. Impacts to the upland springs from large ungulates (big game and livestock) are minimal and very little evidence of trampling or browsing of woody riparian species occurs.

The riparian areas in the allotment are overall in good to excellent condition with very little impacts from cattle grazing.

1 **X** Meeting the Standard	4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors
2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

Standard 3 (Stream Channel/Flood plain) □ Standard doesn't apply

Evaluation and Information Sources (*required regardless of which box is checked*): Rangeland Health Assessments including ID team meetings, visual observations, and Proper Functioning Condition assessments completed during field visits throughout the allotment in 2006-08.

Stream channels and floodplains should be properly functioning relative to the geomorphology and climate in order to provide proper nutrient and hydrologic cycling, and energy flow. Indicators that ID team members used to evaluate this standard include whether steam channels and floodplains dissipate energy and transport sediment, have access to floodplains, have limited compaction from human activities, and have stable streambanks.

The allotment contains about 1.8 miles of the mainstem of Bohannon Creek and about 3.2 miles of the East Fork (EF) Bohannon Creek stream channels. The mainstem Bohannon Creek was fenced in 2005 to exclude livestock and is rated as Proper Functioning Condition except for the lowest ¼ mile portion on BLM which is rated as Functioning at-Risk with an upward trend. The EF Bohannon Creek on BLM is rated as Proper Functioning Condition that has received very light grazing outside of the hot-season and has good-to-excellent vegetative and stream habitat characteristics. These channels are very steep and rocky with very little erosion and stable stream banks.

1 **X** Meeting the Standard	4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors
2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

East Fork Bohannon Creek 2007

Standard 4 (Native Plant Communities) □ Standard doesn't apply

Evaluation and Information Sources (*required regardless of which box is checked*): Rangeland Health Assessment (June 3, 2008) including visual observations, line-point intercept data, and soil stability tests, field visits throughout the allotment in 2008, and ID team meetings on 04/16/2008 and 10/29/2008.

Healthy, productive, and diverse native animal habitat and populations of native plants should be maintained or promoted that appropriate to the soil types present on the Bohannon Creek Allotment, and should provide for proper nutrient cycling, hydrologic cycling, and energy flow. Native plant communities were evaluated throughout the allotment based upon the rangeland site guide and indicators of biotic integrity (Table 4) of the native plant communities present. This includes information from the RHA completed in the South Pasture. The ID team evaluated upland health conditions in all native plant communities including sagebrush and grassland areas, forested areas, noxious weed and cheatgrass infestations, and special status plants occurring in the Bohannon Creek Allotment. Special status plants will be discussed in detail under Standard 8: Threatened and Endangered Plants and Animals.

Uplands: Soil compaction layers were not present. The native plant community diversity, species composition, productivity, and litter amount allows ecological processes to function properly. Spotted knapweed and cheatgrass are present along the road prism and adjacent to the private lands along the East Fork Bohannon Creek. There is adequate litter and ground cover present. The plant communities within the South pasture exhibit some higher than expected shrub productivity and lower fescue productivity as compared to the rangeland site guide, which gave a slight to moderate rating on the annual production indicator.

Table 4. The biotic integrity ratings for the nine indicators of rangeland health that is associated with plant health and function are shown below.

Biotic Integrity	
Indicators:	**Rating**
Soil surface resistance to erosion	*None to Slight*
Soil surface loss or degradation	*None to Slight*
Compaction layer	*None to Slight*
Functional/Structural Groups	*None to Slight*
Plant Mortality/Decadence	*None to Slight*
Litter Amount	*None to Slight*
Annual Production	*Slight to Moderate*
Invasive plants	*None to Slight*
Reproductive capability of perennial plants	*None to Slight*
Overall Ratings:	***None to Slight***

Overall, the native plant communities within the Bohannon Creek Allotment are healthy, productive, and provide diverse animal habitat and populations of native plants. Considering the

rangeland site guide description, biotic integrity is as expected with a "*none to slight"* departure for all indicators except annual production attributed to the condition in the South pasture.

1 **X** Meeting the Standard	4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors
2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

Standard 5 (Seedings) **X** Standard doesn't apply

1 □ Meeting the Standard	4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors
2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

Standard 6 (Exotic Plant Communities, Other than Seedings) **X** Standard doesn't apply

Evaluation and Information Sources (*required regardless of which box is checked*):

1 □ Meeting the Standard	4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors
2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

Standard 7 (Water Quality) □ Standard doesn't apply

Evaluation and Information Sources (*required regardless of which box is checked*): State of Idaho; Department of Environmental Quality (DEQ) "Lemhi River Watershed Assessment" and 303d stream list/Idaho 2002 305(B) Integrated Report (Final).

DEQ listed Bohannon Creek as water quality impaired in the Integrated Report for sediment and nutrients from the BLM boundary downstream. The water quality limited segment occurs on private land downstream of the allotment. Bohannon Creek and the EF Bohannon Creek are very lightly impacted by livestock and in Proper Functioning Condition. The allotment is meeting the Standard.

1 **X** Meeting the Standard	4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors
2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

Standard 8 (Threatened and Endangered Plants and Animals) □ Standard doesn't apply

Evaluation and Information Sources (*required regardless of which box is checked*): Lemhi Resource Management Plan (1987), and Idaho Conservation Data Center (CDC) database. Rangeland Health Assessments including visual observations and line-point intercept data. Field visits were completed throughout the allotment in 2008.

Maintaining habitat that is suitable for viable populations of special status species, including threatened, endangered and BLM sensitive species is an important component of managing public lands. The ID team used several parameters to assess the existing and potential habitat of these species, including annual population monitoring of sensitive plant species, and field observations of fisheries and wildlife habitat and species presence.

The allotment provides habitat for various Special Status Species. Type 1 Special Status Species are those species that were listed as threatened or endangered, or were proposed or candidates for listing under the Endangered Species Act in 2003. Type 2 Special Status Species are species that are experiencing significant declines throughout their range with a high likelihood of being listed in the foreseeable future due to their rarity and/or significant endangerment factors. Type 3 Special Status Species are species that are experiencing significant declines in population or habitat and are in danger of regional or local extinctions in Idaho in the foreseeable future if factors contributing to their decline continue.

Type 1 Special Status wildlife species that have been documented on, or near, the Bohannon Creek Allotment include the gray wolf and Canada lynx. Gray wolf sightings have increased in the area. No known dens or rendezvous sights are documented in the allotment. The allotment is within the North Beaverhead Canada Lynx Analysis Unit (LAU) and contains approximately 1,600 acres of mapped lynx habitat. The high elevation, forested habitat that is currently mapped as habitat includes dry-Douglas fir stands to about 6500 feet of elevation and then wetter communities above that.

The only Type 2 Special Status wildlife species that has been documented on, or near, the Bohannon Creek Allotment is the greater sage-grouse. There are very few records in the area, and they occur on the private land below the allotment. The records are of sage-grouse during late summer brood rearing along the riparian corridor of Geertson Creek. Other riparian areas, as well as irrigated fields, could also be providing late brood rearing habitat for sage grouse. The nearest sage grouse lek is more than three miles from the allotment. Due to the distance of the nearest known lek and the steepness of the allotment, nesting is probably not occurring on the allotment.

Bohannon Creek is habitat for steelhead, rainbow, bull, cutthroat and eastern brook trout. The condition of the stream on BLM is good to excellent and is excluded from livestock. No bull trout or steelhead trout have been found in the EF Bohannon Creek. Fish habitat is negligibly affected by livestock grazing on the allotment and meets the standard.

Type 3 Special Status Animal Species that have been documented on, or near, the allotment include the northern goshawk. They have been identified in multiple years on the USFS land just above the allotment. Due to the proximity of the observation the birds are probably also using the BLM forested areas for foraging and possibly for nesting.

The allotment provides habitat suitable to maintain the Special Status wildlife populations on the allotment. The majority of the sagebrush habitat in the allotment is in good ecological condition, providing habitat for many wildlife species in the allotment.

Surveys and field visits in 2008 indicated that no Threatened, Endangered, or BLM Sensitive plant species are present in the allotment.

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2 □ Not Meeting the Standard, **but making significant progress towards**	
3 □ Not Meeting the Standard, current livestock grazing management practices are **not** significant factors	5 □ Not Meeting the Standard, cause not determined

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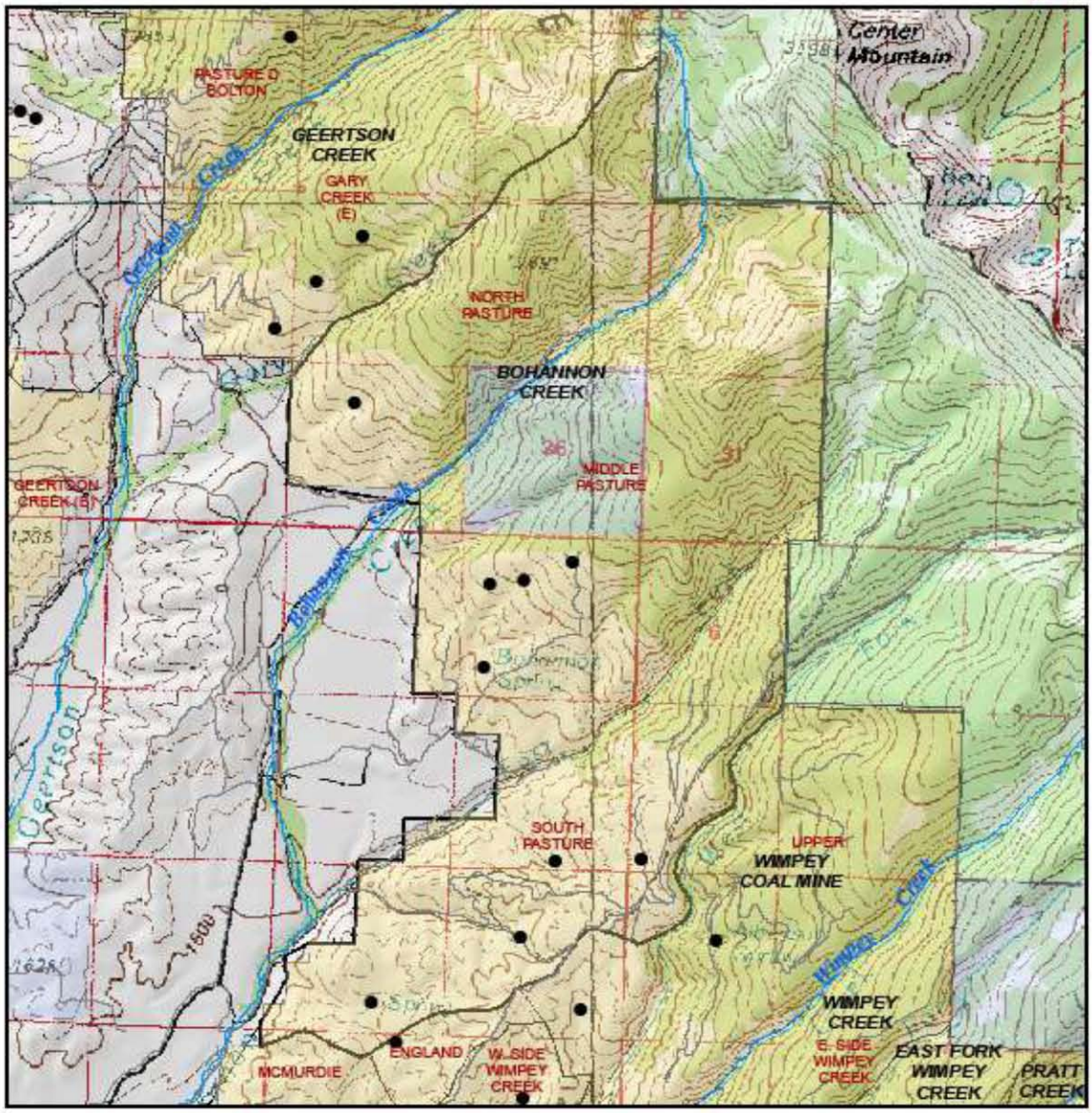
Bohannon Creek Allotment



0.75 0.375 0 0.75 Miles

Legend

- WATER DEVELOPMENT
- ROADS
- FENCES
- PASTURES
- GRAZING ALLOTMENTS
- EXCLOSURES

This map depicts the Bohannon Creek Allotment vicinity of the Salmon Field Office, BLM.

The sources of the data are from Idaho-BLM Corporate data and the USGS.

Datum: NAD 83, UTM Zone 12 N
No warranty is made by the Bureau of Land Management (BLM). The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed.

Map Created by
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8/31/2007