

Evaluation and Determination
Fossil Butte Allotment
2013

Interdisciplinary Team:

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Background:

This Evaluation and Determination covers the time period between 2007 and 2013, since the last determination.

The Fossil Butte Allotment is located in Owyhee County, Idaho between the towns of Murphy and Oreana. The allotment is bordered to the east by the Snake River and to the west by the Owyhee Front. Highway 78 bisects the allotment from west to east (Figure 1).

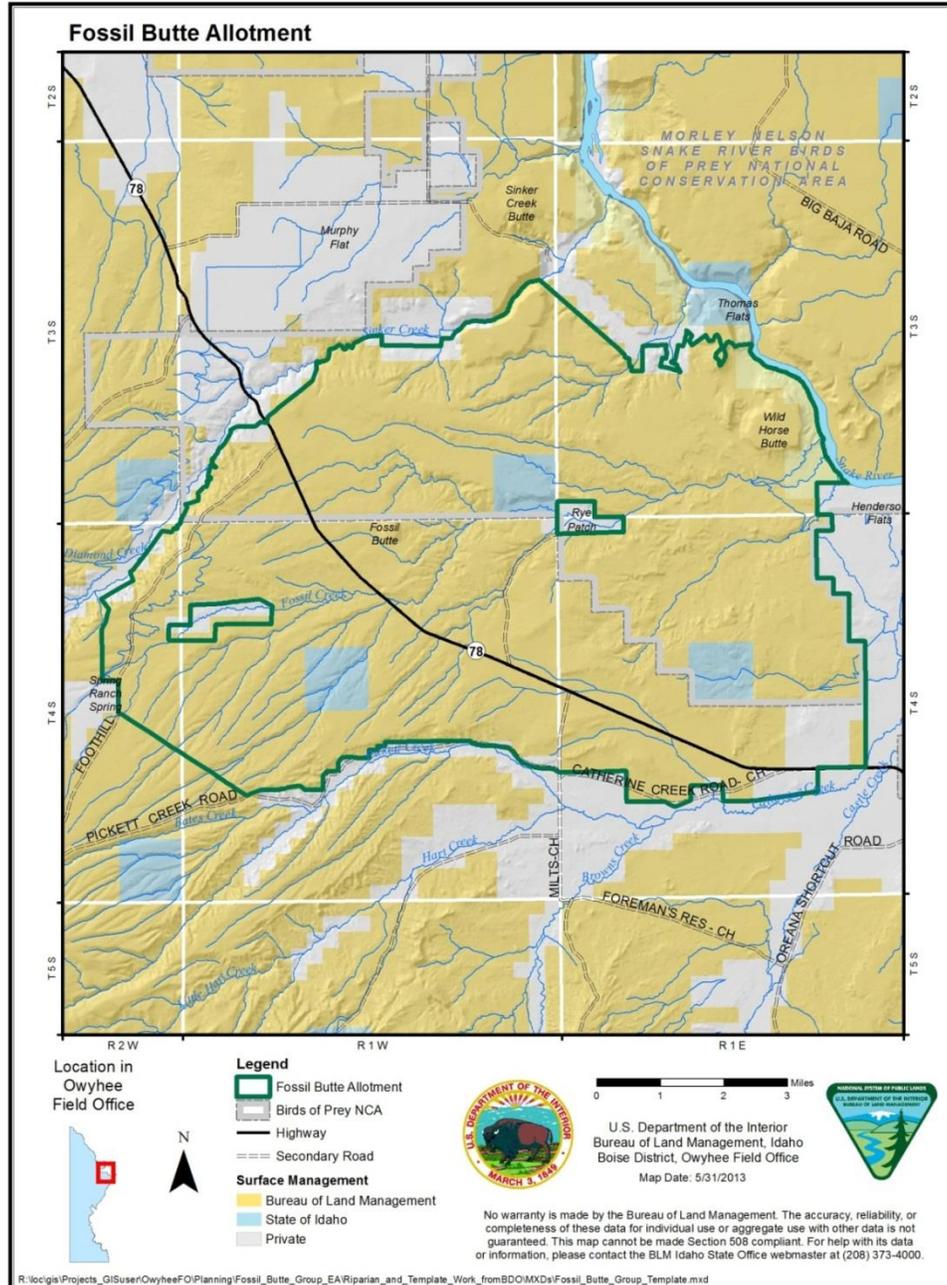


Figure 1 – General Location of the Fossil Butte Allotment

The allotment is currently managed as a single large pasture. The current permit authorizes 1,622 animal unit months (AUMs) of authorized livestock grazing use on 40,754 acres of public lands for 316 cattle and 24 horses between 10/01 and 2/28. Elevations range between 2,300 feet in the northern portion of the allotment along the Snake River to 3,500 feet along the front of the Owyhee Mountains. Landforms are generally composed of terraces, slopes with shallow to very deep loamy to fine sandy soils, and scattered badlands. Annual precipitation ranged from 4.04 to 12.56 inches at the Swan Falls Power House collection site, located approximately 5 miles west of the allotment boundary, from 1935 to 2012.

The Fossil Butte Allotment consists mostly of the Calcareous Loam 7-10" shadscale and budsage/Indian ricegrass and Thurber's needlegrass ecological site, with smaller areas mapped in Sandy Loam, Saline bottom, Loamy, and Silty ecological sites. Unmapped inclusions within the allotment include riparian areas, ash soil outcrops, and rocky buttes. For each of these ecological sites, the expected vegetation (defined by reference conditions) should be co-dominated by salt desert shrubs (such as shadscale, budsage, greasewood, winterfat) or Wyoming sagebrush and large bunchgrasses (such as Indian ricegrass, Thurber's needlegrass, basin wildrye, bluebunch wheatgrass).

Wildfires have played a relatively small role in shaping the community structure of the Fossil Butte Allotment. Three small wildfires in 1985, 1997, and 2012 have burned less than 1,000 total acres of the approximately 41,000-acre allotment (Figure 2). None of the fires were reseeded.

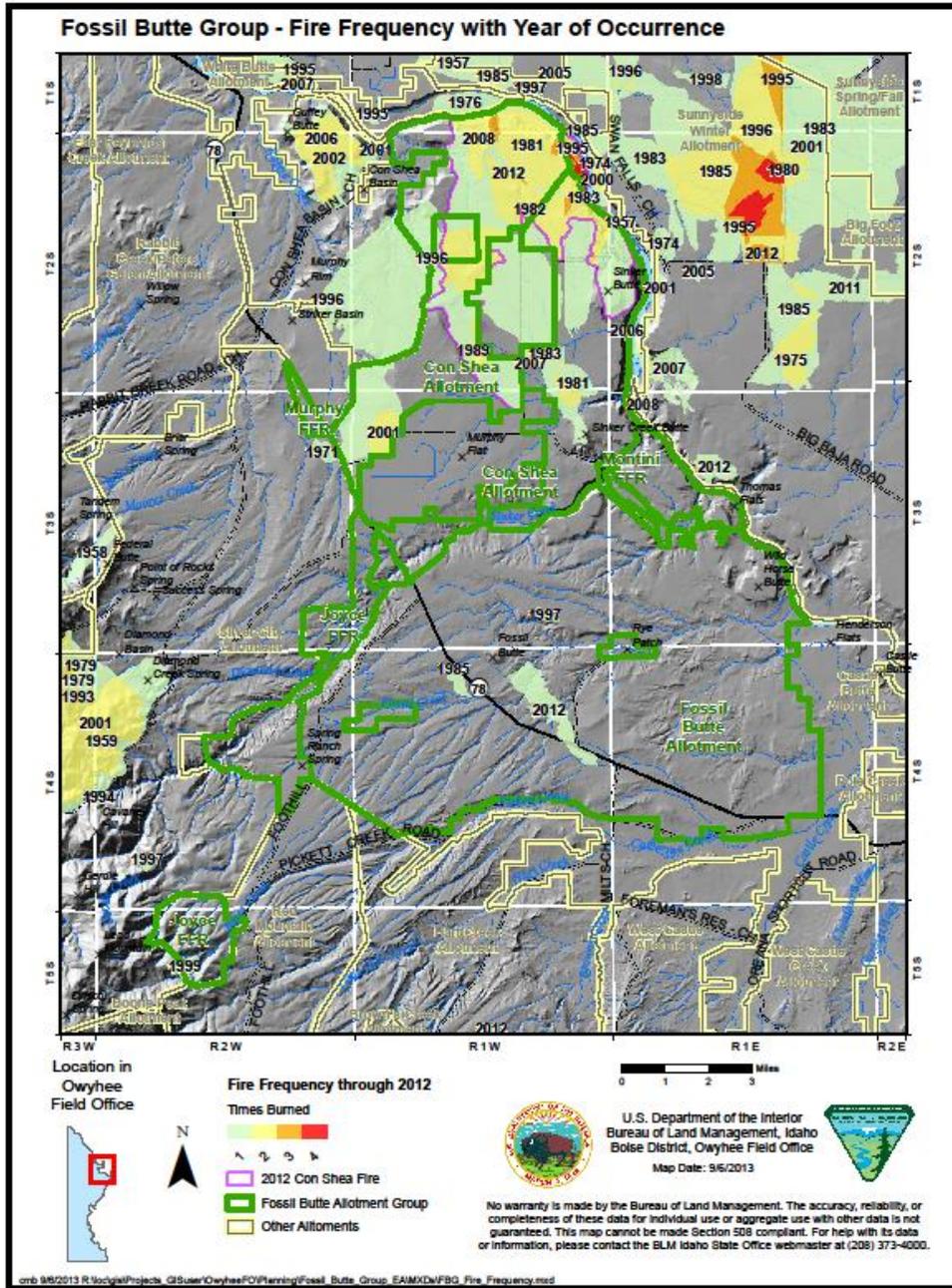


Figure 2 – Fire Frequency with Year of Occurrence within Fossil Butte Group Allotments

A Rangeland Health Assessment (Assessment) was completed for the Fossil Butte Allotment in 2007. In the subsequent Evaluation and Determination document, it was found that existing grazing management was a causal factor in not meeting Idaho Standards for Rangeland Health (Standards). 43 CFR 4180.2(c) requires that action be taken to make significant progress toward achieving Standards. To comply, permittees voluntarily agreed to implement a 10% reduction in AUMs in an effort to move toward meeting Standards. The reduction has been in effect since the 2008 grazing season. Actual use from 1998 to 2007 averaged 1,453 AUMs per year (range 1,023-1,622 AUMs), while actual use between 2008 and 2012 averaged 1,271 AUMs per year

(range 1,084-1,455 AUMs). Utilization of perennial bunchgrasses was up to 70% and often over 50% before 2008, while since 2008 utilization of perennial bunchgrasses has not exceeded 50%.

In the spring of 2012, the Interdisciplinary Team (IDT) determined that the 2007 Evaluation and Determination should be updated to more accurately reflect conditions on the ground. Information gathered since the 2007 Assessment is discussed in the Affected Environment sections for the applicable resource for each Standard in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA. This report uses that information, and constitutes a new Evaluation and Determination for the Fossil Butte Allotment based on conditions through 2013.

Data sources used for this Evaluation/Determination are as shown in the following table. Specifics are discussed under the applicable Standard. See Figures 3 and 4 for monitoring locations for Rangeland Indicators, Trend, Riparian Assessments, Utilization, and Sage-grouse Habitat Assessments.

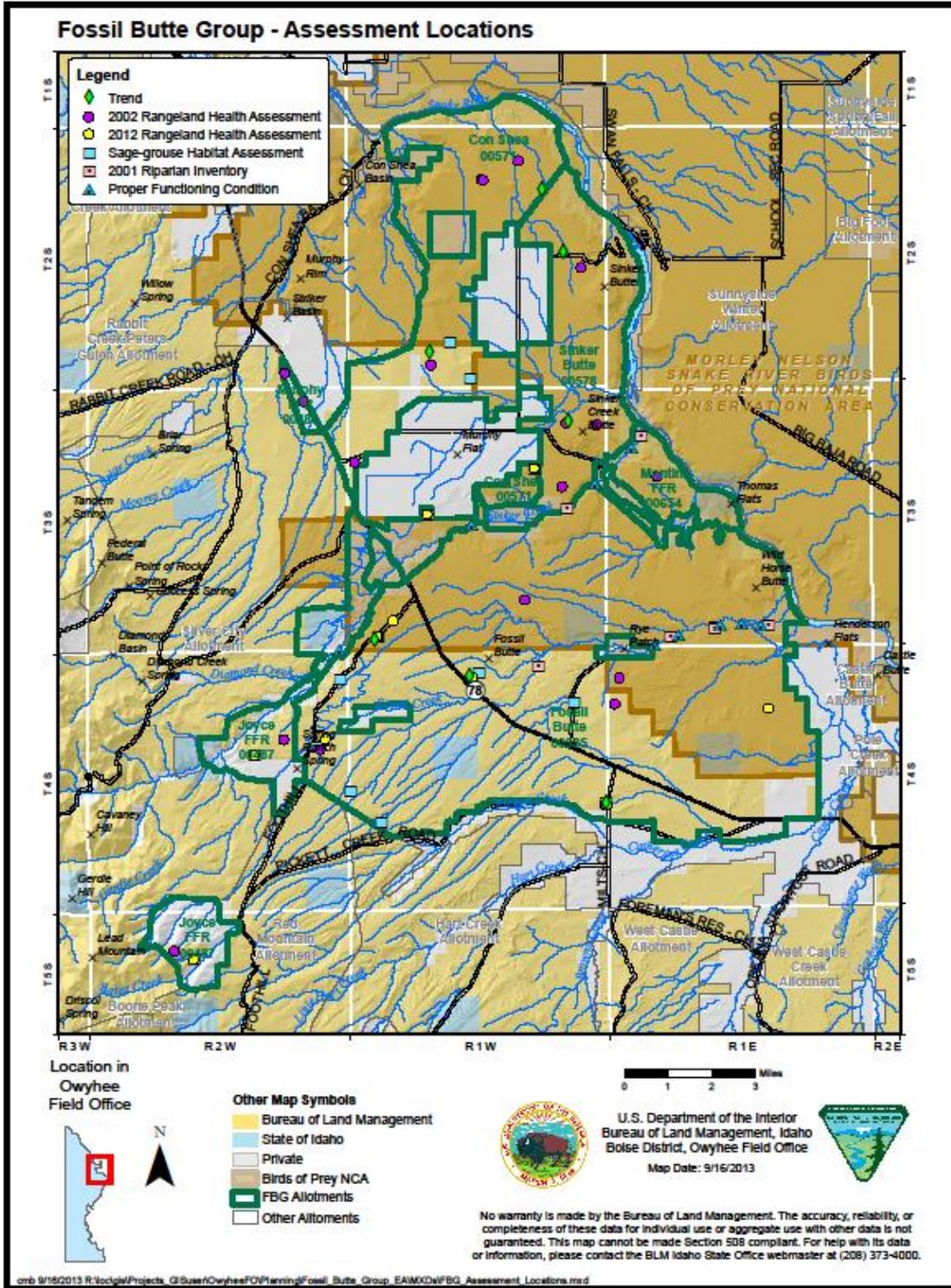


Figure 3 – Monitoring Locations within the Fossil Butte Group Allotments

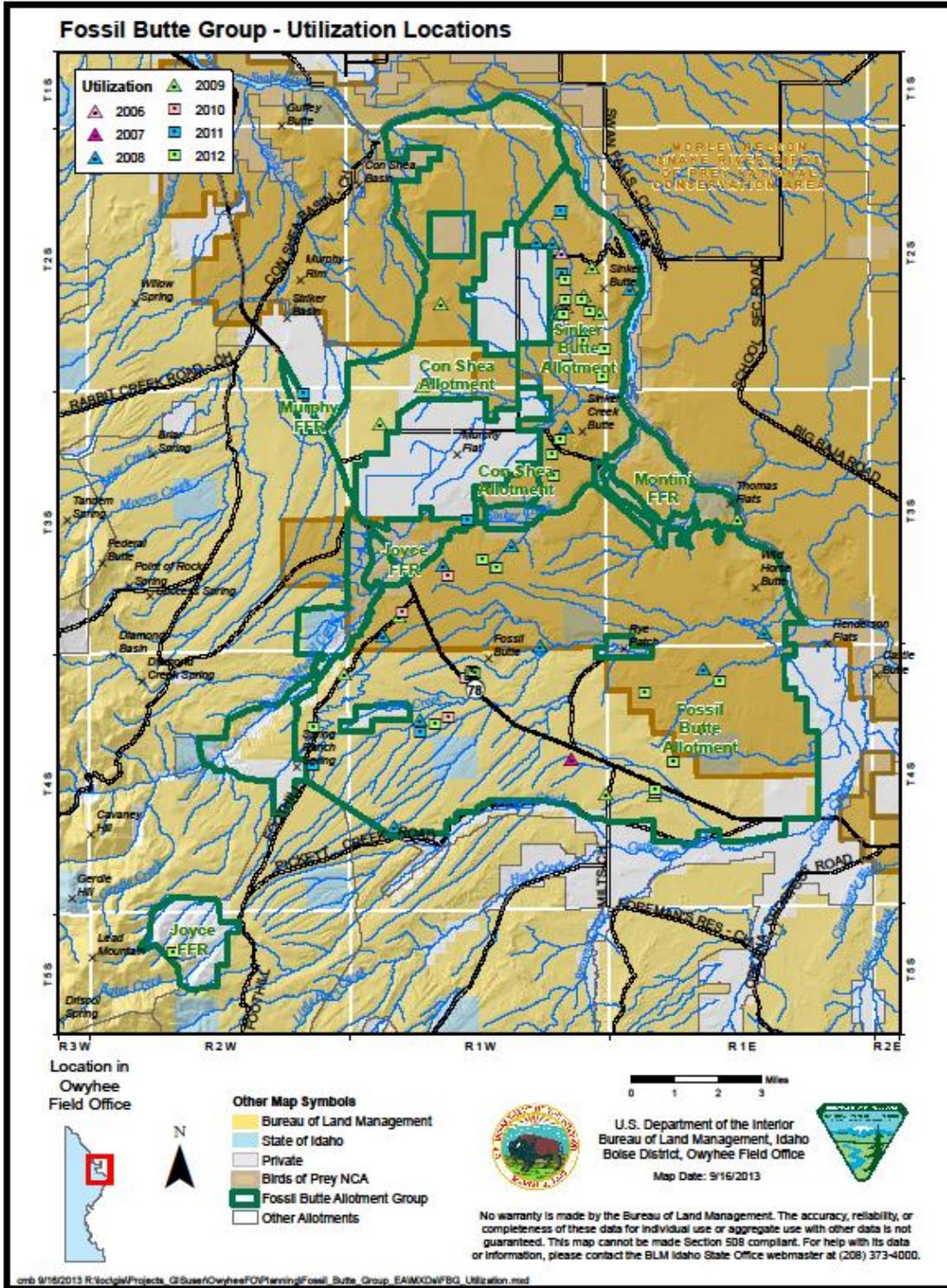


Figure 4 – Utilization Locations within the Fossil Butte Group Allotments

Data Sources for Evaluation and Determination

Information Type	Date(s)	Location of Information
Previous Assessment and Determination	2007	Owyhee Field Office Files

Information Type	Date(s)	Location of Information
Field evaluation of Interagency Technical Reference 1734-6 Interpreting Indicators of Rangeland Health (Rangeland Indicators)	2012	Owyhee Field Office Files
Trend (Nested Frequency, Photo Plot, Canopy and Ground Cover, Shrub Density)	2002, 2008, and 2011	Owyhee Field Office Files
Vegetation and Wildlife Specialist Reports for the Fossil Butte Group	2013	Owyhee Field Office Files
Ecological Site Descriptions (Natural Resources Conservation Service Draft Documents)	2005	Owyhee Field Office Files
Fossil Creek Riparian Inventory and Proper Functioning Condition (PFC) Assessments	2001 and 2012	Owyhee Field Office Files
Fossil Butte Allotment Actual Use	2003-2012	Owyhee Field Office Files; Chapter 2 of Fossil Butte Group EA
Fossil Butte Allotment Utilization	2003-2012	Owyhee Field Office Files; Appendix D of Fossil Butte Group EA
Riparian and Wildlife Field Visit Reports	2013	Owyhee Field Office Files
Idaho Department of Fish and Game's (IDFG) Idaho Fish and Wildlife Information System (IFWIS)	As of 2013	Owyhee Field Office Geographic Information System (GIS) Files
Sage-grouse Habitat Assessments	2012	Owyhee Field Office Files
Ecological Site mapping, Soil Survey, Existing vegetation mapping, and Noxious Weed locations	As of 2013	Owyhee Field Office GIS Files
Idaho Department of Environmental Quality (IDEQ) Mid Snake River/Succor Creek Subbasin Assessment and Total Maximum Daily Load Report	2003	Owyhee Field Office Files
Wildlife habitat mapping, species occurrence locations, wildlife monitoring survey locations	As of 2012	Owyhee Field Office GIS Files

Note that much of this information is primarily qualitative rather than quantitative, and ecological site descriptions do not include specific figures for some important elements (such as biological soil crust cover), so the evaluation uses both numerical and non-numerical comparative terms.

Standard 1 – Watersheds

Overview

A majority of the soils occur on structural benches, fan piedmonts, fan terraces, and foothills. Most of the soils formed in mixed alluvium and loess derived predominantly from lacustrine deposits and basalt. In general, the soils are shallow to deep (predominantly deep) and well

drained. Surface textures are dominantly silty loams and sandy loams. Soils in this allotment have weak to moderate subsurface development. The main soils present in the area include the McKeeth, Escalante, Tindahay, Royal, Bruncan, and Scism. There is also a badlands component scattered throughout the area.

Evaluation:

Field evaluations of Interagency Technical Reference 173406 Interpreting Indicators of Rangeland Health (Rangeland Indicators), long-term trend data and repeat photography, utilization, and field visits were used to evaluate the watershed standard. . Indicators used for evaluating Standard 1 will be vegetative structure, ground cover and evidence of erosion such as rills, gullys, or pedestalls.

Of the six field evaluations of Rangeland Indicators conducted in 2012, soil and site stability were rated none to slight departure from what is expected on three sites. The other three sites were rated slight to moderate departure due to the greater than expected frequency and extent of the following indicators: surface soil loss, pedestaling, and water flow paths. Hydrologic function was rated none to slight departure on two sites, slight to moderate on three sites, and one site was rated moderate to extreme departure from what is expected. All departures were related to the reduction of deep-rooted perennial bunchgrasses, usually accompanied by the increase in cheatgrass. The site rated moderate to extreme was due to the absence of deep-rooted perennial bunchgrasses that should occur for the site.

Trend ground cover data for herbaceous perennial vegetation, biological soil crusts, and stable ground cover elements show stable to declining trends from 2002 to 2008, and stable to increasing trends between 2008 and 2011, indicating improving conditions since 2008. Bare ground and non-persistent litter data showed no identifiable trends.

Utilization was up to 70% and often over 50% before 2008. Since 2008, utilization has not exceeded 50%.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The Fossil Butte Allotment is not meeting Standard 1, as indicated by a reduction or loss of large deep-rooted perennial bunchgrasses across a majority of the allotment.

The loss of deep-rooted perennial bunchgrasses reduces soil cover and litter necessary for soil site stability, and changes hydrologic and nutrient cycling capabilities of the area. The deep root plants incorporate carbon storage, nutrient cycling and water movement through soil macropores to deeper regions of the soil profile. The loss of deep-rooted perennial bunchgrasses changes the nutrient cycling, hydrologic cycling, and nutrient flow from what is expected for the area. Although there are signs of soil loss (loss of surface horizon and pedestaling), they are not extensive. The loss of bunchgrasses has already had an impact on soil stability, but conclusive

evidence gathered through the evaluation of rangeland indicators identifies that vegetation has maintained soil site stability for the past few years.

Significant progress toward meeting Standard 1 is indicated by recent (2008-Present) improvements in frequency of the bunchgrasses, along with ground cover by basal perennial vegetation and biological soil crusts.

Determination:

Determination Finding: The Fossil Butte Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

The Fossil Butte Allotment is not meeting Standard 1, as indicated by a reduction or loss of large deep-rooted perennial bunchgrasses across a majority of the allotment. Although there are signs of soil loss (loss of surface horizon and pedestaling), they are not extensive. Significant progress is indicated by improvements in frequency of the bunchgrasses and ground cover by basal perennial vegetation and biological soil crusts.

The late fall-winter use period for livestock grazing is appropriate for the existing plant communities. Livestock grazing during this period when perennial plants are dormant is least disruptive to the physiological processes of perennial plants. Grazing period would have minimal measureable impact to near-frozen soils. As pointed out in the evaluation above, current grazing practices contributed to stabilizing erosional processes. Observations indicate maintenance of past rills, gullies, and erosional pedestals compared to historic activity. Standard 1 is not being met due to past grazing practices which make it more important to ensure that current grazing practices continue improvement towards a stable site.

Standard 2 – Riparian Areas and Wetlands
Standard 3- Stream Channel/Floodplain

Overview

No known lentic sites occur in Fossil Butte Allotment. Riparian areas include approximately 2.5 miles of the Snake River, 1.9 miles of Sinker Creek, and 2 miles of Fossil Creek. The Snake River flows east to west and is the northeast border of Fossil Butte Allotment. Livestock have limited access to the Snake River due to bluffs, steep terrain, and fencing. Consequently, livestock grazing has little effect on channel morphology and adjacent riparian areas, so the Snake River is not analyzed for Standards 2 and 3.

Sinker Creek is a perennial stream that flows west to east into the Snake River, and is the northwestern border of the Fossil Butte Allotment. Sinker Creek has upstream diversions approximately 5.5 miles upstream on private land that affects stream channel and floodplain functionality along the 1.9-mile reach. The Fossil Butte allotment has minimal access to Sinker Creek due to steep topography, cliffs, and gap fences. The access is limited to one water gap, therefore Sinker Creek will not be analyzed within the Fossil Butte Allotment.

Approximately 22 miles of Fossil Creek are located on public lands in the Fossil Butte Allotment and are either intermittent or ephemeral. Fossil Creek and its tributaries flow from west to east across the middle of the Fossil Butte Allotment. A 2.0-mile reach between Rye Patch Ranch and a canal is the only perennial flow and can be attributed to irrigation runoff. Stream flow rarely reaches the canal, and no water from the drainage reaches the Snake River. Stream flows are ephemeral downstream of the canal diversion.

The majority of Fossil Creek is either intermittent or ephemeral and is not considered to exhibit riparian characteristics. There is a small reach of perennial flow, as described above, which has been identified as a riparian area. This reach is entirely controlled by irrigation runoff as its source and is then dewatered again at its lowest extent. This irrigation is in no way managed by the BLM and therefore, the BLM has no control over the long-term health of the riparian system. Fossil Creek will not be part of a determination regarding livestock use within a naturally occurring riparian area. However, because this reach receives “flow” and functions as a riparian area, it is expected to provide some degree of riparian-obligate wildlife habitat.

Evaluation:

Not Applicable

Standard 4 – Native Plant Communities

Overview

The expected vegetation for the predominant ecological site in the allotment (Calcareous Loam 7-10”) is shadscale and budsage over Indian ricegrass and Thurber’s needlegrass, with smaller areas of Wyoming sagebrush over Indian ricegrass or bluebunch wheatgrass and Thurber’s needlegrass (Sandy Loam 8-12”; Loamy 8-12”), or patches of greasewood over basin wildrye (Saline Bottom 8-12”) or winterfat over Indian ricegrass (Silty 7-10”). In most of the allotment, the shrub structure is more or less intact, but large bunchgrasses have been lost and replaced by Sandberg bluegrass and/or cheatgrass. Patches of cheatgrass-dominated areas without shrubs occur, such as at lower elevations on the northeast part of the allotment, mapped at 3-11% of the allotment (see PNNL Current Vegetation Map in the Vegetation Specialist Report). There are also some localized patches with remnant large bunchgrasses, particularly needle-and-thread and Indian ricegrass on sandy inclusions; these patches are too small to show up on vegetation maps.

Evaluation:

Information sources to evaluate the Native Plant Communities Standard are the 2007 Assessment, Evaluation, and Determination, 2012 Rangeland Indicators, trend, sage-grouse habitat assessments, BLM noxious weed GIS layer, utilization, actual use, Vegetation Specialist

Report, and ecological site descriptions. See Figure 3 for specific monitoring locations. Indicators to evaluate the Standard include large bunchgrass frequency, abundance, seed production, and trend; small/medium bunchgrass abundance and trend; shrub diversity and cover; native forb diversity and abundance; extent and cover of invasive plants; and ground cover by basal perennial vegetation and biological soil crusts, all as compared to reference conditions described in the ecological site descriptions. Significant progress toward meeting the Standard would be indicated by an increase in some or all of these indicators, without an increase in bare ground, noxious weeds, and invasive annuals.

The 2007 Assessment was based on seven Rangeland Indicators conducted in 2002. The indicator that was most departed from reference conditions was invasive species, due to the presence/dominance of cheatgrass, with ratings of moderate departure, moderate to extreme departure, or extreme departure in all seven sites. The next most common departure indicator was functional/structural groups, due to a reduction in large perennial bunchgrasses at most sites, with ratings of slight to moderate, moderate, or moderate to extreme departure. Other indicators showing up to moderate departure at some sites included soil surface loss, litter amount, and plant mortality and decadence. Trend data (as summarized in the 2007 Assessment) indicated mostly stable trends between 1987 and 2002, with mixed (one increase, one decrease) Sandberg bluegrass, decreased squirreltail and Indian ricegrass, and increased needle-and-thread grass. Utilization on key perennial grasses was 18-70% between 1993 and 2007, but since 2008 utilization has not exceeded 50%.

In 2012, the IDT conducted six Rangeland Indicators. The IDT found similar conditions to the earlier Rangeland Indicators, with the greatest departures in invasive plants (cheatgrass), compaction layer (at two sites), and functional/structural groups (lack of large bunchgrasses). A few sites also had departures in plant mortality and decadence, litter amounts, and reproductive capability of perennial plants. Evaluation sites that had also been visited in 2002 generally showed lower departure for biotic indicators in 2012 than 2002. One particularly weedy site in the east part of the allotment (not visited in 2002 field visits) was rated with moderate-to-extreme departure for most biotic indicators because of cheatgrass dominance, shrub die-off, and lack of perennial bunchgrasses.

Trend frequency data for the most abundant perennials from the three monitoring sites show variable trends in the most recent readings (see Trend Frequency Summary Table below and the Vegetation Specialist Report). Most species are stable, with two to three increasing or decreasing each period. However, the larger bunchgrasses (squirreltail, Indian ricegrass, and needle-and-thread grass) show stable to decreasing perennial plant frequency between 2002 and 2008, and stable to increasing perennial plant frequency between 2008 and 2011. Sandberg bluegrass is stable to increasing. Shrubs are stable to decreasing, based on frequency data. Shrub cover was stable to decreasing between 2002 and 2008, and stable to increasing between 2008 and 2011. A change in frequency (decrease or increase) was designated significant at $p < 0.1$, otherwise trend is considered “stable”.

Trend Frequency Summary for the Most Abundant Perennial Species

Site & Ecosite	2002 to 2008			2008 to 2011		
	Stable	Decrease	Increase	Stable	Decrease	Increase

Site & Ecosite	2002 to 2008			2008 to 2011		
	Stable	Decrease	Increase	Stable	Decrease	Increase
03S01W31 Calcareous loam	Shadscale	Squirreltail, budsage	Sandberg bluegrass	Budsage	Shadscale	Sandberg bluegrass, squirreltail
04S01W04 Calcareous loam	Shadscale, budsage		Sandberg bluegrass	Sandberg bluegrass, shadscale	Budsage	
04S01W24 Sandy loam	Needle-and-thread, Indian ricegrass, fourwing saltbrush	Rabbitbrush		Indian ricegrass, rabbitbrush, fourwing saltbrush		Needle-and-thread

Trend ground cover data for herbaceous perennial vegetation, biological soil crusts, and stable ground cover elements show stable to declining trends from 2002 to 2008, and stable to increasing trends between 2008 and 2011, suggesting improving conditions since 2008. Bare ground and non-persistent litter trends are more ambiguous. Basal herbaceous vegetation and biological soil crusts are both highly reduced compared to reference conditions.

Plant community data was collected for eight sage-grouse habitat assessments across the allotment in 2012. These point intercept transects found sagebrush canopy cover 0-28%, other salt desert shrubs (shadscale, budsage, spiny hopsage, four-wing saltbush, and/or greasewood) 0-26% canopy cover, large bunchgrasses (needle-and-thread, Indian ricegrass, squirreltail) 0-22% foliar and 0-2% basal cover, Sandberg bluegrass 0-66% foliar and 0-16% basal cover, no annual or perennial forbs, and cheatgrass 2-60% foliar and 0-2% basal cover. Ground cover of the more stable elements was 0-16% basal vegetation, 0-18% biological soil crusts (moss and lichen), and 0-44% rock/bedrock. The less stable ground cover ranged from 6-80% bare ground, 16-54% duff/non-persistent litter, and 0-12% embedded litter. This indicates conditions as described above, with shrub cover usually similar to reference conditions, but large bunchgrasses and forbs reduced, replaced by cheatgrass and/or Sandberg bluegrass, and basal vegetation and biological soil crusts reduced and replaced by bare ground or cheatgrass litter.

BLM's noxious weed GIS layer shows several infestations of five different noxious weeds in the Fossil Butte Allotment recorded since 2001, mostly along roads. Whitetop is scattered in numerous patches across the allotment. Scotch thistle and tamarisk are also scattered, but only a few infestations are mapped. Russian knapweed is recorded from a few infestations along Sinker Creek and at the edge of Highway 78. Perennial pepperweed is recorded along the Snake River, at the edge of the allotment. In addition, bindweed was recorded at a Rangeland Indicator site in 2012. Many of these infestations have been and continue to be chemically treated by the BDO weed crew.

In summary, native plant communities in the Fossil Butte Allotment have been highly altered from reference conditions, as indicated by replacement of large bunchgrasses by cheatgrass or

Sandberg bluegrass, and a reduction in biological soil crusts. Shrub cover is less altered, with many areas having cover comparable to reference conditions.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The Fossil Butte Allotment is not meeting the native plant community Standard, as shown by the data discussed above for these specific indicators:

- Large bunchgrasses have been highly reduced in frequency and abundance within plant communities where those grasses are expected to be sub-dominant with shrubs. This is true across the entire allotment. The large bunchgrasses have been replaced by Sandberg bluegrass and/or cheatgrass.
- The predominant small bunchgrass, Sandberg bluegrass, has higher than expected abundance. Sandberg bluegrass is an important native component of the system, but is increased (compared to reference conditions) with the reduction of large bunchgrasses. Its shallow roots and low stature do not replace the structure and function of Indian ricegrass, Thurber's needlegrass, and bluebunch wheatgrass that have been lost.
- Shrub diversity and cover have been reduced in some relatively small areas, such as weedy patches in the lower elevation portion of the allotment and in recent fire areas.
- Native forb abundance has been somewhat reduced across the allotment. Native forb diversity across the allotment is moderately close to reference conditions, but the abundance of these plants is lower than expected, based on trend and sage-grouse habitat assessment data.
- Cheatgrass is subdominant to dominant (in localized areas) throughout mostly the lower, northeast half of the allotment. The upper slopes in the southwest part of the allotment have some cheatgrass, but Sandberg bluegrass is the predominant grass. Noxious weeds are scattered within the allotment, but do not appear to be increasing. The increase in recorded infestations is likely a function of better inventory (and treatment) rather than an increase in actual infestations.
- Ground cover data indicate that basal vegetation and biological crusts are lower than expected, while bare ground and non-persistent litter are higher than expected.

Indicators that show little departure from reference conditions, based on the above data, include:

- The abundance of medium bunchgrasses (such as squirreltail), which are not expected to make up a large proportion of the ecological site's production, is close to reference conditions.
- Native shrubs diversity and cover are largely intact except in localized areas.

Significant progress toward meeting Standard 4 is shown by the following improvements in specific indicators:

- Trend data show increased frequency between 2008 and 2011 in needle-and-thread grass (a large bunchgrass) at one monitoring site, and improvements in squirreltail (a medium bunchgrass) and Sandberg bluegrass (a small bunchgrass) at another site. Perennial grass

trends for other species and sites were stable; none showed a decrease in frequency for this time period.

- Ground cover by basal perennial vegetation and biological soil crusts increased between 2008 and 2011 at all three trend sites, although the change was statistically significant only at one site for basal vegetation and two sites for biological soil crusts.

Determination:

Determination Finding: The Fossil Butte Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Standard 4 is not being met in the Fossil Butte Allotment, as indicated by the reduction or lack of large bunchgrasses and reduced biological soil crusts, and the presence to dominance of cheatgrass. A significant causal factor for not meeting Standard 4 is the presence of invasive weeds, primarily cheatgrass. Invasive weeds have increased, in part, due to the reduction in large bunchgrasses and biological soil crusts as a result of historic grazing practices. Historic grazing (over 20 years ago) presumably included growing season use and a higher intensity of use (overstocking and increased trampling) than current management, which led to the reduction/loss of large, palatable bunchgrasses and biological soil crusts.

Significant progress is indicated by improvements between 2008 and 2011 in large bunchgrass frequency, basal perennial vegetation, and biological soil crusts. This improvement corresponds to a change in management after 2007, with a reduction in actual use. Based on the observed improvements, the current level of use during the dormant season appears suitable to maintain and improve native plant communities.

The current system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to this Standard because the system provides for periodic rest or deferment during critical growth stages, and the season and level of use are appropriate grazing management practices to maintain adequate perennial plant vigor for seed production, seed dispersal, and seedling survival relative to the ecological site.

The fall and winter season of use occurs mostly during perennial plants' dormant season, which has fewer effects than growing season grazing. However, bunchgrasses that green-up in the fall would be utilized in October to early November, so there are some, limited growing season effects. Cheatgrass, which often germinates in the fall, would also be utilized during that time period and through the winter, potentially reducing its dominance. Shrubs may be more preferentially grazed in fall and winter when perennial grasses are dry than spring/summer

grazing. Shrub trends in the Fossil Butte Allotment are mixed (stable/declining frequency, stable/increasing cover, and variable density comparing the last two readings); because of the various results, the factors for those communities that are showing a decline in shrub frequency are unknown at this time.

Standard 5 – Seedings

Not Applicable

Standard 6 – Exotic Plant Communities, Other than Seedings

Not Applicable. Cheatgrass and weed-dominated areas are mapped at about 3% (PNNL data) - 11% (LANDFIRE data) in the allotment, but those areas are more or less scattered and not managed separately from native plant communities because there is only one pasture, so all of the vegetation was evaluated under Standard 4.

Standard 7 – Water Quality

Overview

Streams with designated beneficial uses are addressed under the Idaho Administrative Procedures Act (IDAPA) 16.01.02.140. The Snake River along with two tributaries, Sinker Creek and Fossil Creek, are in the Mid-Snake River/Succor Creek sub-basin (hydrologic unit number 17050103). Idaho Department of Environmental Quality (IDEQ) identified the Snake River as water quality limited for dissolved oxygen, flow alteration, and nutrients, and developed total maximum daily loads (TMDLs) for nutrients and dissolved gases. Designated uses for the Snake River include cold water aquatic life (CWAL), primary contact recreation, and domestic water supply. Fossil Creek does not have a surface connection with the Snake River and therefore does not contribute to the water quality parameters of the Snake River. Fossil Creek has not been assigned specific beneficial uses by IDEQ, nor any water quality evaluated. Presumed beneficial uses for Fossil Creek include agricultural water supply, wildlife habitat, and aesthetics.

Water quality was evaluated with the following information: the 2012 field evaluations of Rangeland Indicators for the Fossil Butte Allotment, PFC assessments, field notes, photographs, temperature, and measurement of E. coli concentrations. Water quality data collected by BLM is limited to one water temperature measurement in Fossil Creek (FOS 2 reach) collected on May 11, 2001 and it was measured at 19° Celsius. These 2012 field observations noted healthy riparian plants in the perennial reach of Fossil Creek and that this reach is currently supporting the beneficial uses of agricultural water supply, wildlife habitat, and aesthetics. In 2013, an assessment of the inlet and outlet of the perennial reach determined that perennial reach was existing solely as a result of irrigation runoff from the Rye Patch Ranch. This reach is then fully captured in irrigation canals about 2.4 miles downstream. Conversations with permittees (August 12, 2013), suggest that the reach has gotten smaller after the installation of a sprinkler system at the Rye Patch.

In conclusion, evaluations in 2012 indicate progress towards meeting standard 7. However, subsequent analysis has determined that the neither BLM, nor livestock grazing activities are limiting factors to attainment of water quality standards. The perennial streamflow that supports

the riparian reach of Fossil Creek is dependent on irrigation outflow from agricultural lands and is limited in length due to irrigation diversions on the downstream end. Due to the stream being fully controlled by irrigation, it is expected that temperatures and nutrients cannot support beneficial uses other than those identified above. There is no connectivity with other “waters of the U.S.” and therefore, Fossil Creek does not contribute to the beneficial uses within the Snake River. Standard 7 will not be evaluated further for livestock impacts within the riparian reach of the Fossil Butte allotment.

Evaluation:

N/A

Evaluation Rationale

N/A

Determination:

N/A

Determination Finding: The Fossil Butte Allotment is (check one or more):

Determination Rationale

N/A

Standard 8 – Threatened and Endangered Plants and Animals

Botany

Overview

Seven species of special status plants are known from the Fossil Butte Allotment (See Special Status Plants Table). Five are small annuals that grow in open, often sandy or cindery areas. One biennial grows in sparsely vegetated clay soil (ash/sediment outcrops), and a perennial grows on sandy or gravelly openings within salt desert or Wyoming sagebrush communities. Occurrences of these species are scattered across the allotment, but more concentrated in the lower elevations on the north and east. Some occurrences (ex: Malheur prince’s plume) are on steeper slope of bluffs, while others are on more gentle slopes. Records for these occurrences date from about the 1980s to 2011, but few have been revisited in recent years.

Special Status Plants in the Fossil Butte Allotment

Species	Life Form	Habitat
Snake River milkvetch <i>Astragalus purshii</i> var. <i>ophiogenes</i>	Perennial	Sand or gravelly areas on bluffs, dunes, or ash beds
Desert pincushion <i>Chaenactis stevioides</i>	Annual	Open, sandy areas
White eatonella <i>Eatonella nivea</i>	Annual	Open sandy areas
White-margined wax plant <i>Glyptopleura marginata</i>	Annual	Open sandy, gravelly, or ashy soil

Rigid threadbush <i>Nemacladus rigidus</i>	Annual	Sandy or cindery soil
Turtleback <i>Psathyrotes annua</i>	Annual	Sandy or cindery soil
Malheur prince's plume <i>Stanleya confertifolia</i>	Biennial	Sparsely vegetated clay soils

Evaluation:

Information used in evaluation this Standard includes the 2007 Assessment, Evaluation, and Determination, IFWIS data, and BLM and Idaho Fish and Game SSP monitoring records (see Vegetation Specialist Report). Indicators used include to evaluate the Standard and causal factors include the apparent trends in the abundance of occurrences and number and vigor of plants within the occurrences, habitat quality relating to invasive plants, and the timing and degree of physical disturbance to plants and habitats.

The 2007 Determination states that Malheur prince's plume monitoring reports show impacts from unauthorized ATV use to these populations. It also states that the current season of grazing use is the least disruptive option for impacting annual or perennial plants, but utilization levels may be reducing the ability of the plant community to rebound following use and maintain the plant community. Utilization levels have reduced since the 2007 Determination.

IFWIS data do not indicate special status plant visits since 2007, but BLM records include visits to desert pincushion, white-margined wax plant, and Malheur prince's plume in 2011. The 2011 information indicates that at least some occurrences are being negatively impacted by weeds (primarily cheatgrass) and off highway vehicles (OHVs – primarily motorcycles). For these occurrences, no cattle grazing impacts were observed in 2011.

Most special status species occurrences in the allotment do not have multiple visits recorded, so population trends are not known. Annual plants, in general, vary greatly in plant numbers depending on timing and amount of precipitation. Malheur prince's plume, a biennial, had monitoring transects established in 2005, and was monitored in 2008 and 2010 under a challenge cost share agreement with Idaho Fish and Game, however the monitoring report has not yet been provided. One occurrence of Malheur prince's plume was also visited (but not sampled) in 2011, and plants were present.

In both the earlier IFWIS and recent BLM records, cheatgrass is listed as an associated species for most of the special status plant occurrence records, and it likely competes with (and in some cases replaces) the special status plants. However, special status plants often occupy specific microsites such as particular soil types (cindery or ashy inclusions, for example) within broader salt desert shrub communities, and often cheatgrass is more common in surrounding, non-microsite areas than the specific plant habitat. Other invasive species are also listed in some occurrence records, such as clasping peppergrass, halogeton, and whitetop (*Cardaria draba*, a noxious weed). OHV tracks in sandy washes (habitat for several special status species) and hill climb areas (habitat for Malheur prince's plume and Snake River milkvetch) are noted in several occurrence records, and this activity has probably destroyed some special status plants. Some older occurrence records also mention cattle use in the general area of the occurrence, or hoof

prints in and near occurrence, but generally do not specify grazing damage or impacts to the special status plants. One Snake River milkvetch occurrence record from 2000 indicates numerous cattle hoof prints on slopes resulting in sliding sand in places; this could displace individuals of this perennial. This occurrence has not been revisited.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

The Fossil Butte Allotment is not meeting Standard 8 for Special Status Plants as shown by the following indicators:

- Special status plant trends are unknown, but may be declining, based on habitat degradation from cheatgrass and OHV disturbance.
- Special status plant habitat and surrounding area have been impacted by cheatgrass and other invasive plants.
- Some occurrences of special status plants, such as Malheur prince’s plume, are being impacted by OHV activity. This activity occurs during the growing season, when plants are most susceptible to damage. Both of the Malheur prince’s plume occurrences have had motorcycle damage, so there is a high degree of impact to this species within the allotment.

Determination:

Determination Finding: The Fossil Butte Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Guidelines for livestock management that relate to Standard 8 for SSP include:

- Implement grazing management practices that provide periodic rest or deferment during critical growth stages.
- Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of these plants.
- Apply grazing management practices that maintain or promote the physical and biological conditions necessary to sustain native plant populations.

Current livestock management conforms to these guidelines for livestock management because use is primarily during the dormant season, providing for regular deferment during the growing

season. Also, the level of use (based on utilization and actual use – see Standard 4) at this time is sufficient to maintain adequate vigor for seed production, dispersal, and seedling survival. This timing and level of use are suitable to maintain the physical and biological conditions necessary for these SSP populations, as discussed below for each species.

Fall and winter grazing have no direct effects on the annual special status plants, which have completed their lifecycle and germinate in the spring (generally March to May). Thus, current management has no grazing effects to desert pincushion, white eatonella, white-margined wax plant, rigid threadbush, and turtleback.

The perennial special status plant in the allotment, Snake River milkvetch, is a low forb which is dormant during the grazing period, with all growing points below ground, and so not subject to grazing impact at this time. Although heavy trampling (as recorded in 2000 at one occurrence) could dislodge individual plants, there is no indication that heavy trampling is occurring under the current, reduced level of use. Because there are several occurrences of Snake River milkvetch within the allotment, most of which have few cattle impacts, trampling at one site is not expected to affect the population as a whole.

The biennial Malheur prince's plume has green rosettes that overwinter and could be subject to winter grazing. However, very little cattle activity is noted within occupied habitat, presumably because of the sparse vegetation and distance from water.

Significant causal factors for not meeting Standard 8 for special status plants are invasive weeds (cheatgrass and others) and OHV impacts to occupied habitat.

Wildlife

Overview

Many wildlife species utilize a variety of habitats in the Fossil Butte 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 the 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 is not discussed here in the same depth as species upon which the BLM places management emphasis.

The BLM, U. S. Fish and Wildlife Service (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, 2008), 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 Fossil Butte Allotment and whose habitat may be affected by grazing activities.

One invertebrate species is listed as endangered under the Endangered Species Act of 1973, as amended (ESA). Two birds and one amphibian species are listed as candidate species under the ESA. Seven mammals, 13 birds, three reptiles, three amphibians, two fish, and one invertebrate species with special status potentially occur within the Fossil Butte Group allotments and may be affected by grazing activities. See Appendix D, Special Status Wildlife Species, in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA for a list of special status wildlife species, their status, and occurrence potential within the Fossil Butte Allotment.

With the exception of a few well-studied species, current occurrence and population data for most special status animal species within the Fossil Butte 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 Snake River physa, greater sage-grouse, and Columbia River redband trout. Other special status animal species, migratory birds, raptors, and species of socio-economic importance (e.g., big game) and their habitats will be included in discussions in the broader context of upland and riparian habitat conditions.

Although no federally listed threatened or endangered species or designated critical habitat occurs within the Fossil Butte Allotment, the Snake River physa snail (*Physa natricina*) is listed as endangered under the ESA and occurs in the Snake River immediately adjacent to the allotment. One ESA candidate species is known to occur within the allotment: the greater Sage-grouse (*Centrocercus urophasianus*).

Evaluation

Rangeland Health Standards (Standards) are interrelated, especially when addressing wildlife special status species requirements. Standards 1-7 provide the basis for healthy wildlife habitats that are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species. Indicators for Standard 8, Threatened and Endangered Animals include:

- Parameters described in the Idaho Water Quality Standards.
- Riparian/wetland vegetation with deep, strong, binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.
- Age class and structural diversity of plant species are appropriate for the site.
- Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.
- The diversity of native plant and animal communities are maintained.
- The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
- Noxious weeds are not increasing.

Upland Wildlife Habitat
Previous 2007 Assessment

The 2007 Assessment was based on seven Rangeland Indicators conducted in 2002 and trend data collected at three sites from 1987 through 2002. The indicator that showed the greatest departure from reference conditions was invasive species, due to the dominance of cheatgrass in the understory. The next most common departure indicator was functional/structural groups, due to a reduction in large perennial bunchgrasses at most sites. All trend sites were in depleted condition, due to the reduction of large bunchgrasses, shrubs, and an increase in invasive exotic annual species. Trend frequency data displayed static to decreasing large bunchgrass frequency between 1987 and 2002 at two sites and static to upward frequency at one site. Utilization of key perennial grasses was 18-70% between 1993 and 2007.

Current Assessment

In 2012, the IDT conducted six Rangeland Indicators. The IDT found similar conditions to the 2007 Rangeland Indicators, with the greatest departures in invasive plants (cheatgrass), soil compaction (at two sites), and functional/structural groups (lack of large bunchgrasses). However, trend frequency data displayed static to increasing large bunchgrass frequency between 2008 and 2011 at two sites and static frequency at one site. Sandberg bluegrass frequency was increasing at two sites. Utilization of perennial bunchgrasses was up to 70% and often over 50% before 2008, but since management changes made in 2008, utilization of perennial bunchgrasses has not exceeded 50%.

Focal Wildlife Species

Greater Sage-grouse

Currently, suitable sage-grouse habitats are very limited or absent within the Fossil Butte allotment. As discussed previously, in most of the allotment the shrub structure is largely intact, but large bunchgrasses have been lost and have been replaced by Sandberg bluegrass and/or cheatgrass.

Based on an interim, updated (2012) version of the Idaho Sage-grouse Habitat Planning Map (ISHPM) completed by the Idaho Sage-grouse Advisory Committee, approximately 9% (3,636 acres) of BLM managed lands within the Fossil Butte Allotment is currently classified as key sage-grouse habitat. The remaining 91% (36,456 acres) of BLM managed lands within the Fossil Butte Allotment are not considered sage-grouse habitat. Makela and Major (2012) identified approximately 3% (1,023 acres) of BLM managed lands within the Fossil Butte Allotment as PGH and 9% (3,636 acres) as PPH (Table 3).

Sage-grouse habitat acreage on public lands within the Fossil Butte Allotment

Pasture	Idaho Sage-grouse Habitat Planning Map				PPH/PGH	
	Sagebrush	Perennial Grassland	Conifer Encroachment	Total	PGH	PPH
1	3,636	0	0	3,636	1,023	3,636

In 2012, BLM personnel conducted eight sage-grouse habitat assessments within the Fossil Butte Allotment (Table 4). Four habitat assessments were conducted within PPH. Additional sage-grouse habitat assessments were conducted outside of PPH in order to assess areas where

Rangeland Indicators had been previously conducted. Habitat assessments indicate that the majority of the Fossil Butte Allotment is providing unsuitable (missing the majority of necessary indicators) sage-grouse breeding and upland summer habitats due to a reduction in large stature perennial bunchgrasses, dominance of Sandberg bluegrass in the understory, and low preferred forb diversity and abundance. Habitat assessments also indicate that the Fossil Butte Allotment is providing suitable (necessary food/cover indicators are present) sage-grouse winter habitat at all sites assessed within PPH.

2012 Fossil Butte Allotment sage-grouse habitat assessment seasonal habitat summary

Site ID	Ecological Site	Sage-grouse Seasonal Habitat Type		
		Breeding	Upland Summer	Winter
0535-1-04S02W01b-2012	Loamy 8-12”	Unsuitable	Unsuitable	Suitable
0535-1-04S02W13h-2012	Saline Bottom 8-12”	Unsuitable	Unsuitable	Suitable
0535-1-04S01W19c-2012	Loamy 8-12”	Unsuitable	Unsuitable	Suitable
0535-1-04S01W19d-2012	Loamy 8-12”	Marginal	Marginal	Suitable
0535-1-03S01W31a-2012	Calcareous Loam 7-10”	Unsuitable	Unsuitable	Unsuitable
0535-1-04S01W03g-2012	Sandy Loam 8-12”	Unsuitable	Unsuitable	Suitable
0535-1-04S01W12f-2012	Sandy Loam 8-12”	Unsuitable	Unsuitable	Suitable
0535-1-04S01W24e-2012	Sand 8-12”	Unsuitable	Unsuitable	Unsuitable

Evaluation Finding – Allotment is

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Upland Wildlife Habitat

The Fossil Butte Allotment is managed as a native plant community and is not meeting Standard 4. Large stature perennial bunchgrasses have been reduced or lost across the allotment and have been replaced by Sandberg bluegrass and/or cheatgrass. This vegetation community shift reduces effective nesting, escape, hiding, travel, and foraging cover values for wildlife species associated with sagebrush steppe communities. This allotment is failing to provide suitable upland habitat conditions for sagebrush steppe-associated wildlife, including sage-grouse, and therefore is not meeting Standard 8.

However, significant progress toward meeting Standard 8 is indicated by recent (post-2008) improvements in the occurrence of large bunchgrasses and basal perennial vegetation ground cover collected at two trend sites in 2011. Continuing improvements in the amount and distribution of basal perennial vegetation ground cover, biological soil crusts, and structural diversity of native upland plant communities will provide suitable upland habitat conditions for sagebrush steppe-associated wildlife, including sage-grouse, in the long-term.

Determination:

Determination Finding: The Fossil Butte Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are not Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

Upland Wildlife Habitat

Standard 8 is not being met in upland areas of the Fossil Butte Allotment, as described above; however, significant progress in native plant community health is indicated by available trend data. This improvement corresponds to a change in management after 2007, with a reduction in actual use. Current livestock grazing management practices are not a significant causal factor for not meeting Standard 8 because utilization of perennial bunchgrasses has not exceeded 50% since the 2007 change in management, which is suitable to maintain native plant communities. The majority of the season of use also occurs during perennial plants' dormant season, which results in fewer impacts to upland vegetation than growing-season grazing.

A significant causal factor for not meeting Standard 8 is the presence of invasive weeds, primarily cheatgrass. The invasive weeds have increased due to the reduction in large bunchgrasses as a result of historic grazing practices. Historic grazing (over 20 years ago) likely included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 in upland habitats because the system:

- Uses grazing management practices to maintain adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils.
- Provides periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate for site potential.
- Maintains or promotes the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.
- Maintains adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.
- Uses grazing management practices developed in recovery plans, conservation agreements and ESA Section 7 consultations to maintain or improve habitat for federal listed threatened, endangered, and sensitive plants and animals.
- Maintains or promotes the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.
- Minimizes adverse impacts due to management fencing in order to maintain habitat integrity and connectivity for native plants and animals.

Riparian Wildlife Habitat

Current Assessment

No known lentic sites occur in Fossil Butte Allotment. Riparian areas include approximately 2.5 miles of the Snake River, 1.9 miles of Sinker Creek, and 2 miles of Fossil Creek. The Snake River flows east to west and is the northeast border of Fossil Butte Allotment. Livestock have limited access to the Snake River due to bluffs, steep terrain, and fencing. Consequently, livestock grazing has little effect on the river and adjacent riparian vegetation, so the Snake River is not analyzed for Standard 8.

Sinker Creek is a perennial stream that flows west to east into the Snake River, and is the northwestern border of the Fossil Butte Allotment. Sinker Creek has upstream diversions approximately 5.5 miles upstream on private land that affects stream channel and floodplain functionality along the 1.9-mile reach. The Fossil Butte allotment has minimal interaction with Sinker Creek due to steep topography, cliffs, and gap fences. Livestock access is limited to one water gap on public land; therefore Sinker Creek will not be analyzed within the Fossil Butte Allotment.

Approximately 22 miles of Fossil Creek are located on public lands in the Fossil Butte Allotment and are either intermittent or ephemeral. Fossil Creek and its tributaries flow from west to east across the middle of the Fossil Butte Allotment. A 2.0-mile reach between Rye Patch Ranch and a canal is the only perennial flow and can be attributed to irrigation runoff. Stream flow rarely reaches the canal, and no water from the drainage reaches the Snake River. Stream flows are ephemeral downstream of the canal diversion.

The majority of Fossil Creek is either intermittent or ephemeral and is not considered to exhibit riparian characteristics. There is a small reach of perennial flow, as described above, which has been identified as a riparian area due to the presence of hydric vegetation. As this reach contains hydric vegetation, it is expected to provide some degree of riparian-obligate wildlife habitat. However, this reach is entirely controlled by irrigation runoff as its source and is then dewatered again at its lowest extent. This irrigation runoff is in no way managed by the BLM and therefore, the BLM has no control over the long-term health of the artificially created riparian system. Therefore, Fossil Creek will not be part of a determination regarding livestock use within a naturally occurring riparian area.

Focal Wildlife Species

Snake River physa

The recovery area for the species extends from Snake River RM 553 to Snake River RM 675. There are currently no planned conservation efforts that target the Snake River physa. The conservation needs to facilitate recovery of this species are to ensure that water quality and quantity, as well as habitat quality, are maintained within the Snake River to ensure Snake River physa can maintain viable populations. Water sources contributing to the quantity and quality of the Snake River (e.g., tributaries and aquifers) also need to be maintained, meeting the standards for cold-water biota and remaining free of contaminants and excessive nutrients. Snake River physa locations and potential habitat have been documented within the Snake River upstream, downstream, and immediately adjacent to portions of the Fossil Butte Allotment.

Based on the information discussed above, BLM has determined that permitted livestock grazing on the Fossil Butte Allotment does not contribute to excess sediment loads or increased water temperature in Sinker Creek, Fossil Creek, or the Snake River. Consequently, BLM has also determined that permitted livestock grazing on the allotment will not affect the Snake River physa or associated critical habitat.

Current grazing management is maintaining upland habitat conditions, adequate ground cover, and perennial vegetation necessary to prevent excess water runoff or sedimentation within the watershed. As discussed previously, livestock have limited access to the Snake River and consequently, little effect on riparian areas, sediment loads, and channel morphology. Sinker Creek is rated as PFC and is limited by upstream diversions; current livestock grazing does not appear to impact this stream. Sediment levels within the stream are not an issue due to buffering ability of existing riparian vegetation, beaver ponds, and upstream water diversions. Fossil Creek has limited perennial flow provided by irrigation runoff and all stream flow is diverted at the canal; no water from the drainage reaches the Snake River. Field observations confirmed minimal connectivity between Sinker Creek and the Snake River.

Evaluation Finding

Not Applicable

Summary of Evaluation and Determination

Check one box for each	Standards							
	1	2	3	4	5	6	7	8
	Watersheds	Riparian and Wetlands	Stream Channel and Floodplain	Native Plant Communities	Seedings	Exotic Plant Communities (not seeded)	Water Quality	Threatened and Endangered Plants and Animals
Meeting the Standard								
Not Meeting the Standard, but making significant progress toward	X			X				X Upland Animals
Not Meeting the Standard; current livestock grazing practices are not significant factors								X Plants
Not Meeting the Standard; current livestock grazing practices are a significant factor								
Not Meeting the Standard; cause not determined								

	Standards							
Check one box for each	1	2	3	4	5	6	7	8
Standard does not apply		X	X		X	X	X	X Riparian Animals
Guidelines for Livestock Grazing								
Conforms with Guidelines for Livestock Grazing Management?							YES	
If no, list the Guidelines not in conformance:								

Field Manager's Signature and Date

Evaluation and Determination
Con Shea Allotment
2013

Interdisciplinary Team:

Rich Jackson – Hydrologist
TJ Clifford – Hydrologist
Brad Jost – Wildlife Biologist
Beth Corbin – Botanist/Ecologist
Melissa Cameron – Rangeland Management Specialist

Background:

This Evaluation and Determination cover the time period between 2003 and 2013, since the last determination.

The Con Shea Allotment is located approximately three miles southeast of Murphy in Owyhee County, Idaho. The allotment is bordered by the Snake River to the north and by Highway 78 and private cropland to the south.

The current permit authorizes 990 AUMs (animal unit months) of use on 12,519 acres of public lands (all pastures) for 251 cattle between 11/1 and 2/28. Elevations in the Con Shea Allotment range between 2,300 and 3,300 feet. The allotment includes portions of the Snake River and Sinker Creek canyons, along with buttes and tablelands associated with volcanic flows. Sedimentary deposits are intermingled with the lava. Wind-laid loess is the primary parent material in soils located on the lava flows. The tableland and butte soils are moderately deep to a hardpan in loess over basalt.

The Con Shea Allotment is currently divided into four pastures, as depicted in Figure 1 below. After a 1981 wildfire and subsequent seeding of the fire area, Pasture 1 was divided into two pastures (Pastures 1 and 2). This fence has since been removed and the area is once again one large unit (Pasture 1) and Pasture 2 no longer exists. Pasture 3 has recently been managed as part of the Joyce FFR Allotment, but is here considered with the Con Shea Allotment. Pastures 4 and 5 have not been grazed by the permittee, and therefore will not be addressed further in this Evaluation/Determination.

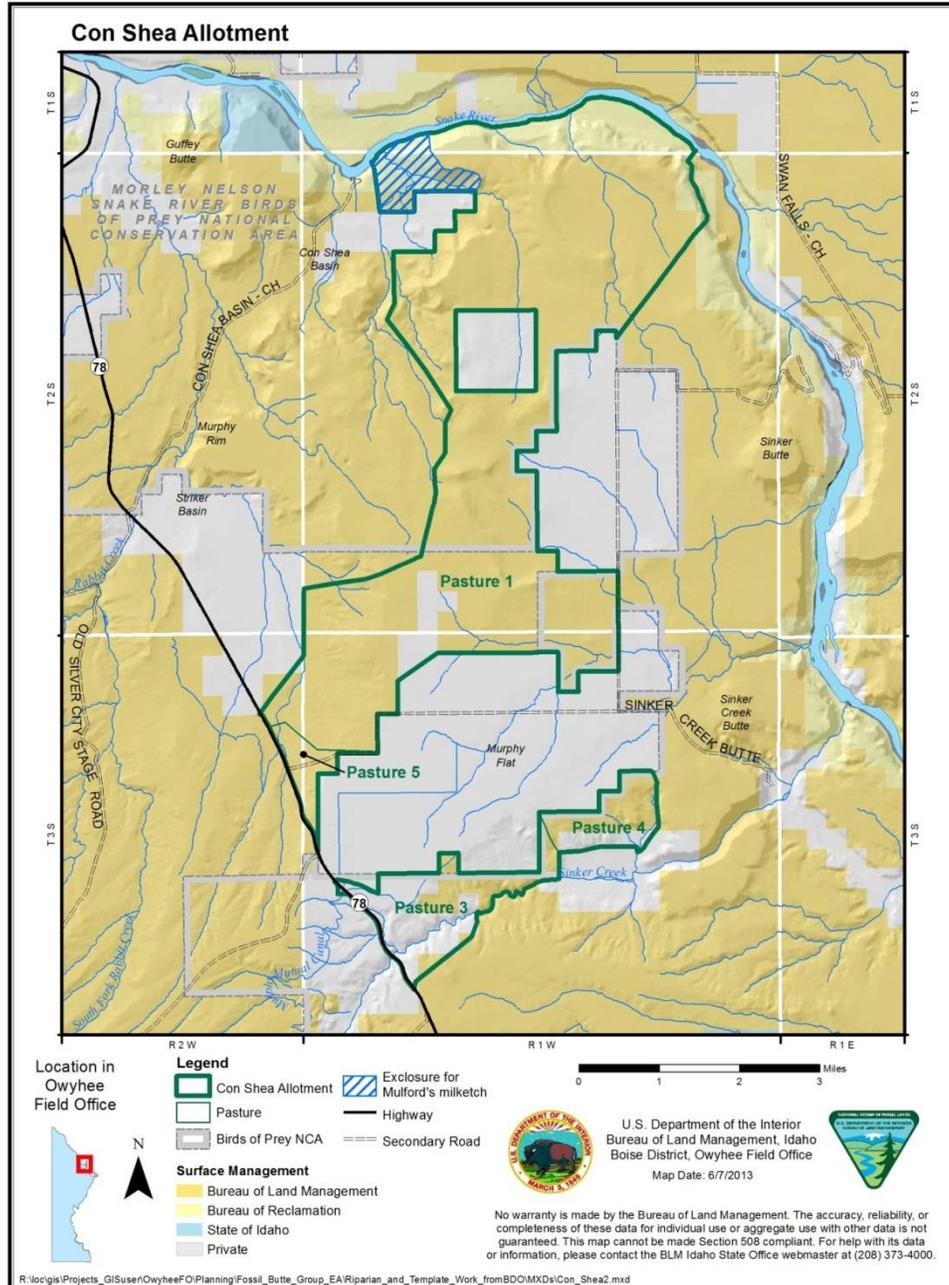


Figure 1 – General Location of the Con Shea Allotment

The season of use for Pasture 1 is 11/01 to 02/28. Pasture 3 has been used generally in early March for one to two weeks. Management has not changed substantially since the 2003 Determination, except for addition of a special status plant enclosure in Pasture 1. However, the 8,900-acre Con Shea Fire burned much of the northern part of this allotment in June 2012 and a temporary fence has been constructed to allow grazing in the southwest part of the pasture while allowing the burned area to rest, as part of Emergency Stabilization and Rehabilitation (ES&R) measures.

The Con Shea Allotment consists of mostly a Loamy 8-12” Wyoming sagebrush/bluebunch wheatgrass and Thurber’s needlegrass ecological site, with smaller amounts of Sandy Loam and Calcareous Loam ecological sites. Unmapped inclusions within the allotment include riparian areas, rocky bluffs, and ash soil outcrops.

Most of the shrub component has been lost on federal lands within the allotment due to numerous wildfires since the 1980s. A portion of the allotment was reseeded following a 1981 wildfire. The 2012 Con Shea wildfire burned 50% of the allotment, a substantial area of which was previously unburned range; the area was not reseeded (Figure 2).

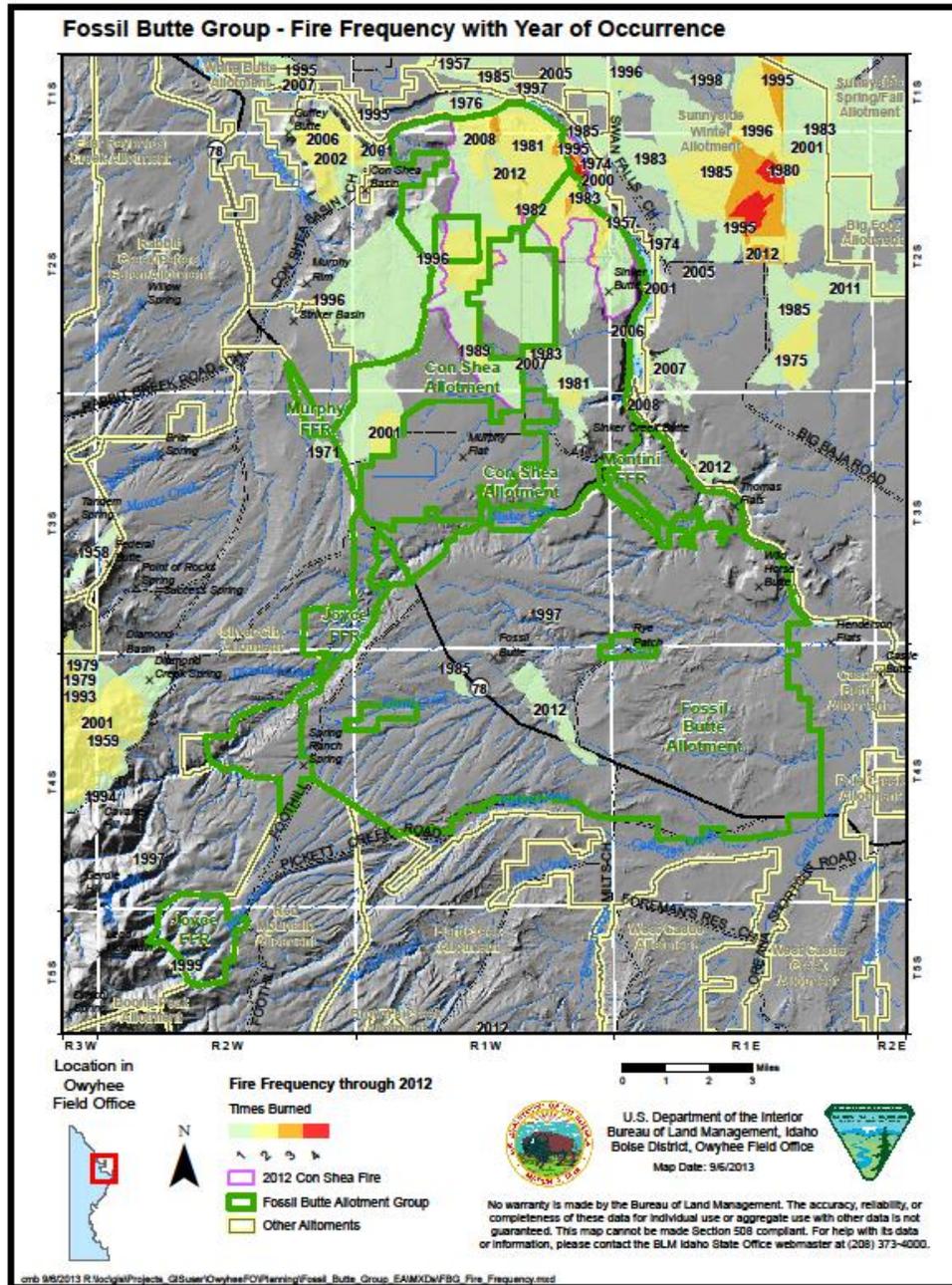


Figure 2 – Fire Frequency with Year of Occurrence within Fossil Butte Group Allotments

A Rangeland Health Assessment (Assessment) and subsequent Determination document were completed for the Con Shea Allotment in 2003. In the spring of 2012, the Interdisciplinary Team (IDT) determined that the 2003 Evaluation and Determination should be updated to more accurately reflect conditions on the ground. This updated Evaluation and Determination is based on additional data collected through 2013 (see table below).

Information gathered since the 2003 Assessment is discussed in the Affected Environment sections for the applicable resource for each Standard in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA. This report uses that information, and constitutes a new Evaluation and Determination for the Con Shea Allotment based on conditions through 2013.

Data sources used for this Evaluation/Determination are as shown in the following table. Specifics are discussed under the applicable Standard. See Figures 3 and 4 for monitoring locations for Rangeland Indicators, Trend, Riparian Assessments, Utilization, and Sage-grouse Habitat Assessments.

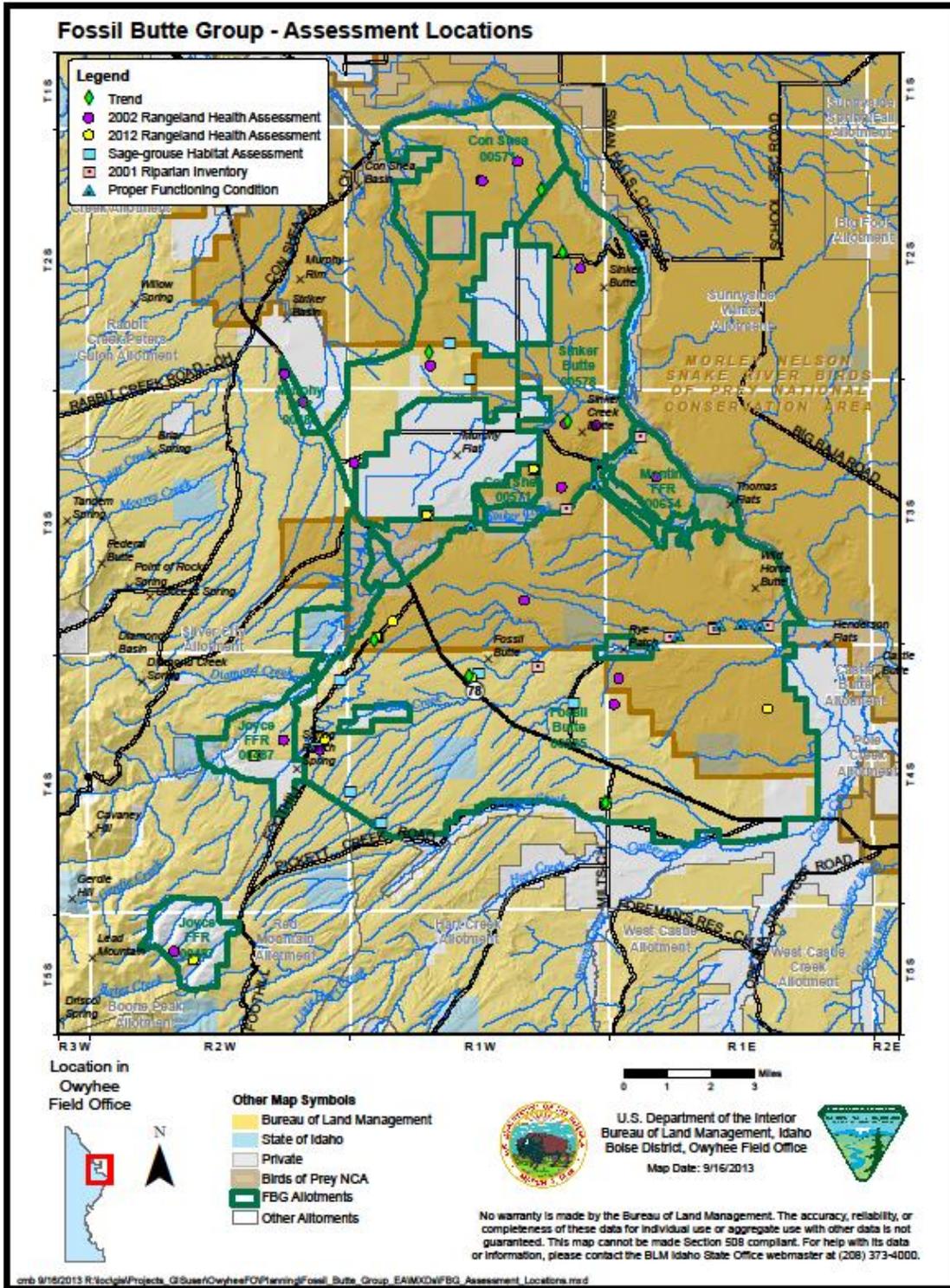


Figure 3 – Monitoring Locations within the Fossil Butte Group Allotments

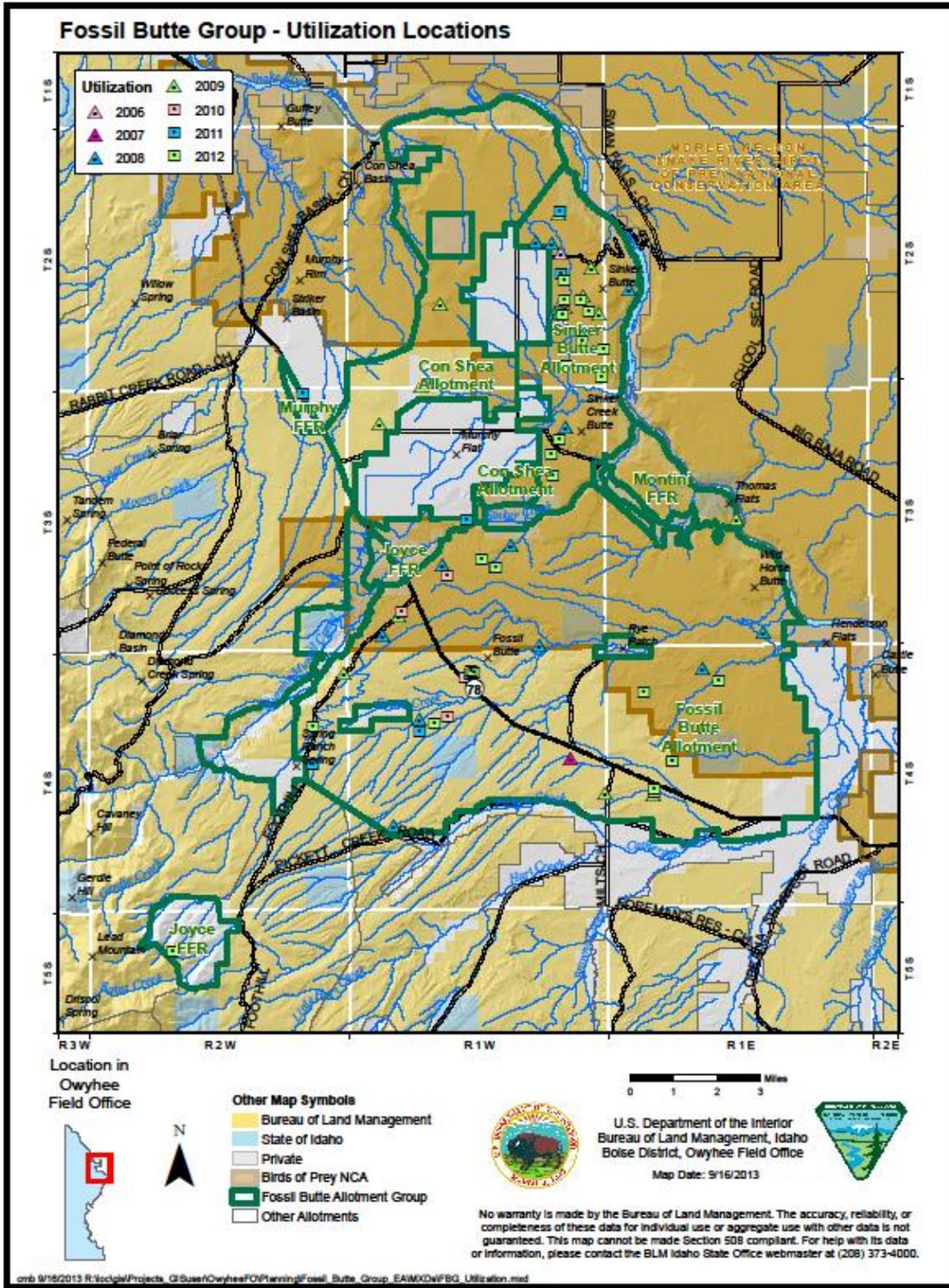


Figure 4 – Utilization Locations within the Fossil Butte Group Allotments

Data Sources for Evaluation and Determination

Information Type	Date(s)	Location of Information
Previous Assessment and Determination	2003	Owyhee Field Office Files
Field evaluation of Interagency Technical Reference 1734-6 Interpreting Indicators of Rangeland Health (Rangeland Indicators)	2012	Owyhee Field Office Files
Trend (Nested Frequency, Photo Plot, Canopy and Ground Cover, Shrub Density)	2002/2003, 2008, and 2011	Owyhee Field Office Files
Vegetation and Wildlife Specialist Report for the Fossil Butte Group	2013	Owyhee Field Office Files
Ecological Site Descriptions (Natural Resources Conservation Service Draft Documents)	2005	Owyhee Field Office Files
Sinker Creek Riparian Inventory and Proper Functioning Condition (PFC) Assessments	2001 and 2012	Owyhee Field Office Files
Con Shea Allotment Actual Use	2003-2012	Owyhee Field Office Files; Chapter 2 of Fossil Butte Group EA
Con Shea Allotment Utilization	2003-2012	Owyhee Field Office Files; Appendix F of Fossil Butte Group EA
Riparian, Wildlife, and Botany Field Visit Reports	2013	Owyhee Field Office Files
Idaho Department of Fish and Game's Idaho Fish and Wildlife Information System (IFWIS)	As of 2012	Owyhee Field Office Geographic Information System (GIS) Files
Sage-grouse Habitat Assessments	2012	Owyhee Field Office Files
Ecological Site mapping, Soil Survey, Existing vegetation mapping, and Noxious Weed locations	As of 2013	Owyhee Field Office GIS Files
Idaho Department of Environmental Quality (IDEQ) Mid Snake River/Succor Creek Subbasin Assessment and Total Maximum Daily Load Report	2003	Owyhee Field Office Files
Wildlife habitat mapping, species occurrence locations, wildlife monitoring survey locations	As of 2013	Owyhee Field Office GIS Files
Con Shea Fire ES& R Monitoring Photos	2013	Owyhee Field Office and Boise District Office Electronic Files

Note that much of this information is primarily qualitative rather than quantitative, and ecological site descriptions do not include specific figures for some important elements (such as biological soil crust cover), so the evaluation uses both numerical and non-numerical comparative terms.

Standard 1 – Watersheds

Overview

A majority of the soils occur on structural benches, fan piedmonts, fan terraces, and foothills. The main body of soils formed in mixed alluvium and loess derived predominantly from lacustrine deposits and basalt. Parent material is composed primarily of volcanic ash, mixed alluvium, and loess. In general, the soils are shallow to deep and well drained. Dominant surface textures are silty loams and sandy loams. Soils in this allotment have weak to moderate subsurface development. The main soils present in the area include the Scism, Bruncan, and Escalante complexes.

Evaluation:

Information used for this Evaluation and Determination includes the 2003 Assessment and Determination which relied on two Rangeland Indicators conducted in 2002. Additional Rangeland Indicators were conducted in 2012 (Pasture 3) as well as trend frequency and ground cover data (Pasture 1) collected in 1987, 2002, 2008, and 2011 (Figure 3). Indicators for evaluation of the standard are: 1. The amount and distribution of ground cover, including litter, appropriate for site stability; and 2. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing, and compaction layers below the soil surface is minimal for soil type and landform.

The 2003 Assessment and Determination identified that the allotment occurs in a low precipitation area. The majority of the allotment has burned and is dominated by cheatgrass that provides a continuous ground cover during normal and above average precipitation periods. During these periods, cheatgrass cover may prevent establishment of desirable perennial species. During low precipitation periods, ground cover is minimal except where remnant increaser grasses and seeded species occur. In unburned areas, native vegetation and biological soil crusts provide adequate watershed protection.

For the Rangeland Indicators conducted in 2012, Pasture 3 rated soil and site stability and hydrologic function at slight to moderate departure. Soil surface loss from erosion, soil compaction, and fewer than expected large deep-rooted perennial bunchgrasses were identified as the rationale on the departure ratings. The evaluation of the Rangeland Indicators identified more bare ground, plant pedestaling and gullies than expected. These erosional indicators were observed, however, shrubs growing within gullies were greater than 20 years old indicating that the site had reached equilibrium with past disturbance.

Vegetative trend data from 2008 and 2011 identified plant community types similar to those described in the 2003 Assessment. Of concern for the watershed standard is a deficiency of large deep-rooted perennial bunchgrasses and an abundance of cheatgrass and other weeds. Moderate to good cover by Sandberg bluegrass was measured. Compared to reference conditions, ground cover data for herbaceous perennial vegetation, biological soil crusts, and stable ground cover elements are moderately lower than expected, while cover by the less desirable non-persistent litter is higher than expected. The trends for desirable soil cover elements are static to declining.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Standard 1 is not being met on the majority of the allotment as indicated by the lack of large bunchgrasses. The loss of deep-rooted perennial bunchgrasses reduces soil cover and litter necessary for soil site stability and changes hydrologic and nutrient cycling capabilities of the area. The deep root plants incorporate carbon storage, nutrient cycling and water movement through soil macropores to deeper regions of the soil profile. The loss of deep-rooted perennial bunchgrasses changes the nutrient cycling, hydrologic cycling, and nutrient flow from what is expected for the area. Additionally, soil loss in Pasture 3 and 4 is a contributing factor in not meeting the Standard. There were gullies observed, but they were not actively eroding (as indicated by a stabilized head cut and/or vegetation stabilizing the bottom of the erosional feature). The loss of bunchgrasses has already had an impact on soil stability, but conclusive evidence gathered through the evaluation of rangeland indicators identifies that vegetation has maintained soil site stability for the past few years.

Determination:

Determination Finding: The Con Shea Allotment is (check one or more):

Meeting the Standard

Not Meeting the Standard, but making significant progress toward

Conforms with Guidelines for Livestock Grazing Management

Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors

Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors

Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). _____

Determination Rationale

Standard 1 is not being met, based on the lack of deep-rooted perennial bunchgrasses and soil loss. Current livestock grazing management is not a significant causal factor because the winter season of use in Pasture 1 occurs when perennial grasses are generally dormant or before the critical growth period and Pasture 3 is grazed before the critical growth period in the spring. Both grazing periods would have minimal measureable impact to near-frozen soils. As pointed out in the evaluation above, current grazing practices contributed to stabilizing erosional processes. Observations indicate maintenance of past rills, gullies, and pedestals compared to historic activity. Standard 1 is not being met due to past grazing practices which make it more important to ensure that current grazing practices provide continued improvement towards a stable site.

Causal factors for not meeting Standard 1 are historic grazing practices that have likely eliminated the deep-rooted perennial bunchgrasses and vegetation cover that accelerated the erosional processes.

***Standard 2 – Riparian Areas and Wetlands and
Standard 3 – Stream Channel/Floodplain***

Overview

Riparian areas include approximately 3.9 miles of the Snake River and 1.1 miles of Sinker Creek (Figure 1). The Snake River flows east to west and is the north border of the Con Shea Allotment. Livestock have limited access to the Snake River due to bluffs, steep terrain, and fencing. As a result, livestock have little effect on riparian and channel morphology and the Snake River is not analyzed for Standards 2 and 3.

Sinker Creek is a perennial stream that flows west to east into the Snake River, and is the border between the Con Shea Allotment in the north and the Fossil Butte Allotment in the south. Sinker Creek also has upstream diversions approximately 5.5 miles upstream on private lands that affect stream channel and floodplain functionality along the 1.1 mile reach found in the Con Shea Allotment.

Evaluation:

Proper Functioning Condition (PFC) assessment, field notes and photographs are used to evaluate the riparian areas and wetlands and stream channel/floodplain standards. Indicators used for evaluation Standard 2 for riparian systems within the Con Shea allotment are: riparian vegetative structure and function, age class and structural diversity of riparian vegetation, and presence of noxious weeds not increasing. Indicators for Standard 3 are: evidence that floodplain can be accessed during high flow events, ability to dissipate energy during high flow events, and streambank stability and channel characteristics are consistent with the channel type and contributing watershed, and little evidence of excessive compaction on floodplain.

Sinker Creek has a healthy woody riparian vegetation community consisting of various willows, cottonwood, and a diversity of other shrubs and a healthy herbaceous community consisting of various rushes, sedges and grasses. A 2012 PFC assessment found Sinker Creek to be properly functioning. The stream reach appeared livestock inaccessible, with extremely steep banks and is geographically confined. Water was present, but there was a diversion immediately upstream on private land that was partially dewatering the stream. Multiple beaver dams were observed. Riparian vegetation appeared healthy and thriving. Young and mature woody species were present throughout and the reach was also rock armored. Knapweed and thistle were also observed.

Evaluation Finding – Allotment is (check one):

Meeting the Standards

Not meeting the Standards, but making significant progress toward meeting

Not meeting the Standards

Evaluation Rationale

Sinker Creek has a healthy, stable riparian vegetation community able to withstand flood events and sufficient to prevent erosion. The reach was assessed as proper functioning in 2012. Standards 2 and 3 are being met on this reach of Sinker Creek. Sinker Creek is at its potential in

respect to the upstream dewatering. Much of the stream flow is likely regulated through the beaver dam complex. Knapweed and thistle were observed but do not appear to be increasing and occur in a localized area.

Determination:

Determination Finding: The Con Shea Allotment is (check one or more):

- Meeting the Standards
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standards; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standards; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). ____

Determination Rationale

The only pasture that actually contains riparian area and floodplain is pasture 3. The stream reach in pasture 3 is mostly inaccessible to livestock, therefore, grazing management within this stream reach conforms to guidelines within standards 2 and 3. Other than inaccessibility, the season of use is prior to the hot season (most use occurring in March) which has fewer impacts to riparian areas. The allotment conforms to guidelines 1, 3, and 4 of Standard 2 and guidelines 1 and 3-6 of Standard 3.

Standard 4 – Native Plant Communities

Overview

The expected vegetation for the loamy and sandy loam ecological sites (defined by reference conditions) is Wyoming sagebrush co-dominant with bluebunch wheatgrass and/or Indian ricegrass. The expected vegetation for calcareous loam ecological site areas is salt desert shrubs co-dominant with Indian ricegrass and Thurber’s needlegrass.

Standard 4 applies to all of Pasture 3 and much of Pasture 1. The northern, seeded area of Pasture 1 is analyzed under Standard 5, and patches of dense cheatgrass in this pasture are analyzed under Standard 6.

Evaluation:

The 2003 Assessment and Determination, 2012 Rangeland Indicators, trend, sage-grouse habitat assessment, utilization, actual use, Vegetation Specialist Report, and ecological site descriptions are used to evaluate the Native Plant Communities Standard. Indicators to evaluate the Standard include the frequency, abundance, seed production, and apparent trend of large bunchgrasses. Other indicators include small/medium bunchgrass abundance, shrub diversity and cover, native forb diversity and abundance, and ground cover by basal perennial vegetation and biological soil crusts, all as compared to reference conditions described in the ecological site descriptions.

Significant progress toward meeting the Standard would be indicated by an increase in some or all of these indicators, without an increase in bare ground, noxious weeds, and invasive annuals.

The 2003 Assessment and Determination were based on Rangeland Indicators conducted in 2002, and trend frequency data collected in 1987 and 2002. In unburned areas, the 2003 Assessment indicated that shrub cover was similar to reference conditions, large bunchgrasses were very sparse, and interspaces were dominated by cheatgrass and Sandberg bluegrass. Summary of the Rangeland Indicators showed moderate departure from reference conditions for functional/structural groups and moderate to extreme departure from reference conditions for invasive species. Herbaceous burned communities were dominated by cheatgrass and Sandberg bluegrass, with occasional squirreltail plants. No shrubs remained in these areas. No native perennial forbs were observed, only weedy annual forbs. A sufficient seed source to re-establish large bunchgrass was absent. Burned areas had departed from post-fire reference conditions in functional/structural groups (the lack of large bunchgrasses), amount of litter (patches of dense cheatgrass mats), and encroachment of invasive species. Updated information since 2003 is described for each pasture below.

Pasture 1

Trend plots were monitored in 2008 and 2011, and the IDT visited the allotment in June 2012 to assess ES&R recommendations after the 2012 Con Shea Fire. Other information sources include individual field visits, utilization (2006, 2009, and 2011), actual use, and a sage-grouse habitat assessment (2012). See Figure 3 for monitoring locations.

Trend site photos and other field visits show plant community conditions similar to those described in the 2003 Assessment, with a deficiency of large bunchgrasses and an abundance of cheatgrass and other weeds, with Sandberg bluegrass cover similar to or higher than reference conditions. Shrubs are still lacking in previously (1980s) burned areas. Trend frequency data (see Vegetation Specialist Report) at the one nested frequency monitoring site showed that Sandberg bluegrass was static between 2002 and 2008, and somewhat declined between 2008 and 2011. Squirreltail was infrequent, and declined between 2002 and 2008, and was static between 2008 and 2011. Cheatgrass was abundant in 2008 and 2011, and frequency significantly increased in 2011 compared to 2008, likely reflecting precipitation differences. No native forbs were observed at the nested frequency site, only the non-native annuals Russian thistle, tumble-mustard, and prickly lettuce.

Trend ground cover data for herbaceous perennial vegetation, biological soil crusts, and stable ground cover elements are moderately lower than expected, while cover by the less desirable non-persistent litter is higher than expected, compared to reference conditions. The trends for desirable soil cover elements are static to declining.

Utilization measurements available are sporadic, with variation in species recorded between years and not all years measured. Utilization of Sandberg bluegrass was measured at 30% in 2006 and 7-9% in 2009, while utilization on bluebunch wheatgrass (maybe this was actually crested wheatgrass?) was 29% in 2009, and squirreltail utilization was 6-26% in 2011. All recorded utilization values in Pasture 1 since 2003 are $\leq 35\%$.

Actual use for Pasture 1 of the Con Shea Allotment since 2005 is shown below. The permit does not break down AUMs by pasture. Although the total active AUMs are 990, an increase to 1,282 active AUMs was mistakenly made when reprinting the grazing permit in 2005 and reported actual use is consistent with this higher level of AUMs. The mistake was discovered prior to the 2012 grazing turnout and numbers were adjusted accordingly. Use in 2012 was also reduced due to wildfire.

Con Shea Allotment – Reported Actual Use (Pasture 1 only)

Year	Dates	AUMs
2005	11/4 – 3/2	700
2006	11/1 – 3/3	1,167
2007	10/31 – 3/3	1,031
2008	11/1 – 2/28	1,241
2009	11/7 – 3/3	834
2010	11/3 – 3/2	1,259
2011	11/3 – 3/2	1,221
2012	11/4 – 3/2	700

The sage-grouse habitat assessment (2012) measured 26% cover by Wyoming sagebrush, 72% foliar cover and 20% basal cover by Sandberg bluegrass, 8% foliar cover and 2% basal cover by cheatgrass, and 2% foliar and basal cover by squirreltail. Biological soil crust (moss) made up 22% of the ground cover, while bare ground was 18%. The remainder of the ground cover was duff/non-persistent litter (22%), rock (8%), and embedded litter (6%). This indicates conditions similar to those described in 2003, with shrub cover close to reference conditions and Sandberg bluegrass cover higher than expected, but invasion by cheatgrass (although at a relatively low level at that particular location) and a deficit of large bunchgrasses.

Pasture 3

About half of this pasture is mapped with no ecological site identified, but of the remainder is mapped as Calcareous Loam, Loamy, and Sandy Loam ecological sites in roughly equal proportions. Pasture 3 does not have trend plots established. Rangeland Indicators (2012), the sage-grouse habitat assessment (2012), and utilization (2012) are the primary information sources used in this evaluation.

Rangeland Indicators in a Loamy ecological site showed that functional/structural groups and invasive plants were each moderately departed from reference conditions based on the reduction of large bunchgrasses, extensive cheatgrass, and patches of other weeds (including noxious weeds Russian knapweed and tamarisk). The shrub component was intact. Native forb diversity and abundance and biological soil crust cover were present but were somewhat reduced from reference conditions.

The sage-grouse habitat assessment measured 24% sagebrush canopy cover, 4% rabbitbrush canopy cover, 12% foliar and 2% basal cover by Indian ricegrass, 28% foliar and 6% basal cover by Sandberg bluegrass, and 16% foliar cover by cheatgrass. Ground cover besides basal vegetation was mostly bare ground (42%) or duff/non-persistent litter (34%), with some moss (8%), lichen (4%), and rock (4%). These figures also indicate similar conditions to those

described in the Rangeland Indicators. Unlike in Pasture 1, some large bunchgrass (Indian ricegrass) is present, but is still reduced compared to reference conditions.

This pasture is generally used in March. Utilization taken in May 2012 on Indian ricegrass was 3%.

Both Pastures

Noxious weeds are widely distributed across the Con Shea Allotment, within native plant communities, seeded areas, and areas dominated by invasive annuals (Standards 4, 5, and 6). Infestations are being treated by the Boise District Weed Crew, as available. Russian knapweed is recorded from numerous infestations in the allotment, although the overall cover by this noxious weed is low (estimated at <1% of the whole allotment). Several infestations of whitetop are also present, as well as a few records of rush skeletonweed (an infrequent invader on the Owyhee Field Office), tamarisk, perennial pepperweed, purple loosestrife, Canada thistle, puncturevine, and Russian olive. Most infestations are small (<1 acre), although the diversity of noxious weeds and number of infestations present is an indicator of degraded conditions. Although the number of reported infestations and different noxious weeds has increased in recent years, this may be more of a function of increased inventory (and concurrent treatment) rather than an increase in noxious weeds.

In summary, native plant communities in the Con Shea Allotment have been highly altered from reference conditions, in both burned and unburned areas, and do not appear to be improving. Large bunchgrasses have been almost entirely replaced by Sandberg bluegrass and cheatgrass. Biological soil crusts and native forbs have been reduced. Shrubs have not recovered in burned areas.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The Con Shea Allotment is not meeting the native plant community Standard, as shown by the data discussed above for these specific indicators:

- In both pastures, large bunchgrasses have been highly reduced in plant communities where those grasses are expected to be sub-dominant with shrubs. Large bunchgrasses have been reduced in frequency/abundance compared to reference conditions. Seed production of the few remaining large bunchgrasses is appropriate for site conditions. No quantitative data are available for the trend for these species (no large bunchgrasses were present at the nested frequency trend site), but their abundance appears stable in the last decade; recruitment has likely been limited by cheatgrass. The large bunchgrasses (bluebunch wheatgrass, Thurber's needlegrass, Indian ricegrass) have for the most part been replaced by Sandberg bluegrass and cheatgrass.
- Sandberg bluegrass (a small bunchgrass) frequency is high throughout most of the allotment, but its shallow roots and low stature do not replace the structure and function of bluebunch wheatgrass or Thurber's needlegrass that have been lost. Squirreltail (a

medium bunchgrass) has low frequency, and does not provide the ecological role in community structure for nutrient cycling, hydrologic cycling, and wildlife habitat left vacant by the reduction of large bunchgrasses. In Pasture 1, Sandberg bluegrass and squirreltail are stable to declining (data from 2002, 2008, and 2011).

- Native shrubs have been lost in much of the allotment (Pasture 1), with no shrub recovery evident in previously burned areas, which make up a large proportion of the allotment. 71% of Pasture 1 has been burned, and 67% of all the public land in the allotment (all pastures). As a result, shrub diversity and cover has been highly reduced in Pasture 1. Shrub diversity and cover is close to reference conditions in Pasture 3.
- Native forb diversity and abundance are highly reduced in Pasture 1, and somewhat reduced in Pasture 3, compared to reference conditions. No quantitative data on trends for native forbs is available, but based on management and habitat conditions, these plants are expected to be stable at their reduced levels.
- Ground cover by basal vegetation and biological soil crusts have also been somewhat reduced compared to reference conditions in both pastures.

Trends for perennial grasses and desirable ground cover elements are stable to declining, so there is no indication of progress being made toward meeting the native plant communities Standard.

Determination:

Determination Finding: The Con Shea Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- X** Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- X** Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Standard 4 is not being met in the Con Shea Allotment, as described above, and no significant progress in native plant community health is indicated by available data. Current livestock grazing management is not a significant causal factor because the winter season of use (11/1 – 2/28) occurs mostly during perennial plants’ dormant season, which has fewer effects than growing-season grazing. In a mild winter, Sandberg bluegrass will green-up at this elevation and the new sprouts would be utilized, creating some growing season effects, but for the most part perennial plants are dormant. Cheatgrass, which often germinates in the fall, would also be utilized during this season of use, potentially reducing its dominance. Remnant shrubs may be more preferentially grazed in fall and winter when perennial grasses are dry than spring or summer grazing, although normally cattle use Wyoming sagebrush very little. Perennial grass utilization under current management is relatively light (not exceeding 35% in data available since 2003), so the level of use during this season is suitable to maintain native plant communities.

The current system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to this Standard because the system provides for periodic rest or deferment during critical growth stages, and the season and level of use are appropriate grazing management practices to maintain adequate perennial plant vigor for seed production, seed dispersal, and seedling survival relative to the ecological site.

Within the Con Shea Allotment, the native plant community has been highly degraded by the loss of large bunchgrasses, presence of invasive plants, and in some areas the loss of native shrubs, biological soil crusts, and/or soil, resulting in altered structure and ecological function. Because of those changes, a threshold has been passed such that making significant progress toward restoring the plant community cannot occur by changing grazing management alone, but would require substantial seed application, weed control, and time for soil-building and soil crust recovery. Proper grazing management, as is occurring in this allotment, is suitable to maintain the existing perennials (such as Sandberg bluegrass and the few squirreltail and other larger bunchgrasses) and biological soil crusts. The observed declines in Sandberg bluegrass, squirreltail, and stable soil elements are due to invasive weed dominance rather than current grazing management.

A significant causal factor for not meeting Standard 4 is the presence of invasive weeds, primarily cheatgrass, tumble-mustard, and Russian thistle, along with numerous infestations of various noxious weeds. The invasive and noxious weeds have increased, in part, due to the reduction in large bunchgrasses as a result of historic grazing practices, and the reduction in shrubs as a result of repeated wildfires. Historic grazing (over 20 years ago) presumably included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses.

Standard 5 – Seedings

Overview

Standard 5 applies to the crested wheatgrass seeding at the north end of the allotment seeded after the 1981 wildfire. This is roughly 10% of the allotment. It was drill-seeded (on gentle ground) or aerially seeded (steeper slopes) with Siberian crested wheatgrass, four-wing saltbush, sand dropseed, Russian wildrye, and yellow sweetclover in early 1982 (Figure 5).

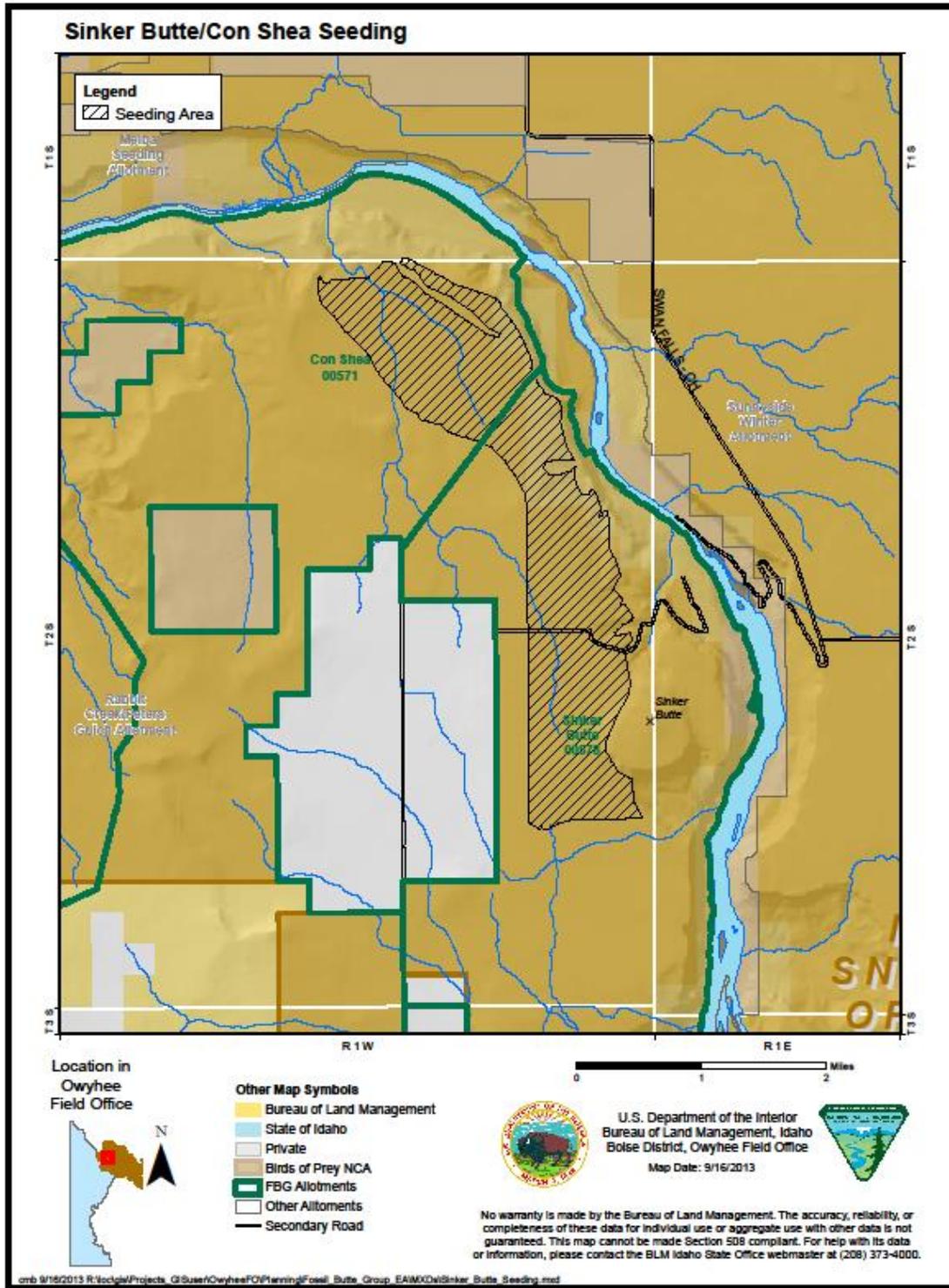


Figure 5 – Con Shea Seeding

Evaluation:

The 2003 Assessment and Determination, trend photo plot, ES&R monitoring photos, actual use, and utilization are used to evaluate the Seedings Standard. Indicators to evaluate the Standard

Appendix A-2

Con Shea Allotment – 2013

Evaluation and Determination

include the abundance, seed production, and apparent trend (in diversity and abundance) of seeded and native bunchgrasses. Other indicators include shrub or forb establishment, adequate litter for site protection and soil nutrient recycling, and evidence that noxious and invasive weeds are not increasing. Significant progress toward meeting the Standard would be indicated by maintaining or improving these indicators.

The 2003 Assessment noted that functional/structural groups were unbalanced, with no shrub establishment, declining crested wheatgrass, and high cheatgrass dominance. The decline in crested wheatgrass was attributed to drought.

2008 and 2011 monitoring records of the photo trend site in the seeding show conditions similar to those described in 2003. No shrubs have become established. A fairly low density of crested wheatgrass plants is evident in the photos. Sandberg bluegrass was abundant within the burn, along with the invasive non-natives cheatgrass, Russian thistle, and tumble-mustard. Seed heads are evident on most grasses. No native forbs are recorded or visible. Moderately high ground cover of cheatgrass litter is visible in both years.

The 2013 ES&R monitoring photos show a moderately low density of crested wheatgrass, moderately high cover of Sandberg bluegrass, scattered Russian thistle and cheatgrass, and no shrubs.

Actual use and utilization for Pasture 1 are described under Standard 4. Recorded utilizations are all $\leq 35\%$. Noxious weeds (in both seeded and unseeded areas) are also described under Standard 4.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The seeding in the Con Shea Allotment is not meeting Standard 5 as shown by the following indicators:

- The seeded bunchgrass crested wheatgrass continues to decline, with no increase in abundance or diversity of native bunchgrasses.
- No shrubs or native forbs have become established.
- Cheatgrass continues to dominate the plant community.

No significant progress or improvement is indicated by these indicators.

Indicators that show static conditions appropriate for Standard 5 include:

- Sandberg bluegrass is being maintained. Seed production of both Sandberg bluegrass and crested wheatgrass are appropriate for the site.
- There is adequate ground cover available between Sandberg bluegrass and cheatgrass litter to protect the soil and provide for nutrient recycling.

- Noxious weeds are frequent, but probably stable rather than increasing. The increase in recorded infestations is likely a function of better inventory (and treatment) rather than an increase in actual infestations.

Determination:

Determination Finding: The Con Shea Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- X** Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- X** Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Standard 5 is not being met, as indicated by the decline in crested wheatgrass without recovery by native species. Current livestock grazing is unlikely to be contributing to the decline as a significant causal factor because livestock use occurs during the dormant season for crested wheatgrass (November through February) and because utilization does not appear to be exceeding 35% (McLean and Wikeem 1985; Olson et al. 1989). The grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 5 because the system provides for periodic rest or deferment during critical growth stages, and the season and level of use are appropriate grazing management practices to maintain adequate perennial plant vigor for seed production, seed dispersal, and seedling survival when appropriate climatic events occur. Also, current grazing practices provide sufficient residual vegetation for adequate ground cover for water infiltration, soil protection, and nutrient recycling to maintain or promote the physical and biological conditions necessary to achieve healthy rangelands.

The occurrence of exotic annuals (cheatgrass, tumble-mustard, and Russian thistle) in the system is the significant causal factor for not meeting Standard 5 in the Con Shea Allotment. Because of the dominance of exotic annuals, conversion to a functioning seeding is unlikely. Drought was a factor in earlier years contributing to increased crested wheatgrass mortality, but precipitation has been adequate to good in recent years, so is not a limiting factor presently. The 2012 Con Shea Fire does not appear to have substantially reduced crested wheatgrass or Sandberg bluegrass abundance.

Literature Cited:

McLean, A. and S. Wikeem. 1985. Defoliation effects on three range grasses. *Rangelands* 7 (2): 61-63.

Olson, B.E., R.L. Senft, and J.H. Richards. 1989. A test of grazing compensation and optimization of crested wheatgrass using a simulation model. *Journal of Range Management* 42 (6): 458-467.

Standard 6 – Exotic Plant Communities, Other than Seedings

Overview

Standard 6 applies to substantial cheatgrass patches in the burned but unseeded portions of Pasture 1. These areas make up about 25% of the allotment. Within these patches, nearly all native vegetation has been eliminated, leaving cheatgrass and other invasive annuals as the dominant plants. Many of these areas were re-burned in the 2012 Con Shea Fire.

Evaluation:

Information utilized in the evaluation and determination of Standard 6 was the 2003 Assessment and Determination, field observations in 2012, ES&R monitoring photos, actual use, and utilization. Indicators to evaluate the Standard include whether the number of perennial species is diminishing over time, plant vigor of remnant native plants, adequate litter for site protection and soil nutrient recycling, and evidence that noxious weeds are not increasing.

Exotic plant communities in the Con Shea Allotment have crossed the threshold from Wyoming sagebrush/bunchgrass or Sandberg bluegrass-dominated communities to one dominated by invasive annuals, predominantly cheatgrass with Russian thistle, tumble-mustard, prickly lettuce, flixweed, stork's bill, and others. Because the threshold has been crossed, livestock management alone would not restore a native plant community. Watershed stability and maintenance of the existing perennial species are the primary objectives for these sites.

The 2003 Assessment indicated that adequate organic ground cover remained following grazing use to provide for nutrient recycling. Several noxious weeds were mapped within the allotment.

The 2012 field observations and 2013 ES&R photos indicate similar conditions as noted in 2003. Soil cover (primarily cheatgrass litter) appears high. Remnant Sandberg bluegrass is being maintained, and the few plants present have adequate vigor to produce seed and enable reproduction and recruitment under favorable climatic conditions. Noxious weeds are present and being treated. The number of known infestations is increasing, but this may be a function of increased inventory rather than actual noxious weed increase.

Exotic plant communities in the Con Shea Allotment are providing adequate soil cover for watershed and annual plant community protection relative to site potential under the altered system.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Exotic plant communities in the Con Shea Allotment are meeting Standard 6 as shown by the following indicators:

- The low number of perennial plant species is not diminishing over time. Remnant Sandberg bluegrass plants are being maintained, although not increasing.

- Adequate ground cover exists to provide watershed process function in this cheatgrass-dominated system, as annual production of cheatgrass appears appropriate for the site potential based on soils and precipitation.
- Noxious weeds are being treated, and are probably not significantly increasing in the allotment.

Determination:

Determination Finding: The Con Shea Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

The winter season of use is appropriate for a cheatgrass-dominated site as it may be more of a preferred species to graze than perennial bunchgrasses at this time due to fall germination. Recent utilization measures of perennial bunchgrasses in the allotment and ground cover observations indicate that adequate organic ground cover is being left after the grazing period.

The current grazing system of winter grazing and low to moderate utilization of perennial bunchgrasses allows for maintenance of existing perennials, and does not appear to be contributing to noxious weed spread. The grazing system allows for adequate ground cover to support infiltration within these areas along with the maintenance of soil conditions to support nutrient recycling and minimize soil compaction appropriate to site potential. Therefore, grazing is in conformance with the Guidelines for Livestock Grazing Management.

Standard 7 – Water Quality

Overview

Streams with designated beneficial uses are addressed under the Idaho Administrative Procedures Act (IDAPA) 16.01.02.140. The Snake River along with one tributary, Sinker Creek are in the Mid-Snake River/Succor Creek sub-basin (hydrologic unit number 17050103). Idaho Department of Environmental Quality (IDEQ) identified the Snake River as water quality limited for dissolved oxygen, flow alteration, and nutrients, and developed total maximum daily loads (TMDLs) for nutrients and dissolved gases. Designated uses for the Snake River include cold water aquatic life (CWAL), primary contact recreation, and domestic water supply. Sinker Creek has also been identified as water quality limited due to flow alteration, sediment, and temperature, and TMDLs were developed for sediment and temperature. Designated uses for Sinker Creek include CWAL, salmonid spawning, and primary contact recreation.

Evaluation:

The 2012 proper functioning condition assessment, *E. coli* concentrations, and field notes were used to evaluate water quality standard. Indicators for evaluating the standard include the physical, chemical, and biologic parameters described in the Idaho Water Quality Standards. These standards were evaluated using surrogates that included the density and health of herbaceous and woody riparian vegetation, evidence of high concentrations of livestock use in the waterway, turbidity, and fine sediment deposits in the channel.

The Sinker Creek reach was assessed as properly functioning. The riparian area has carex, willow, and cottonwoods in sufficient densities to withstand high flow events. These riparian plants shade the streams thereby lowering water temperatures, have root systems capable of holding and securing streambanks during high flow events, and slow flows and effectively buffer sediment and other contaminants from the upland area, thereby decreasing the sediment load.

E. coli was measured in Sinker Creek in 2012 and was well below primary contact recreation criteria (55 organisms per 100 milliliters).

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

The stable streambanks, dense herbaceous and woody riparian vegetation, sufficient shade, lack of evidence related to livestock, and channel characters in balance with watershed condition, water quality should be improving under current management. However, until IDEQ officially removes Sinker Creek from the 305b and 303d list for impaired water quality, our limited data does not constitute a change in designations, even though concentrations of *E. coli* were well below primary contact recreation criterion.

Due to dewatering effect of multiple diversions upstream, Sinker Creek has very infrequent surface water connectivity with the Snake River. Connectivity with the Snake River would only happen during very large streamflow events, estimated to be much larger than bankfull and estimated to be above a 10-year recurrence interval. Even during these large streamflow events, the stream would likely flow across the entire valley bottom leaving most sediment as deposits prior to reaching the Snake River. Due to this lack of connectivity, it is not expected that temperature or sediment impairment within Sinker Creek will contribute to the water quality of the Snake River.

Determination:

Determination Finding: The Con Shea Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant

Factors

___ Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors

___ Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). ___

Determination Rationale

Standard 7 is closely tied to Standards 2 and 3. As identified in evaluations for Standard 2 and 3, evidence of current livestock grazing within the perennial, riparian stream reach is non-existent. As stated in Standard 7 evaluation above, until IDEQ removes Sinker Creek from the 305b and 303d list for impaired water quality, Sinker Creek cannot meet this standard, even though it is unlikely that current livestock management contributes to impairment within this reach of pasture 3. There was no evidence of erosion or any sediment delivery adjacent to the channel eliminating sediment as a contributing issue from this pasture and stream reach. The buffering ability of riparian vegetation and beaver ponds would also minimize downstream sediment issues. *E. coli* was also measured and found to be within IDEQ water quality standards. It is likely that upstream water diversions (dewatering) are the primary contributors to any failure to meet water temperature criteria on Sinker Creek.

Standard 8 – Threatened and Endangered Plants and Animals

Botany

Overview

Three species of special status plants (SSP) are known from the Con Shea Allotment: Snake River milkvetch, Mulford’s milkvetch, and white-margined wax plant. Two additional species have non-specific locations mapped nearby but are unlikely to be found within the allotment: cowpie buckwheat and shining flatsedge. Cowpie buckwheat (*Eriogonum shockleyi* var. *packardaei*) is known from gravelly benches on lakebed sediments in mixed desert shrub communities, and is known from the northeast side of the Snake River, but not the Con Shea side; the non-specific record likely corresponds to those occurrences. Shining flatsedge (*Cyperus bipartitus*) was collected in 1971 somewhere along the Snake River northwest of Priest Ranch, but no more specific or recent information is available; even if present on the edge of the Con Shea Allotment, cattle do not access the Snake River from this allotment. Therefore, these two species will not be addressed further.

Special Status Plants with Known locations within the Con Shea Allotment

Species	# Occurrences	Habitat	Status*
Snake River milkvetch <i>Astragalus purshii</i> var. <i>ophiogenes</i>	4	Loosely aggregated moving sand and gravelly sand deposits on bluffs, talus dunes, and volcanic ash beds in sagebrush or four-wing salt-bush communities	BLM Type 4
Mulford’s milkvetch <i>Astragalus mulfordiae</i>	1	South-facing sandy slopes and ridges with needle-and-thread grass, Indian ricegrass, and bitterbrush	BLM Type 2
White-margined wax plant <i>Glyptopleura marginata</i>	1	Dry sandy, gravelly, or loose ash soils within sagebrush or mixed desert shrub communities	BLM Type 4

BLM Type 2 = Rangewide/Globally Imperiled Species with High Endangerment; BLM Type 4 = Species of Concern

Occurrence records for these SSP date from 1980 through 2013; about half of the SSP occurrences been monitored in recent years. All of the recorded occurrences are in Pasture 1.

The two milkvetch SSP are low herbaceous perennials. They grow in the spring, flower and set seed in late spring/early summer, and are generally dry and dormant from mid-summer on. Their growing points are at or just below the soil surface. White-margined wax plant is an annual that germinates in the spring, flowers and sets seed late spring/early summer, and is generally dead by mid-summer.

Evaluation:

Information used in evaluating this Standard includes the 2003 Assessment and Determination, IFWIS data, BLM and Idaho Fish and Game SSP monitoring records (see Vegetation Specialist Report), and general vegetation conditions (see Standards 4 and 6). Indicators used include apparent trends in the abundance of occurrences and number and vigor of plants within the occurrences, habitat quality relating to invasive plants, and the timing and degree of physical disturbance to plants and habitats.

Snake River milkvetch known occurrences are located in the northern half of the allotment. Three occurrences consist of several patches of plants scattered within 1-2 miles of each other, while the fourth occurrence is a single small patch. Because this plant's habitat is less specific than many SSP and much suitable habitat has not been inventoried, it is likely that additional patches and/or occurrences exist in the allotment and vicinity. The occurrences were last visited in 1994, 2000, 2012, and 2013, respectively. No grazing notes are included in the 1994 record (a single small patch), but the 2000 record notes evidence of cattle use at all patches, ranging from very light to moderate use; this use is presumably on adjacent grasses rather than the milkvetch plants themselves. The 2012 and 2013 records noted no disturbance, although cow dung from earlier grazing was seen (2012 record). All occurrence records note cheatgrass as a threat, although cheatgrass is often more dense surrounding the specific occurrence microsite than on Snake River milkvetch micro-habitat. The 1994 record notes that some individuals would be impacted by cable anchor work planned in the vicinity, and the 2012 record notes that construction of a temporary ES&R fence may affect a few plants, but is unlikely to substantially impact the occurrence.

Mulford's milkvetch is known from one occurrence with three recorded patches (within the Con Shea Allotment) at the northwest part of the allotment. One of the patches had a transect established in 2003 and monitored in 2004, 2005, 2006, and 2007, as part of a state-wide monitoring effort for this species. SSP plant numbers in sampled quadrats were 49, 10, and 33 in 2005-2007 respectively; in 2007 70% of those individuals were seedlings, while in 2005-2006 seedlings were $\leq 10\%$ of the total. Weeds include cheatgrass recorded at 6-12% cover, and low cover ($< 1\%$) of stork's bill and Russian thistle were also recorded at this site. Disturbances at the site were sampled at about 1-2% cover in those years, and were primarily divot (depression of uncertain origin but probably cattle prints), burrow, human researcher prints, or cattle feces. Herbivory was noted in 10% of the quadrats in 2007, but herbivory sources were not clear (perhaps rabbits). The 2003 Assessment for the Con Shea Allotment stated that severe livestock trampling impacted Mulford's milkvetch habitat; motorcycle disturbance, fruit predation by

insects, and cheatgrass invasion were also identified as risks to the population. An enclosure fence was constructed after 2003 to eliminate grazing in this part of the allotment. Based on 2011 and 2013 observations, the enclosure fence is keeping cattle from the Con Shea Allotment out of the Mulford's milkvetch habitat. However, it appeared that cattle were coming in from the adjacent Rabbit Creek/Peter's Gulch Allotment in 2011 across a non-functional cattle guard, or perhaps from adjacent private lands. No cattle disturbance at the occurrence was observed in 2013, although the cattle guard has not been maintained. No OHV damage in the vicinity of the eastern patches of Mulford's milkvetch habitat in the Con Shea Allotment was observed in 2011 or 2013.

White-margined wax plant is recorded from one occurrence with two small patches, first found in 1980 and revisited in 2000. Plant numbers were low (only 12 plants seen in 2000), but numbers of individuals of annuals typically are quite variable (often depending on precipitation patterns and amounts). Threats identified include cheatgrass in surrounding microsites, but cattle sign was "only a trace", and no OHV tracks were seen.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

The Con Shea Allotment is not meeting Standard 8 for Special Status Plants, as shown by the following indicators:

- No known occurrences have been eliminated, so the number of occurrences is stable. Trends in the number of plants and vigor within occurrences are variable across years and occurrences, without clear indication of SSP increase or decrease. However:
- Habitat for these species is being negatively impacted by invasive weeds (primarily cheatgrass). Cheatgrass alters SSP habitat by shading out SSPs and competing for water and nutrients, reducing SSP vigor, seed production, and seedling establishment.
- Some of the Mulford's milkvetch habitat may be impacted by unauthorized cattle use. Trampling of Mulford's milkvetch plants may break plant crowns and stems, reducing the health of these plants and their ability to persist and reproduce.

Determination:

Determination Finding: The Con Shea Allotment is:

- Meeting the Standard
 Not meeting the Standard, but making significant progress toward meeting
 Conforms with Guidelines for Livestock Grazing Management
 Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
 Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
 Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Guidelines for livestock management that relate to Standard 8 for SSP include:

- Implement grazing management practices that provide periodic rest or deferment during critical growth stages.
- Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of these plants.
- Apply grazing management practices that maintain or promote the physical and biological conditions necessary to sustain native plant populations.

Current livestock management conforms to these guidelines for livestock management because use is primarily during the dormant season, providing for regular deferment during the growing season. Also, the level of use (based on utilization and actual use – see Standard 4) at this time is sufficient to maintain adequate vigor for seed production, dispersal, and seedling survival. This timing and level of use are suitable to maintain the physical and biological conditions necessary for these SSP populations, as discussed below for each species.

Current livestock management is not significantly impacting Snake River milkvetch because this plant is a low forb which is dormant during the grazing period (winter grazing), with all growing points at or below ground level, so not subject to grazing impact at that time. Although heavy trampling could dislodge individual plants, the current level of use does not appear to create heavy trampling effects in Snake River milkvetch habitat.

Current authorized livestock grazing is not impacting Mulford's milkvetch because its occurrence is within an enclosure, and thus not available for grazing for cattle from the Con Shea Allotment.

Winter grazing is not affecting white-margined wax plant because this plant has completed its lifecycle long before November 1 and germination generally occurs in March to May, after cattle have left the allotment.

Significant causal factors for not meeting Standard 8 for Special Status Plants are invasive weeds and unauthorized cattle use. The unauthorized use appears to be cattle from the Rabbit Creek/Peter's Gulch Allotment coming across an un-maintained cattle guard.

Wildlife

Overview

Many wildlife species utilize a variety of habitats in the Fossil Butte 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 the 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 is not discussed here in the same depth as species upon which the BLM places management emphasis.

The BLM, U. S. Fish and Wildlife Service (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 Endangered Species Act of 1973, as amended (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, 2008), 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 Con Shea Allotment and whose habitat may be affected by grazing activities.

One invertebrate species is listed as endangered under the ESA. Two birds and one amphibian species are listed as candidate species under the ESA. Seven mammals, 13 birds, three reptiles, three amphibians, two fish, and one invertebrate species with special status potentially occur within the Fossil Butte Group allotments and may be affected by grazing activities. See Appendix D, Special Status Wildlife Species, in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA for a list of special status wildlife species, their status, and occurrence potential within the Con Shea Allotment.

With the exception of a few well-studied species, current occurrence and population data for most special status animal species within the Fossil Butte 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 Snake River physa, greater sage-grouse, and Columbia River redband trout. Other special status animal species, migratory birds, raptors, and species of socio-economic importance (e.g., big game) and their habitats will be included in discussions in the broader context of upland and riparian habitat conditions.

Although no federally listed threatened or endangered species or designated critical habitat occurs within the Sinker Butte Allotment, the Snake River physa snail (*Physa natricina*) is listed as endangered under the ESA and occurs in the Snake River immediately adjacent to the allotment. No ESA candidate species are known to occur within the allotment.

Evaluation:

Rangeland Health Standards (Standards) are interrelated, especially when addressing wildlife special status species requirements. Standards 1-7 provide the basis for healthy wildlife habitats that are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species. Indicators for Standard 8, Threatened and Endangered Animals include:

- Parameters described in the Idaho Water Quality Standards.
- Riparian/wetland vegetation with deep, strong, binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.

- Age class and structural diversity of plant species are appropriate for the site.
- Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.
- The diversity of native plant and animal communities are maintained.
- The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
- Noxious weeds are not increasing.

Upland Wildlife Habitat

Previous 2003 Assessment

The 2003 Assessment was based on six 2002 Rangeland Indicators and trend frequency data collected in 1987 and 2002. Standard 4 applied to unburned portions of Pasture 1 and all of Pasture 3. Standard 5 applied to a large seeding in Pasture 1. Standard 6 applied to areas of dense cheatgrass in Pasture 1. In unburned areas, the 2003 Assessment described moderate shrub canopy cover, reduced or absent large perennial bunchgrasses, and interspaces dominated by cheatgrass and Sandberg bluegrass, indicating moderate departures from reference conditions for functional/structural groups and moderate to extreme departure from reference conditions for invasive species. Herbaceous burned communities were dominated by cheatgrass and Sandberg bluegrass, with occasional occurrences of squirreltail. No shrubs remained in these areas, and no native forbs were seen, only weedy annual forbs. Sufficient seed sources to re-establish large bunchgrasses were absent. Burned areas were departed from post-fire reference conditions in functional/structural groups (the lack of large bunchgrasses), increased amounts of litter (patches of dense cheatgrass), and dominance of invasive species.

Current Assessment

Pasture 1

No formal Rangeland Indicators have been conducted in Con Shea Allotment Pasture 1 since 2002. However, trend plots were monitored in 2008 and 2011, and the IDT visited the allotment in June 2012 to assess ES&R recommendations after the recent Con Shea Fire. Trend site photos and other field visits show plant community conditions similar to those described in the 2003 Assessment, with a deficiency in both native and seeded large bunchgrasses and an abundance of cheatgrass and other weeds, with Sandberg bluegrass cover similar to or higher than reference conditions. Shrubs are still lacking in previously burned areas. All recorded utilization values in Pasture 1 since 2003 are $\leq 35\%$. See Standard 4 for additional information.

Pasture 3

One 2012 Rangeland Indicators was conducted by the IDT in Pasture 3 in a Loamy Wyoming sagebrush/bluebunch wheatgrass and Thurber's needlegrass ecological site. The indicators for functional/structural groups and invasive plants were each moderately departed from reference conditions based on the lack of large bunchgrasses and the extensive cheatgrass and patches of other weeds (including noxious weeds Russian knapweed and tamarisk). The shrub component was intact. Native forb diversity and abundance and biological soil crust cover were present but

were somewhat reduced from reference conditions. Utilization taken in May 2012 on Indian ricegrass was 3%. See Standard 4 for additional information.

Focal Wildlife Species

Greater Sage-grouse

Currently, suitable sage-grouse habitats are very limited or absent within the Con Shea allotment. The majority of potential sage-grouse habitat has been highly altered due to wildfire and historic livestock grazing. Shrub cover has been lost in much of the allotment (the majority of Pasture 1) resulting from a series of large wildfires that occurred from 1981-2012. Most of these burned areas have not recovered and are currently comprised of either exotic annual grasslands (i.e., cheatgrass) or early-seral rabbitbrush communities. In both burned and unburned areas, the large bunchgrasses (bluebunch wheatgrass, Thurber’s needlegrass, Indian ricegrass) expected on the ecological sites have been lost or highly reduced, and have been replaced by Sandberg bluegrass and/or cheatgrass.

Based on an interim, updated (2012) version of the Idaho Sage-grouse Habitat Planning Map (ISHPM) completed by the Idaho Sage-grouse Advisory Committee ((ISAC) 2006), the entirety of the Con Shea allotment (100%, all land ownerships included) is not considered key sage-grouse habitat. Makela and Major (2012) identified the allotment as containing no areas rated as PPH or PGH.

In 2012, BLM personnel conducted four sage-grouse habitat assessments within the Con Shea allotment. Habitat assessments indicate that the allotment is providing unsuitable (missing the majority of necessary indicators) sage-grouse breeding and upland summer habitat due to a reduction in large stature perennial bunchgrasses, dominance of Sandberg bluegrass in the understory, and low preferred forb diversity and abundance. Habitat assessments indicate that the allotment is providing suitable (necessary food/cover indicators are present) sage-grouse winter habitat at all sites assessed.

2012 Con Shea allotment sage-grouse habitat assessment seasonal habitat summary

Site ID	Ecological Site	Sage-grouse Seasonal Habitat Type		
		Breeding	Upland Summer	Winter
0571-01-02s01w28b-2012	Loamy 8-12”	Unsuitable	Unsuitable	Suitable
0571-01-02s01w33a-2012	Loamy 8-12”	Unsuitable	Unsuitable	Suitable
0571-03-03s01w17a-2012	Loamy 8-12”	Unsuitable	Unsuitable	Suitable
0571-04-03s01w11a-2012	Loamy 8-12”	Unsuitable	Unsuitable	Suitable

Due to the distance from occupied leks, the lack of most suitable seasonal habitats due to vegetation community shifts, the fragmentary nature of remnant suitable winter habitat, and the lack of recorded sage-grouse observations within the area, effects to sage-grouse from permitted livestock grazing on the Con Shea allotment will not be discussed further.

Evaluation Finding – Allotment is:

___ Meeting the Standard

- Not meeting the Standard, but making significant progress toward meeting
- Not meeting the Standard

Evaluation Rationale

Upland Wildlife Habitat

Approximately 65% the Con Shea Allotment is managed as a native plant community and the allotment is not meeting Standard 4. Large stature perennial bunchgrasses have been reduced or lost across the allotment and have been replaced by Sandberg bluegrass and/or cheatgrass.

A large crested wheatgrass seeding in Pasture 1 comprises approximately 10% of the allotment and is managed as a seeding. The allotment is not meeting Standard 5. The 2013 ES&R monitoring photos show that seeded crested wheatgrass continues to decline, with no increase in abundance or diversity of native bunchgrasses. No shrubs or native forbs have become established and cheatgrass continues to dominate the plant community in previously burned areas, which make up a large proportion of the allotment.

Standard 6 applies to substantial cheatgrass patches in the burned but unseeded portions of Pasture 1. These areas make up about 25% of the allotment. Within these patches, nearly all native vegetation has been eliminated, leaving cheatgrass and other invasive annuals as the dominant plants. The allotment is meeting Standard 6; however, upland habitats managed under Standard 6 do not meet the requirements of Standard 8.

The vegetation community shifts throughout the allotment reduce effective nesting, escape, hiding, travel, and foraging cover values for wildlife species associated with sagebrush steppe communities. This allotment is failing to provide suitable upland habitat conditions for sagebrush steppe-associated wildlife, including sage-grouse, and therefore is not meeting Standard 8.

Trends for perennial grasses and desirable ground cover elements are stable to declining, so there is no indication of progress being made toward meeting the threatened and endangered animals Standard.

Determination:

Determination Finding: The Con Shea Allotment is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are not Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). _____

Determination Rationale

Upland Wildlife Habitat

Standard 8 is not being met in the Con Shea Allotment, as described above, and no significant progress in improving the health of upland wildlife habitat is indicated by available data. Current livestock grazing management does not appear to be a significant causal factor because the winter season of use (11/1 – 2/28) occurs mostly during perennial plants' dormant season, which has fewer effects than growing-season grazing. Light perennial grass utilization levels (not exceeding 35% in data available since 2003) under current management appear suitable to maintain native plant communities.

A significant causal factor for not meeting Standard 4 is the presence of invasive weeds, primarily cheatgrass, tumble-mustard, and Russian thistle, along with numerous infestations of various noxious weeds. The invasive and noxious weeds have increased, in part, due to the reduction in large bunchgrasses as a result of historic grazing practices, and the reduction in shrubs as a result of repeated wildfires. Historic grazing (over 20 years ago) presumably included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 because the system:

- Provides periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate for site potential.
- Maintains or promotes the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.
- Maintains adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.
- Maintains or promotes the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.
- Minimizes adverse impacts due to management fencing in order to maintain habitat integrity and connectivity for native plants and animals.

Evaluation:

Riparian Wildlife Habitat

Previous 2003 Assessment

The 2003 Assessment was based on one 2001 riparian inventory on the reach of Sinker Creek that occurs within the allotment and one 2003 aerial stream inventory of the Snake River. The 2001 riparian inventory rated the reach of Sinker Creek as Functional-at-Risk (FAR), with no apparent trend. The riparian vegetation community was comprised of bank stabilizing species that provided adequate vegetation cover necessary to protect streambanks and dissipate energy during high flows. Hydric vegetation was reported to be in high vigor. The 2003 aerial stream inventory rated the Snake River as properly functioning.

Current Assessment

Riparian areas include approximately 3.9 miles of the Snake River and 1.1 miles of Sinker Creek. The Snake River flows east to west and is the north border of the Con Shea Allotment. Livestock have limited access to the Snake River due to bluffs, steep terrain, and fencing. Consequently, livestock have little effect on riparian habitat along the river and the Snake River is not analyzed for Standard 8.

One 2012 PFC assessment rated the reach of Sinker Creek that occurs within the Con Shea Allotment as properly functioning. A healthy woody riparian vegetation community consisting of various willows, cottonwoods, and a diversity of other shrubs and a healthy herbaceous community consisting of various rushes, sedges and grasses were observed along the reach. Multiple beaver dams as well as knapweed and thistle were also observed. The stream reach was reported as geographically confined with extremely steep banks and appeared to be inaccessible to livestock. Water was present in the stream channel, but there was a diversion immediately upstream on private land that was partially dewatering the stream.

Designated uses for this reach of Sinker Creek include cold water aquatic life and primary contact recreation. IDEQ's 305b list identified this reach of Sinker Creek as water quality limited and not fully supporting cold water aquatic life due to flow alteration, sediment, and water temperature. Total Maximum Daily Loads (TMDLs) were developed for sediment and temperature.

Focal Wildlife Species

Snake River physa

The recovery area for the species extends from Snake River RM 553 to Snake River RM 675. There are currently no planned conservation efforts that target the Snake River physa. The conservation needs to facilitate recovery of this species are to ensure that water quality and quantity, as well as habitat quality, are maintained within the Snake River to ensure Snake River physa can maintain viable populations. Water sources contributing to the quantity and quality of the Snake River (e.g., tributaries and aquifers) also need to be maintained, meeting the standards for cold-water biota and remaining free of contaminants and excessive nutrients. Snake River physa locations and potential habitat have been documented within the Snake River upstream, downstream, and immediately adjacent to portions of the Fossil Butte Group Allotments.

Based on the information discussed above, BLM has determined that permitted livestock grazing on the allotment does not contribute to excess sediment loads or increased water temperature in Sinker Creek or the Snake River. Consequently, BLM has also determined that permitted livestock grazing on the Con Shea Allotment will not affect the Snake River physa or associated critical habitat.

Current grazing management is maintaining upland habitat conditions, adequate ground cover, and perennial vegetation necessary to prevent excess water runoff or sedimentation within the watershed. As discussed previously, livestock have limited access to the Snake River and consequently, have little effect on associated riparian areas, sediment loads, and channel morphology. Sinker Creek is rated as PFC and is limited by upstream water diversions; current livestock grazing does not appear to impact this stream. Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing

riparian vegetation, beaver ponds, and upstream water diversions. Field observations confirmed minimal connectivity between Sinker Creek and the Snake River.

Columbia River Redband Trout

Occurrence information available from IDFG documents redband trout in the middle and lower reaches of Sinker Creek. IDEQ identified the middle and lower reaches of Sinker Creek as not fully supporting cold water aquatic life and salmonid spawning beneficial uses. While Sinker Creek is listed for salmonid spawning, there is no evidence of redband spawning in the reach found within the Con Shea Allotment. Young-of-the-year trout have not been found in past electrofishing efforts. This is likely due to a combination of factors relating to flow alteration, lack of spawning habitat due to stream characteristics, and barriers to fish migration due to Hulet Reservoir. IDFG occurrence data document redbands higher in the watershed above Hulet Reservoir.

IDFG has determined that the listed section of Sinker Creek has not historically been, nor is currently, spawning habitat due to gradient and temperature regimes. IDFG further states that this section of Sinker Creek has historically served primarily as a migratory corridor. Hulet reservoir and the various water diversions also serve as barriers to fish migration to the downstream section for spawning. The storage of water in the reservoir as well as the dewatering of the stream result in higher water temperatures, but it is unlikely that changes in management activities would result in lowering water temperatures to salmonid spawning criteria due to the overriding effect of high ambient air temperatures and flow alteration activities.

Because salmonid spawning does not occur in the middle or lower reach of Sinker Creek, the temperature standard for salmonid spawning will not be applied; instead the cold water temperature standard will apply to that reach throughout the year. The middle reach of Sinker Creek has shown temperature violations and thus, cold water aquatic life uses are not currently fully supported.

Evaluation Finding – Allotment is:

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Riparian Wildlife Habitat

As discussed above, water quality parameters are not being met and cold water aquatic life is not fully supported in the middle reach of Sinker Creek due to flow alteration, sediment, and water temperature. Excess flow alteration, sediment, and water temperature levels reduce habitat quality for redband trout and other riparian obligate wildlife species and could potentially impact the Snake River physa. Because these water quality parameters are not being met, the allotment is not meeting Standard 8 for riparian wildlife habitat.

However, significant progress toward meeting Standard 8 for riparian wildlife habitat is indicated by recent improvement in the middle reach of Sinker Creek. The 2001 riparian inventory rated the reach as FAR, with no apparent trend. The 2012 PFC assessment rated the reach in PFC. Although PFC assessments do not directly assess riparian habitat suitability, stream-associated riparian areas that are in PFC generally provide adequate cover and other necessary riparian elements.

Focal Wildlife Species

Snake River physa

BLM has determined that permitted livestock grazing on the Con Shea Allotment will not affect the Snake River physa or associated critical habitat.

Columbia River Redband Trout

Evaluation of the middle reach of Sinker Creek identified that water quality parameters are not being met but that significant progress is being made toward meeting Standard 8. 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 flow. Because these in-stream and near-stream habitat characteristics are limited due to upstream water diversions, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout.

Determination:

Determination Finding: The Con Shea Allotment is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are not Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). _____

Determination Rationale

Riparian Wildlife Habitat

Standard 8 is not being met in riparian areas of the Con Shea Allotment, as described above, but significant progress in improving the health of riparian wildlife habitat is indicated by recent improvements in PFC rating along the middle reach of Sinker Creek. Current livestock grazing management practices are not a significant causal factor for not meeting Standard 8 because the majority of the season of use occurs during perennial plants' dormant season, which results in fewer impacts to riparian vegetation than growing-season grazing. Little to no impact from livestock grazing was observed during the 2012 PFC assessment.

A significant causal factor for not meeting Standard 8 is that water quality parameters are not being met and cold water aquatic life is not fully supported in the lower reach of Sinker Creek due to flow alteration, sediment levels, and water temperature. Sinker Creek is rated as PFC but is limited by upstream water diversions on private land along the majority of its length. Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing riparian vegetation, beaver ponds, and upstream water diversions. The storage of water in Hulet Reservoir, when combined with de-watering caused by existing water diversions, are the primary contributor to any failure to meet water temperature parameters in Sinker Creek.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 in riparian habitats because the system:

- Uses grazing management practices to maintain adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils.
- Maintains or promotes grazing management practices that provide sufficient residual vegetation to improve, restore, or maintain healthy riparian-wetland functions and structure for energy dissipation, sediment capture, ground water recharge, streambank stability, and wildlife habitat appropriate to site potential.
- Maintains or promotes appropriate stream channel and streambank morphology and function.
- Implements grazing management practices that provide for compliance with the Idaho Water Quality Standards.
- Uses grazing management practices developed in recovery plans, conservation agreements and ESA Section 7 consultations to maintain or improve habitat for federal listed threatened, endangered, and sensitive plants and animals.

Summary of Evaluation and Determination

Check one box for each	Standards							
	1	2	3	4	5	6	7	8
	Watersheds	Riparian and Wetlands	Stream Channel and Floodplain	Native Plant Communities	Seedings	Exotic Plant Communities (not seeded)	Water Quality	Threatened and Endangered Plants and Animals
Meeting the Standard		X	X			X		
Not Meeting the Standard, but making significant progress toward							X	X Riparian Animals
Not Meeting the Standard; current livestock grazing practices are not significant factors	X			X	X			X Plants and Upland Animals
Not Meeting the Standard; current livestock grazing practices are a significant factor								
Not Meeting the Standard; cause not determined								
Standard does not apply								
Guidelines for Livestock Grazing								
Conforms with Guidelines for Livestock Grazing Management?							YES	
If no, list the Guidelines not in conformance:								

Field Manager's Signature and Date

Evaluation and Determination
Sinker Butte Allotment
2013

Interdisciplinary Team:

Rich Jackson – Hydrologist
TJ Clifford – Hydrologist
Brad Jost – Wildlife Biologist
Beth Corbin – Botanist/Ecologist
Melissa Cameron – Rangeland Management Specialist

Background:

This Evaluation and Determination cover the time period between 2007 and 2013, since the last determination.

The Sinker Butte Allotment is located seven miles northeast of Murphy, Idaho. The Snake River borders the northeast side of the allotment, and Sinker Butte is a landmark within the allotment (Figure 1).

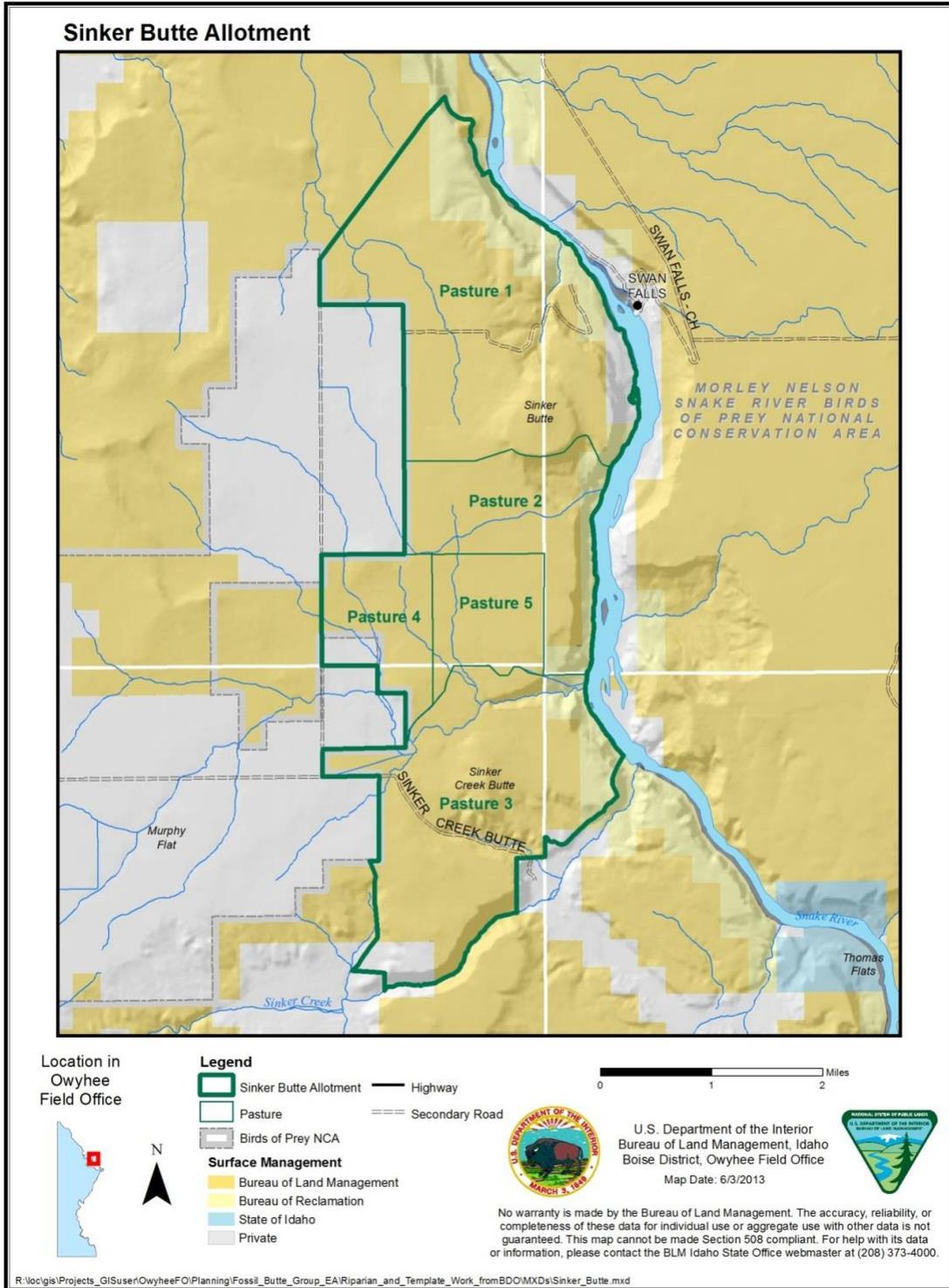


Figure 1 – General Location of the Sinker Butte Allotment

The Sinker Butte Allotment is currently permitted for 707 animal unit months (AUMs) of use between November 15 and February 28. However, actual use for the past twenty years indicates that the allotment has been used from mid-October/early November through mid-January with one year of reported use through the end of February. The permit allows for 203 cattle, but

livestock numbers may vary at the permittee's discretion with prior approval by the authorized officer as long as the season of use and active AUMs are not exceeded. There are 8,541 acres of public lands within the allotment. Elevations within the allotment range from 2,400 to 3,300 feet. Dominant landforms are river terraces, tablelands and plug domes. The majority of the soils in the allotment are very fine sandy loams to silt loams that vary in subsurface rock fragments and are moderately deep to hardpan.

The majority (at least 85%) of the allotment is a Loamy 8-12" Wyoming sagebrush/bluebunch wheatgrass and Thurber's needlegrass ecological site. Smaller areas of Sandy Loam 8-12" Wyoming sagebrush/Indian ricegrass and Calcareous Loam 7-10" shadscale and budsage/ Indian ricegrass and Thurber's needlegrass ecological sites are also mapped within the allotment.

Wildfires burned more than a third of the allotment in the 1980s, and parts of that were re-burned in 1995, 1996, 2007 or 2012. The 2012 Con Shea fire also burned a substantial area of previously unburned range in the allotment (Figure 2). A temporary fence has been constructed dividing Pasture 1 into two parts to allow the burned area to rest, as part of 2012 Emergency Stabilization and Rehabilitation measures. This fence will remain in place for a minimum of two growing seasons or until recovery objectives are met. The 2012 burn area was not reseeded.

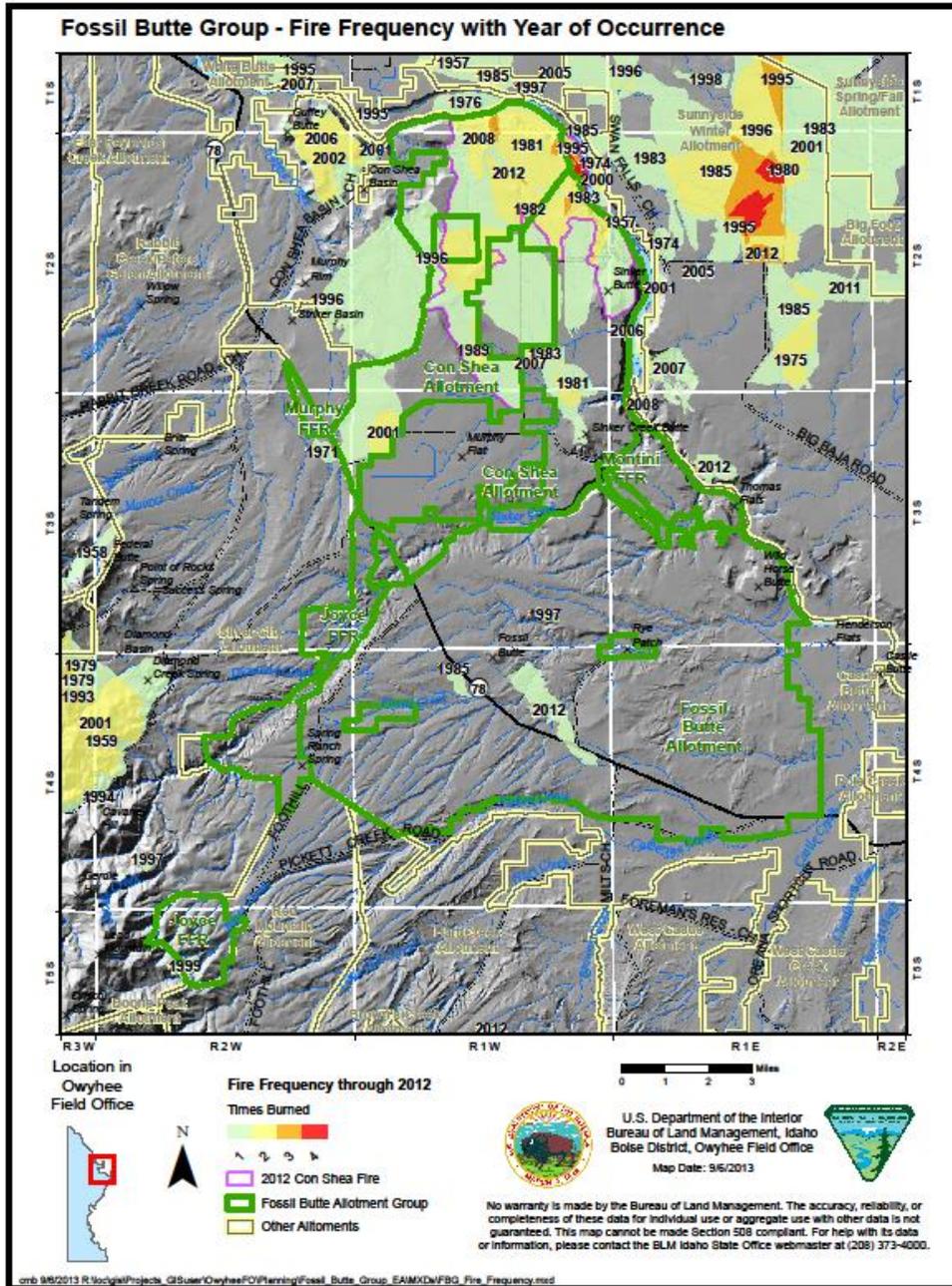


Figure 2 – Fire Frequency with Year of Occurrence within Fossil Butte Group Allotments

The expected vegetation for post-burn Loamy ecological site areas under reference conditions would be dominated by bluebunch wheatgrass and Sandberg bluegrass, with an increase in squirreltail. Substantial re-establishment of Wyoming sagebrush would be expected by now within the 1980s fire areas.

The Sinker Butte Allotment is currently divided into four pastures (not including the temporary fire fence division), Pastures 1-4 (see Figure 1). The permit does not specify dates per pasture, and the permittee has generally rotated use through the pastures within a grazing year, so this evaluation analyzes pastures collectively rather than individually, as applicable. A section of

formerly State ground was acquired by BLM in 2004 and although a Lands Environmental Assessment was completed to facilitate the transfer of ownership, the livestock grazing on that acreage was never formally addressed. Although the section is not technically a part of the existing Sinker Butte Allotment, the permittee has been grazing on this section (now called Pasture 5, see Figure 1) since 2004, and reporting that use since 2011. AUMs reported in addition to those authorized reflect use on this acquired section of ground.

Utilization figures for perennial bunchgrasses in the Sinker Butte Allotment from 2008-2013 are $\leq 30\%$ for all pastures monitored. Actual use for 2008 through 2012 is shown below.

Sinker Butte Allotment – Reported Actual Use

Year	Dates	AUMs
2008	10/24 -1/5	711
2009	11/2 – 1/11	717
2010	11/5 – 1/9 & 2/2 – 2/28	720
2011	11/4 – 1/5	770
2012	10/26 – 12/30	729

A Rangeland Health Assessment (Assessment) and Evaluation and Determination document were completed for the Sinker Butte Allotment in 2007. In the spring of 2012, the Interdisciplinary Team determined that the 2007 Evaluation and Determination should be updated to more accurately reflect conditions on the ground. This updated Evaluation and Determination is based on additional data collected through 2013.

Information gathered since the 2007 Assessment is discussed in the Affected Environment sections for the applicable resource for each Standard in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA. This report uses that information, and constitutes a new Evaluation and Determination for the Sinker Butte Allotment based on conditions through 2013.

Data sources used for this Evaluation/Determination are as shown in the following table. Specifics are discussed under the applicable Standard. See Figures 3 and 4 for monitoring locations for Trend, Riparian Assessments, and Utilization.

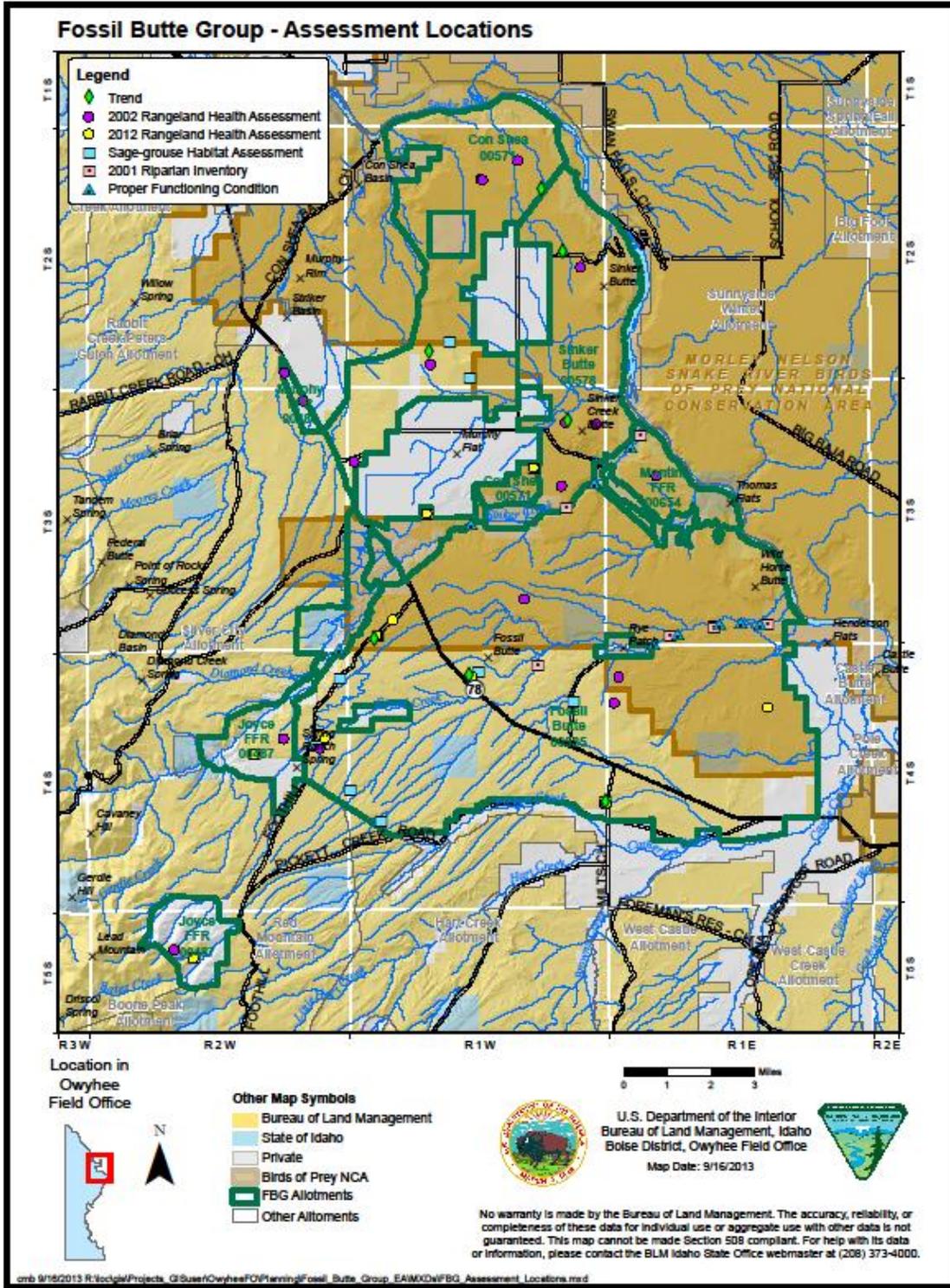


Figure 3 – Monitoring Locations within the Fossil Butte Group Allotments

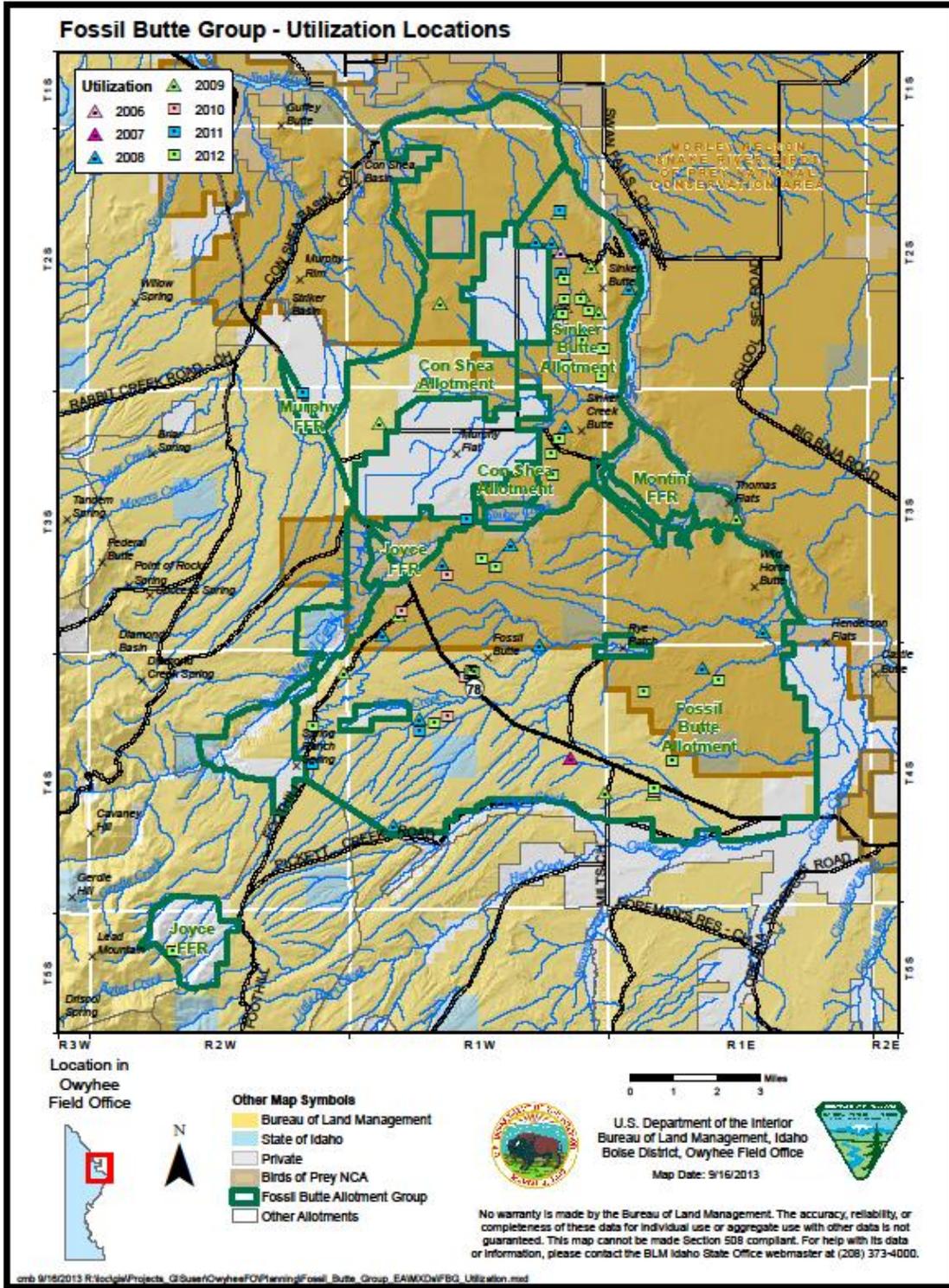


Figure 4 – Utilization Locations within the Fossil Butte Group Allotments

Data Sources for Evaluation and Determination

Information Type	Date(s)	Location of Information
Previous Assessment, Evaluation, and Determination	2007	Owyhee Field Office Files
Trend (Nested Frequency, Photo Plot, Canopy and Ground Cover, Shrub Density)	2002, 2008, and 2011	Owyhee Field Office Files
Vegetation and Wildlife Specialist Reports for the Fossil Butte Group	2013	Owyhee Field Office Files
Ecological Site Descriptions (Natural Resources Conservation Service Draft Documents)	2005	Owyhee Field Office Files
Sinker Creek Riparian Inventory and Proper Functioning Condition (PFC) Assessments	2001 and 2012	Owyhee Field Office Files
Sinker Butte Allotment Actual Use	2007-2012	Owyhee Field Office Files; Chapter 2 of Fossil Butte Group EA
Sinker Butte Allotment Utilization	2008-2012	Owyhee Field Office Files; Appendix X of Fossil Butte Group EA
Riparian, Wildlife, and Botany Field Visit Notes and Photographs	2013	Owyhee Field Office Files
Idaho Department of Fish and Game's Idaho Fish and Wildlife Information System (IFWIS)	As of 2012	Owyhee Field Office Geographic Information System (GIS) Files
Ecological Site mapping, Soil Survey, Existing vegetation mapping, and Noxious Weed locations	As of 2013	Owyhee Field Office GIS Files
Idaho Department of Environmental Quality (IDEQ) Mid Snake River/Succor Creek Subbasin Assessment and Total Maximum Daily Load Report	2003	Owyhee Field Office Files
Wildlife habitat mapping, species occurrence locations, wildlife monitoring survey locations	As of 2013	Owyhee Field Office GIS Files
Con Shea Fire ES& R Monitoring Photos	2013	Owyhee Field Office and Boise District Office Electronic Files

Note that much of this information is primarily qualitative rather than quantitative, and ecological site descriptions do not include specific figures for some important elements (such as biological soil crust cover), so the evaluation uses both numerical and non-numerical comparative terms.

Standard 1 – Watersheds

Overview

Appendix A-3
Sinker Butte Allotment – 2013
Evaluation and Determination

A majority of the soils occur on structural benches, fan piedmonts, fan terraces, and foothills. The main body of soils formed in mixed alluvium and loess derived predominantly from lacustrine deposits and basalt. Parent material is composed primarily of volcanic ash, mixed alluvium, and loess. In general, the soils are shallow to deep (mainly deep) and well drained. Surface textures are predominantly silty loams and sandy loams. Soils in this allotment have weak to moderate subsurface development. The main soils present in the area include the Scism, Bruncan, and Escalante complexes.

Evaluation:

The 2007 Evaluation and Determination, 2008 and 2011 trend monitoring data, and photographs were used to evaluate the watershed standard. The riparian area was also visited in May of 2012. Indicators for evaluation of the standard are: 1. The amount and distribution of ground cover, including litter, appropriate for site stability; and 2. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing, and compaction layers below the soil surface is minimal for soil type and landform.

Vegetation is the primary factor that influences the spatial and temporal variability of soil processes and as vegetation condition changes, so does runoff, erosion, and infiltration. The 2007 Evaluation identified no soil or hydrologic resource issues in Pasture 1. However in Pasture 2, the composition/distribution of the plant community, the capacity to resist soil erosion, and water flow patterns all indicated watershed related issues were present. These issues were compromising the ability of the watershed to function adequately and maintain the appropriate perennial plant community. The long-term monitoring studies in this allotment showed static and downward vegetative conditions. In Pasture 1, the crested wheatgrass seeding was being maintained, although native species recovery from the 1980s wildfires had not occurred as expected given the length of time since the fire, even in these areas with naturally low precipitation. In Pasture 2, the entire area lacked structure and function diversity.

The 2008 and 2011 trend data and photographs indicate that allotment conditions are very similar to those described in the 2007 documents; specifically, the allotment has few shrubs, lacks large bunchgrasses, and the understory is co-dominated by Sandberg bluegrass and weeds (cheatgrass, Russian thistle, tumble-mustard). Ground cover data indicate that basal vegetation and biological soil crusts are lower than expected.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Standard 1 is not being met on the majority of the allotment as indicated by the general lack of large bunchgrasses. The loss of deep-rooted perennial bunch grasses reduces soil cover and litter necessary for soil site stability, and changes hydrologic and nutrient cycling capabilities of the area. The deep-rooted plants incorporate carbon storage, nutrient cycling and water movement through soil macropores to deeper regions of the soil profile. The loss of deep-rooted perennial bunchgrasses changes the nutrient cycling, hydrologic cycling, and nutrient flow from what is

expected for the area. Additionally, soil loss is a contributing factor in not meeting the Standard. There were gullies observed, but they were not actively eroding (as indicated by a stabilized head cut and/or vegetation stabilizing the bottom of the erosional feature). The loss of bunchgrasses has already had an impact on soil stability, but conclusive evidence gathered through the evaluation of rangeland indicators identifies that vegetation has not improved soil site stability over the past few years.

Determination:

Determination Finding: The Sinker Butte Allotment is (check one or more):

Meeting the Standard

Not Meeting the Standard, but making significant progress toward

Conforms with Guidelines for Livestock Grazing Management

Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors

Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors

Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

Standard 1 is not being met, based on the lack of deep-rooted perennial bunchgrasses and soil loss and/or compaction. Current livestock grazing management is not a significant causal factor because the winter season occurs when perennial grasses are generally dormant or before the critical growth period. Grazing periods in the winter would have minimal measureable impact to near-frozen soils. As pointed out in the evaluation above, current grazing practices have only maintained erosional processes. Observations indicate maintenance of past rills, gullies, and erosional pedestals compared to historic activity. Standard 1 is not being met due to past grazing practices which make it more important to ensure that current grazing practices make improvements towards a stable site.

Causal factors for not meeting Standard 1 are historic grazing practices that have likely eliminated the deep-rooted perennial bunchgrasses and vegetation cover that accelerated the erosional processes.

Standard 2 – Riparian Areas and Wetlands and Standard 3 – Stream Channel/Floodplain

Overview

Riparian areas include approximately 6 miles of the Snake River and 1.05 miles of Sinker Creek. The Snake River flows east to west and is the east border of the Sinker Butte Allotment. Livestock have limited access to the Snake River due to bluffs, steep terrain, and fencing. Consequently, livestock have little effect on riparian and channel morphology and the Snake River is not analyzed for Standards 2 and 3.

A 1.05-mile segment of Sinker Creek is located on public lands in the Sinker Butte Allotment. Sinker Creek is a perennial stream that flows west to east into the Snake River, and is the border

between Sinker Butte Allotment in the north and Fossil Butte Allotment in the south. Sinker Creek also has various upstream diversions.

Evaluation:

Proper Functioning Condition (PFC) assessment, field notes and photographs are used to evaluate the riparian areas and wetlands and stream channel/floodplain standards. Indicators used for evaluation Standard 2 for riparian systems within the Con Shea allotment are: riparian vegetative structure and function, age class and structural diversity of riparian vegetation, and presence of noxious weeds not increasing. Indicators for Standard 3 are: evidence that floodplain can be accessed during high flow events, ability to dissipate energy during high flow events, and streambank stability and channel characteristics are consistent with the channel type and contributing watershed, and little evidence of excessive compaction on floodplain.

This reach was assessed as proper functioning in 2001 and in 2012. Sinker Creek is confined in a steep rock wall canyon and has many obligate riparian plant species present. The reach is depositional. Above the canyon some irrigation run-off appears to be adding to this stream's flow. Diversions were observed as well as some beaver dams. There is an isolated infestation of knapweed and salt cedar in the canyon bottom. Streambanks are stable with a healthy assortment of carex, willow, and cottonwood communities.

BLM personnel visited this portion of Sinker Creek on May 29, 2013 to assess the health of the riparian area. This area was in a functioning condition that consisted of stable banks, many beaver dams, bankfull indicators, access to floodplain, and both herbaceous and woody riparian vegetation. The majority of this section had new willow growth even though a previous (2001) report mentions decadent willows or an, "unexplained amount of dead branches in the shrubs and trees." There was also a major diversion on the lower end of this section that removes about 50% of the creek into an 18-inch pipe. Even though this substantial diversion would be considered a barrier to fish passage, we observed many fish in most of the pools both above and below. The active beavers and the improvement to vegetative health since the 2001 report indicates that there has been significant, positive improvement to this reach.

Evaluation Finding – Allotment is (check one):

- Meeting the Standards
- Not meeting the Standards, but making significant progress toward meeting
- Not meeting the Standards

Evaluation Rationale

Standards 2 and 3 are being met on this reach of Sinker Creek. Sinker Creek is at its potential with respect to the upstream dewatering. Much of the stream flow is also regulated through the beaver dam complex. Knapweed and salt cedar occur in isolated area and do not appear to be increasing. Sinker Creek was assessed as PFC.

Determination:

Determination Finding: The Sinker Butte Allotment is (check one or more):

- Meeting the Standards

- Not Meeting the Standards, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standards; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standards; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

Sinker Creek is at its potential given the upstream dewatering. Sinker Creek has a healthy, stable riparian vegetation community, the floodplain is accessible and functioning, channel characteristics are consistent with type and landform, and reach is expected to dissipate energy effectively during flood events. The reach was assessed as proper functioning in 2001 and 2012. Noxious weeds are present in a localized area. Knapweed and salt cedar occur in isolated area and do not appear to be increasing. Livestock grazing impacts, when observed, were minor and did not affect the functionality of the stream system.

Standard 4 – Native Plant Communities

Overview

The Wyoming sagebrush/bluebunch wheatgrass and Thurber's needlegrass plant community expected on the area's predominant ecological site has largely been replaced post-wildfire by Sandberg bluegrass, cheatgrass and other invasive annuals, and/or seeded grasses across much of the allotment. Unburned areas maintain shrub cover, with an understory of Sandberg bluegrass, squirreltail, and cheatgrass. The large seeding in Pasture 1 is evaluated under Standard 5, but Standard 4 applies to the remainder of the allotment.

Evaluation

The 2007 Assessment, trend data, April 2013 vegetation field visit, utilization, actual use, Vegetation Specialist Report, and ecological site descriptions are used to evaluate the Native Plant Communities Standard. Indicators to evaluate the Standard include large bunchgrass frequency, abundance, and trend, small/medium bunchgrass abundance, shrub diversity and cover, native forb diversity and cover, and ground cover by basal perennial vegetation and biological soil crusts, all as compared to reference conditions described in the ecological site descriptions. Significant progress toward meeting the Standard would be indicated by an increase in some or all of those indicators, without an increase in bare ground, noxious weeds, and invasive annuals.

The 2007 Assessment noted that native plant communities were not substantially improved since the 1983 wildfire, with a departure from reference conditions in functional/structural composition because shrubs have not become re-established. Perennial grasses were represented by Sandberg bluegrass rather than large bunchgrasses, and invasion by exotic annuals has compromised the nutrient and energy cycling necessary to maintain a perennial plant community.

Trend sites were monitored in 2008 and 2011 since the 2007 Assessment/Determination. See the Vegetation Specialist Report for trend analysis details. The nested frequency monitoring site is in Pasture 3, representing native plant communities, while the photo point is in a seeded area in Pasture 1 (see Standard 6). Trend data and photos show conditions much like those described in the 2007 documents, with a lack of large bunchgrasses, co-dominance by Sandberg bluegrass and weeds (cheatgrass, Russian thistle, tumble-mustard), and few shrubs. This shows a highly altered state compared to reference conditions. Nested frequency data from Pasture 3 show static trends (no significant change at $P < 0.1$) in frequency for Sandberg bluegrass, squirreltail, Wyoming sagebrush, and longleaf phlox between 2002 and 2008 and between 2008 and 2011. Similarly, there were static trends in ground cover for basal perennial vegetation, biological soil crusts, and stable ground cover elements (defined as the combined cover of persistent litter, gravel, rock and biological crust), as well as shrub canopy cover for those time periods. Cheatgrass and tumble-mustard significantly increased in frequency between 2008 and 2011, while Russian thistle decreased; these annuals reflect precipitation (as well as invasion) changes between years. These altered conditions and static trends are likely to be true across all pastures in the allotment.

The April 2013 field visit verified plant community conditions are being maintained in their altered conditions in Pasture 3. Shrub cover in unburned areas is similar to reference conditions, while large bunchgrasses are highly reduced, although squirreltail and Sandberg bluegrass are frequent. Native forb diversity and abundance and biological soil crust cover are somewhat reduced compared to reference conditions. Cheatgrass is frequent, especially in burned areas.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The Sinker Butte Allotment is not meeting Standard 4 because the allotment is highly altered from reference states, as shown by the following indicators:

- Large bunchgrasses are highly reduced compared to reference conditions. Bluebunch wheatgrass and Thurber's needlegrass are almost absent, and Indian ricegrass is infrequent within native plant community areas. Large bunchgrasses have been replaced by small/medium bunchgrasses and cheatgrass.
- Small (Sandberg bluegrass) and medium (squirreltail) bunchgrasses are present in somewhat higher than expected abundance, replacing the lost large bunchgrasses.
- Burned, unseeded areas have had very low recovery of shrubs. Unburned areas have shrub cover and diversity similar to reference conditions.
- Native forb diversity and abundance is somewhat lower than expected. In some areas, native forbs have been replaced by non-native annual forbs (such as Russian thistle).
- Ground cover data indicate that basal vegetation and biological soil crusts are somewhat lower than expected, while non-persistent litter is higher than expected.

Static frequency trends for these indicators suggest that significant progress is not being made toward meeting the Standard.

Determination:

Determination Finding: The Sinker Butte Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Current grazing management is not a significant causal factor because the winter season of use occurs when perennial grasses are generally dormant, which has fewer effects than growing-season grazing. Cheatgrass, which often germinates in the fall, would also be utilized during this season of use, potentially reducing its dominance. Perennial grass utilization under current management since 2007 has not exceeded 30%, and this level of use during the dormant season is suitable to maintain native plant communities.

The current livestock grazing management system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 4 because the system provides for periodic rest/deferment during critical growth stages, and the season and level of use are appropriate grazing management practices to maintain adequate perennial plant vigor for seed production, seed dispersal, and seedling survival relative to the ecological site.

Significant causal factors for not meeting Standard 4 include historic grazing practices, which have eliminated the large bunchgrasses and allowed invasive weeds to gain a foothold and spread. Historic grazing (over 20 years ago) presumably included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses and more bare ground conducive for invasive annual grass establishment. Invasive weeds have also contributed to the lack of Wyoming sagebrush regeneration after wildfire because cheatgrass competes with sagebrush seedlings for limited soil moisture.

Within the Sinker Butte Allotment, the native plant community has been highly degraded by the reduction of large bunchgrasses, and in some places, shrubs and soil crusts and the presence of invasive plants, resulting in altered structure and ecological function. Because of those changes, a threshold has been passed such that making significant progress toward restoring the plant community cannot occur by changing grazing management alone, but would require substantial seed application, weed control, and time for soil crust recovery.

Standard 5 – Seedings

Overview

Standard 5 applies to area in the north part of the allotment (Pasture 1) that was seeded after wildfire in the 1980s, much of which was re-burned in 2012 (Figure 5). A temporary fence has been installed after the 2012 Con Shea Fire to divide Pasture 1 and allow the burned area to rest from grazing for two growing seasons or until recovery objectives are met.

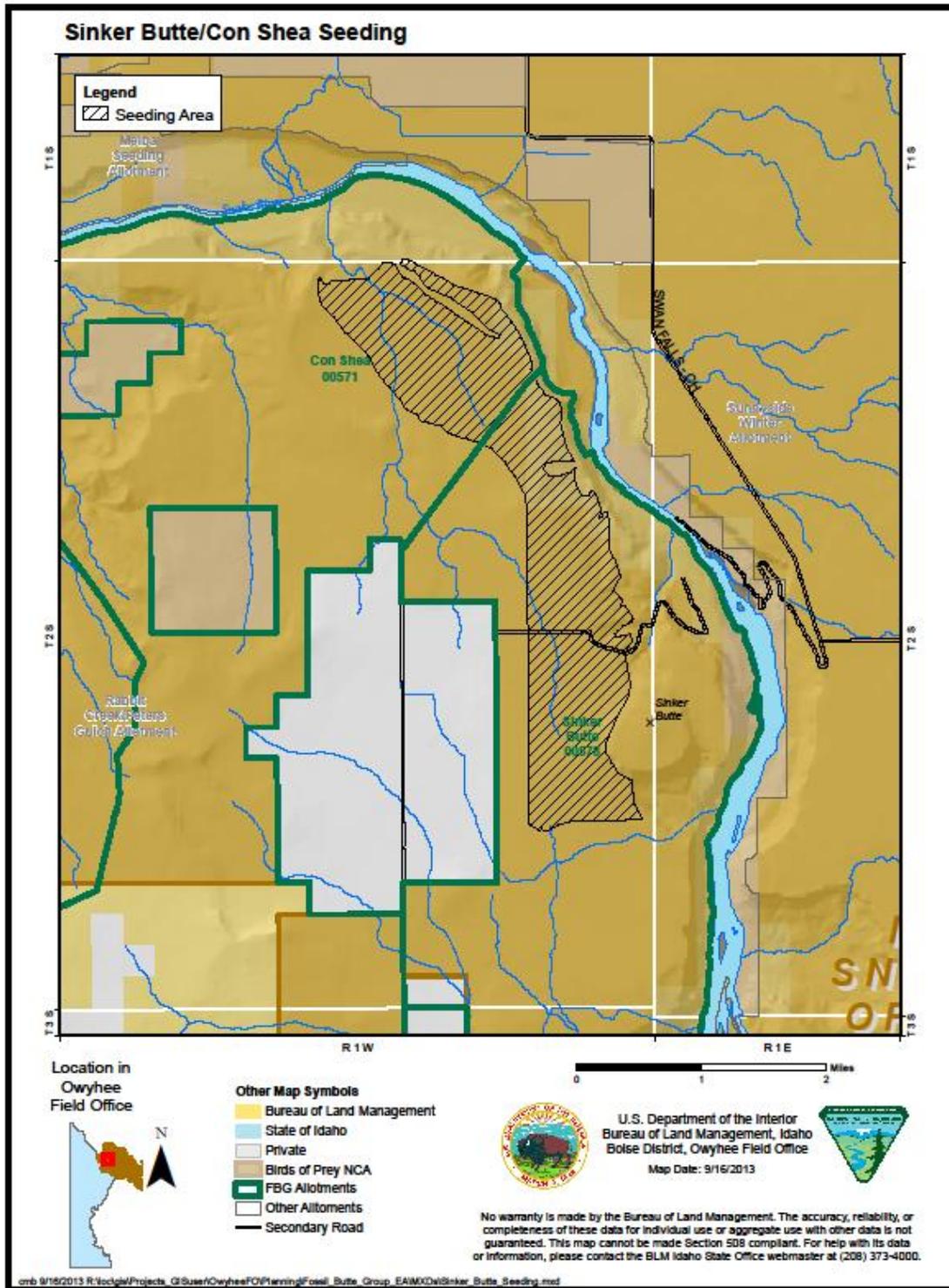


Figure 5 – Sinker Butte Seeding

Evaluation

The 2007 Assessment, trend photo plot, ES&R monitoring photos, noxious weed data, actual use, and utilization are used to evaluate the Seedings Standard. Indicators to evaluate the Standard include the abundance, seed production, and apparent trend (in diversity and abundance) of seeded and native bunchgrasses. Other indicators include shrub or forb establishment, adequate litter for site protection and nutrient recycling, and evidence that noxious and invasive weeds are not increasing. Significant progress toward meeting the Standard would be indicated by improvement of these indicators.

The 2007 Assessment indicated that the crested wheatgrass seeding in Pasture 1 was being only marginally maintained and cheatgrass and other invasive exotic annual species were present. There was a static to downward trend in crested wheatgrass, and no shrubs had become re-established. Crested wheatgrass' decline was attributed to drought and invasive species.

Photographs from the photo plot monitoring site in Pasture 1 from 2008 and 2011 show conditions similar to those described in 2007. Sandberg bluegrass and cheatgrass are co-dominant on the site. Crested wheatgrass is present, although its density appears low. Existing plants appear healthy, however, with ample seed heads. No shrubs or native forbs are visible. The invasive annual tumble-mustard is evident in 2011 photos.

2013 ES&R photos (one plot in the Sinker Butte Allotment) show moderate cover by Sandberg bluegrass, low/moderate cover by Russian thistle, and scattered crested wheatgrass plants making up very low cover. Little cheatgrass is visible due to the dry spring.

BLM GIS records show that noxious weeds of at least six species are scattered throughout the allotment, including within the seedings. Most infestations are less than an acre in size, although a few are between 1-5 acres. The number of reported infestations has increased in recent years, but this may simply reflect more intensive inventory.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The Sinker Butte Allotment is not meeting Standard 5 as shown by the following indicators:

- Crested wheatgrass density is low, and static to declining over the long term.
- Shrubs and other natives (besides Sandberg bluegrass) have not become re-established.
- Noxious weeds infestations are frequent, and the number of mapped infestations is increasing. However, this increase may be a function of better inventory (and treatment) rather than an actual increase in infestations.

Although seeded species (such as crested wheatgrass) would be expected to decline over decades as the plants age, recruitment from native perennials and crested wheatgrass itself would be expected to maintain perennial dominance. Here, instead, invasive species (cheatgrass, tumble-

mustard) are prevalent, along with the shallow-rooted native Sandberg bluegrass, and native forbs and shrubs are lacking.

Indicators that show static conditions appropriate for Standard 5 include:

- Sandberg bluegrass is being maintained. Seed production of both Sandberg bluegrass and crested wheatgrass are appropriate for the site.
- There is adequate ground cover available between Sandberg bluegrass and cheatgrass litter to protect the soil and provide for nutrient recycling.

Determination:

Determination Finding: The Sinker Butte Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Standard 5 is not being met, as shown by the indicators above, and no significant progress toward meeting it is apparent. However, current livestock grazing management practices are not a significant causal factor because the season of use (winter grazing, while plants are dormant) and level of use (recent utilization not exceeding 30%) are appropriate to maintain or improve a seeded crested wheatgrass plant community (McLean and Wikeem 1985, Olson et al. 1989). The grazing system conforms with the Idaho Guidelines for Livestock Grazing Management relating to Standard 5 because the system provides for periodic rest or deferment during critical growth stages, and the season and level of use are appropriate grazing management practices to maintain adequate perennial plant vigor for seed production, seed dispersal, and seedling survival when appropriate climatic events occur. Also, current grazing practices provide sufficient residual vegetation for adequate ground cover for water infiltration, soil protection, and nutrient recycling to maintain or promote the physical and biological conditions necessary to achieve healthy rangelands.

The significant causal factor for not meeting Standard 5 is the prevalence of invasive species (cheatgrass, tumble-mustard, and Russian thistle), which, along with a slow decrease in crested wheatgrass from earlier drought and the natural aging of the seeded grass, is causing this seeding to decline. The invasive species compete with native and seeded perennials, particularly seedlings, for light, soil water, and nutrients, and do not allow the desirable species to regenerate.

Standard 6 – Exotic Plant Communities, Other than Seedings

Not Applicable. Although exotic plants (particularly cheatgrass) are common throughout the allotment, they are at most co-dominant with the natives Sandberg bluegrass and/or Wyoming

sagebrush or other shrubs, or with seeded crested wheatgrass. Thus, all areas in the allotment were evaluated under either Standard 4 (Native Plant Communities) or 5 (Seedings).

Standard 7 – Water Quality

Overview

Streams with designated beneficial uses are addressed under the Idaho Administrative Procedures Act (IDAPA) 16.01.02.140. Sinker Creek is in the Mid-Snake River/Succor Creek sub-basin (hydrologic unit number 17050103). Idaho Department of Environmental Quality (IDEQ) identified Sinker Creek as water quality limited due to flow alteration, sediment, and temperature, and total maximum daily loads (TMDLs) were developed for sediment and temperature. Designated uses for Sinker Creek include cold water biota, salmonid spawning, and primary contact recreation.

Evaluation:

The 2012 proper functioning condition assessment and field notes were used to evaluate water quality standard. Indicators for evaluating the standard include the physical, chemical, and biologic parameters described in the Idaho Water Quality Standards. These standards were evaluated using surrogates that included the density and health of herbaceous and woody riparian vegetation, evidence of high concentrations of livestock use in the waterway, turbidity, and fine sediment deposits in the channel.

This reach was assessed as properly functioning. The riparian area has carex, willow, and cottonwoods in sufficient densities to withstand high flow events. These riparian plants shade the streams thereby lowering water temperatures. They also have root systems capable of holding and securing streambanks during high flow events, dissipate flood energy and deposit sediments on the floodplain. Sediment load and/or associated contaminants are effectively stored on the floodplain rather than getting delivered downstream.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The stable streambanks, dense herbaceous and woody riparian vegetation, sufficient shade, lack of evidence related to livestock, and channel characters in balance with watershed condition, water quality should be improving under current management. However, until IDEQ officially removes Sinker Creek from the 305b and 303d list for impaired water quality, our limited data does not constitute a change in designations, even though concentrations of E. coli were well below primary contact recreation criterion.

Due to dewatering effect of multiple diversions upstream, Sinker Creek has very infrequent surface water connectivity with the Snake River. Connectivity with the Snake River would only happen during very large streamflow events, estimated to be much larger than bankfull and estimated to be above a 10-year recurrence interval. Even during these large streamflow events,

the stream would likely flow across the entire valley bottom leaving most sediment as deposits prior to reaching the Snake River. Due to this lack of connectivity, it is not expected that temperature or sediment impairment within Sinker Creek will contribute to the water quality of the Snake River.

Determination:

Determination Finding: The Sinker Butte Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). ____

Determination Rationale

Standard 7 is closely tied to Standards 2 and 3. As identified in evaluations for Standard 2 and 3, evidence of current livestock grazing within the perennial, riparian stream reach is non-existent. As stated in Standard 7 evaluation above, until IDEQ removes Sinker Creek from the 305b and 303d list for impaired water quality, Sinker Creek cannot meet this standard, even though it is unlikely that current livestock management contributes to impairment within this reach of pasture 3. There was no evidence of erosion or any sediment delivery adjacent to the channel eliminating sediment as a contributing issue from this pasture and stream reach. The buffering ability of riparian vegetation and beaver ponds would also minimize downstream sediment issues. E. coli was also measured and found to be within IDEQ water quality standards. It is likely that upstream water diversions (dewatering) are the primary contributors to any failure to meet water temperature criteria on Sinker Creek.

Standard 8 – Threatened and Endangered Plants and Animals

Botany

Overview

Four species of special status plants (SSP) have been recorded from the Sinker Butte Allotment, and occurrences of three other species are mapped such that they may or may not occur in the allotment.

Special Status Plants in the Sinker Butte Allotment

Species	Life Form	Habitat Description	Pasture(s)
Snake River milkvetch <i>Astragalus purshii</i> var. <i>ophiogenes</i>	Perennial	Sand or gravel on bluffs, dunes, or ash beds	1, 3
Desert pincushion <i>Chaenactis stevioides</i>	Annual	Open, sandy areas	1, 3

Species	Life Form	Habitat Description	Pasture(s)
Shining flatsedge <i>Cyperus bipartitus</i>	Annual	Streambanks, wet, low places	1? non-specific location
White eatonella <i>Eatonella nivea</i>	Annual	Sandy or volcanic soils often with sagebrush	3? non-specific location
Cowpie buckwheat <i>Eriogonum shockleyi</i> var. <i>packardaei</i>	Perennial	Gravelly benches on lakebed sediments in shadscale and mixed desert shrub communities	1-4? non-specific location
White-margined wax plant <i>Glyptopleura marginata</i>	Annual	Sandy-gravelly or loose ash soils in salt desert shrub communities	3
Turtleback <i>Psathyrotes annua</i>	Annual	Sandy, well drained soils in salt desert shrub communities	4

Occurrence records for these special status plants date from the 1970s through 2013.

Evaluation:

Information used in evaluation this Standard includes the 2007 Assessment, Evaluation, and Determination, IFWIS data, BLM SSP monitoring records (see Vegetation Specialist Report), and general vegetation conditions (see Standard 4). Indicators used include apparent trends in the abundance of occurrences and number and vigor of plants within the occurrences, SSP habitat quality relating to invasive plants, and the timing and degree of physical disturbance to plants and habitats.

The 2007 Assessment, Evaluation and Determination for the Sinker Butte Allotment addressed Snake River milkvetch, desert pincushion, white-margined wax plant, and turtleback. The 2007 documents state that locations of special status plants within this allotment were not readily accessible to livestock, so it was expected that habitat for these species was being maintained.

Previous records from IFWIS for SSP in the Sinker Butte Allotment indicate threats from weeds (cheatgrass and other exotic annuals), recreational off highway vehicle (OHV) use, wildfire, and road sloughing, but actual impacts were not specified. Livestock use, when indicated, was described as light.

Recent (April 2013) monitoring found the Snake River milkvetch occurrence in Pasture 3 was healthy and undisturbed, although cheatgrass was always in the surrounding area and sometimes immediately in the milkvetch microhabitat. Occurrence locations for desert pincushion, white-margined wax plant, and turtleback in Pasture 3 were also visited in April 2013; these plants were not found, probably because it was too early and/or more likely too dry this year for these annuals. Their habitat appeared undisturbed (except by cheatgrass, more in surrounding areas than microhabitats) and suitable for these plants.

General vegetation conditions in the Sinker Butte Allotment are more or less static but not improving (See Standards 4 and 5). Conditions within special status plant habitats are similar, and, based on recent monitoring, occurrences are not being disturbed. It does not appear that invasive weeds (particularly cheatgrass), the greatest threat, have increased in special status plant

habitats. Because special status plants generally grow in specialized soil types, these areas are often not as subject to weed invasion as surrounding areas.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

The Sinker Butte Allotment is meeting Standard 8 for SSP, because, based on available information, habitat for these plants is being maintained. Specific information for the indicators follows:

- No quantitative information on trends for occurrences of SSP in this allotment is available, but no known occurrences have been eliminated, so the number of occurrences is stable. Trends in the number of plants and vigor within most occurrences are unknown, but presumably stable, based on habitat conditions.
- Some SSP habitat is occupied by cheatgrass, but the microhabitat (such as specific small sandy openings within the larger loamy soil ecological sites) is generally less dominated by cheatgrass, and for the most part, little affected by invasive weeds.
- Little physical disturbance to SSP habitat is occurring. Livestock use occurs during the dormant season, when effects would be minimal, and SSP occurrence areas in this allotment are not readily accessible to livestock, so there are few physical impacts from livestock trampling. No recent OHV effects to SSP habitat are documented.

Determination:

Determination Finding: The Sinker Butte Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Standard 8 for special status plants is being met in the Sinker Butte Allotment. Recent observations indicate no disturbance and no increase in cheatgrass or other invasive weeds in occurrence locations visited.

Idaho Guidelines for Livestock Grazing Management that relate to Standard 8 for SSP include:

- Implement grazing management practices that provide periodic rest or deferment during critical growth stages.
- Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of these plants.

- Apply grazing management practices that maintain or promote the physical and biological conditions necessary to sustain native plant populations.

Current grazing conforms to these guidelines for livestock management because use is primarily during the dormant season, providing for regular deferment during the growing season. Also, the level of use (recent utilization not exceeding 30%) at this time is sufficient to maintain adequate vigor for seed production, dispersal, and seedling survival. This timing and level of use are suitable to maintain the physical and biological conditions necessary for these SSP populations.

Wildlife

Overview

Many wildlife species utilize a variety of habitats in the Fossil Butte 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 the 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 is not discussed here in the same depth as species upon which the BLM places management emphasis.

The BLM, U. S. Fish and Wildlife Service (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, 2008), 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 Sinker Butte Allotment and whose habitat may be affected by grazing activities.

One invertebrate species is listed as endangered under the Endangered Species Act of 1973, as amended (ESA). Two birds and one amphibian species are listed as candidate species under the ESA. Seven mammals, 13 birds, three reptiles, three amphibians, two fish, and one invertebrate species with special status potentially occur within the Fossil Butte Group allotments and may be affected by grazing activities. See Appendix D, Special Status Wildlife Species, in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA for a list of special status wildlife species, their status, and occurrence potential within the Sinker Butte Allotment.

With the exception of a few well-studied species, current occurrence and population data for most special status animal species within the Fossil Butte 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 Snake River physa, greater sage-grouse, and Columbia River redband trout. Other special status animal species,

migratory birds, raptors, and species of socio-economic importance (e.g., big game) and their habitats will be included in discussions in the broader context of upland and riparian habitat conditions.

Although no federally listed threatened or endangered species or designated critical habitat occurs within the Sinker Butte Allotment, the Snake River physa snail (*Physa natricina*) is listed as endangered under the ESA and occurs in the Snake River upstream and downstream of the allotment. No ESA candidate species are known to occur within the allotment.

Evaluation:

Rangeland Health Standards (Standards) are interrelated, especially when addressing wildlife special status species requirements. Standards 1-7 provide the basis for healthy wildlife habitats that are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species. Indicators for Standard 8, Threatened and Endangered Animals include:

- Parameters described in the Idaho Water Quality Standards.
- Riparian/wetland vegetation with deep, strong, binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.
- Age class and structural diversity of plant species are appropriate for the site.
- Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.
- The diversity of native plant and animal communities are maintained.
- The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
- Noxious weeds are not increasing.

Upland Wildlife Habitat

Previous 2007 Assessment

The 2007 Assessment was based on four 2002 Rangeland Indicators, trend at one nested frequency site, one photo point from 1997 and 2002, and utilization (1998, 1999). Standard 4 applied to Pasture 2 (the southern pasture, which encompassed what is currently Pastures 2-5), while Standard 5 applied to Pasture 1 (the northernmost pasture). The 2007 Assessment noted that native plant communities were not substantially improved since the 1983 wildfire, with a departure from reference conditions in functional/structural composition because shrubs had not become re-established. Perennial grasses were represented by Sandberg bluegrass rather than large bunchgrasses, and invasion by exotic annuals had compromised the nutrient and energy cycling necessary to maintain a perennial plant community.

Current Assessment

No recent Rangeland Indicators have been taken, but the trend sites within the allotment were monitored in 2008 and 2011 and BLM personnel conducted two field visits in 2013. Trend data and photo points show conditions much like those described in the 2007 documents, with a lack of large bunchgrasses, co-dominance by Sandberg bluegrass and weeds (cheatgrass, Russian thistle, tumble-mustard), and few shrubs. This shows a highly altered state compared to reference conditions. The April 2013 field visit verified plant community conditions are being maintained in Pasture 3. Utilization figures for perennial bunchgrasses in the Sinker Butte Allotment from 2008-2013 are $\leq 30\%$ for all pastures monitored. See Standards 4 and 5 for additional information.

Evaluation Finding – Allotment is:

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Upland Wildlife Habitat

The Sinker Butte Allotment is managed as a native plant community in Pastures 2-5 and as a seeding in Pasture 1. The allotment is not meeting either Standard. Large stature perennial bunchgrasses have been reduced or lost across the allotment and have been replaced by Sandberg bluegrass and/or cheatgrass. Native shrubs and forbs have not become re-established in previously burned areas. This vegetation community shift reduces effective nesting, escape, hiding, travel, and foraging cover values for wildlife species associated with sagebrush steppe communities. This allotment is failing to provide suitable upland habitat conditions for sagebrush steppe-associated wildlife and therefore is not meeting Standard 8.

The native shrub component within the allotment is being maintained; however, shrubs have not become re-established in previously burned areas. Trend sites in native and seeded plant communities indicate static to declining frequency in large stature perennial bunchgrasses. No improvement in native plant functional/structural groups or the amount of invasives (cheatgrass) within the understory is apparent, therefore there is no indication of progress being made toward meeting Standard 8.

Determination:

Determination Finding: The Joyce FFR Allotment is (check one or more):

Meeting the Standard

Not Meeting the Standard, but making significant progress toward

Conforms with Guidelines for Livestock Grazing Management

Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors

Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors

Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

Upland Wildlife Habitat

Standard 8 is not being met in the Sinker Butte Allotment, as described above, and no significant progress in improving the health of upland wildlife habitat is indicated by available data. Current grazing management does not appear to be a significant causal factor because season of use occurs mostly during perennial plants' dormant season, which has fewer effects than growing-season grazing. Perennial grass utilization under current management since 2007 has not exceeded 30%, and this level of use during the dormant season appears suitable to maintain native plant communities.

A significant causal factor for not meeting Standard 8 is the presence of invasive weeds, primarily cheatgrass. Invasive weeds have become dominant in the shrub understory due to the reduction in large bunchgrasses as a result of historic grazing practices. Historic grazing (over 20 years ago) likely included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses. Historic grazing and invasive weeds have also contributed to the lack of Wyoming sagebrush regeneration after wildfire.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 because the system:

- Provides periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate for site potential.
- Maintains or promotes the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.
- Maintains adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.
- Maintains or promotes the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.
- Minimizes adverse impacts due to management fencing in order to maintain habitat integrity and connectivity for native plants and animals.

Evaluation:

Riparian Wildlife Habitat

Previous 2007 Assessment

The 2007 Assessment was based on one 2001 riparian inventory which rated the reach of Sinker Creek within the allotment at the high range of Functional-at-Risk (FAR), with no apparent trend. The FAR+ rating was based on the stability of the site and the restricted riparian zone. The 2001 inventory described the areas as being in "good condition despite the significant dewatering and obvious manipulations of the channel." Noxious weeds were not observed along this reach.

Current Assessment

Riparian areas include approximately 6 miles of the Snake River and 1.05 miles of Sinker Creek. The Snake River flows east to west and is the eastern border of the Sinker Butte Allotment. Livestock have limited access to the Snake River due to bluffs, steep terrain, and fencing. Consequently, livestock grazing has little effect on the river and adjacent riparian vegetation, so the Snake River is not analyzed for Standard 8.

One PFC assessment was conducted on the reach of Sinker Creek within the allotment in 2012. The 2012 PFC assessment rated the reach as properly functioning. The reach was confined in a steep rock wall canyon and had many obligate riparian plant species present. Diversions were observed as well as some beaver dams. An isolated infestation of knapweed and salt cedar in the canyon bottom was noted. Streambanks appeared stable with a healthy assortment of carex, willow, and cottonwood communities present.

One field visit to the reach was conducted by BLM personnel in 2013. Observations of this reach noted stable banks, multiple beaver dams, bankfull indicators, floodplain access, and herbaceous and woody riparian vegetation. The majority of this reach supported new willow growth. BLM observed a large water diversion on the lower end of the reach that removed approximately 50% of the water flow into an 18-inch pipe. BLM also observed multiple fish of various age classes in the pools both above and below the diversion.

Designated uses for this reach of Sinker Creek include cold water aquatic life and primary contact recreation. IDEQ 305b list identified this reach of Sinker Creek as water quality limited and not fully supporting cold water aquatic life due to flow alteration, sediment, and water temperature. Total Maximum Daily Loads (TMDLs) were developed for sediment and temperature.

Focal Wildlife Species

Snake River physa

The recovery area for the species extends from Snake River RM 553 to Snake River RM 675. There are currently no planned conservation efforts that target the Snake River physa. The conservation needs to facilitate recovery of this species are to ensure that water quality and quantity, as well as habitat quality, are maintained within the Snake River to ensure Snake River physa can maintain viable populations. Water sources contributing to the quantity and quality of the Snake River (e.g., tributaries and aquifers) also need to be maintained, meeting the standards for cold-water biota and remaining free of contaminants and excessive nutrients. Snake River physa locations and potential habitat have been documented within the Snake River upstream, downstream, and immediately adjacent to portions of the Fossil Butte Group Allotments.

Based on the information discussed above, BLM has determined that permitted livestock grazing on the allotment does not contribute to excess sediment loads or increased water temperature in Sinker Creek or the Snake River. Consequently, BLM has also determined that permitted livestock grazing on the Sinker Butte Allotment will not affect the Snake River physa or associated critical habitat.

Current grazing management is maintaining upland habitat conditions, adequate ground cover, and perennial vegetation necessary to prevent excess water runoff or sedimentation within the

watershed. As discussed previously, livestock have limited access to the Snake River and consequently, have little effect on associated riparian areas, sediment loads, and channel morphology. Sinker Creek is rated as PFC and is limited by upstream water diversions; current livestock grazing does not appear to impact this stream. Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing riparian vegetation, beaver ponds, and upstream water diversions. Field observations confirmed minimal connectivity between Sinker Creek and the Snake River.

Columbia River Redband Trout

Occurrence information available from IDFG documents redband trout in the middle and lower reaches of Sinker Creek. IDEQ identified the middle and lower reaches of Sinker Creek as not fully supporting cold water aquatic life and salmonid spawning beneficial uses. While Sinker Creek is listed for salmonid spawning, there is no evidence of redband spawning in the reach found within the Sinker Butte Allotment. Young-of-the-year trout have not been found in past electrofishing efforts. This is likely due to a combination of factors relating to flow alteration, lack of spawning habitat due to stream characteristics, and barriers to fish migration due to Hulet Reservoir. IDFG occurrence data document redbands higher in the watershed above Hulet Reservoir.

IDFG has determined that the listed section of Sinker Creek has not historically been, nor is currently, spawning habitat due to gradient and temperature regimes. IDFG further states that this section of Sinker Creek has historically served primarily as a migratory corridor. Hulet reservoir and the various water diversions also serve as barriers to fish migration to the downstream section for spawning. The storage of water in the reservoir as well as the de-watering of the stream result in higher water temperatures, but it is unlikely that changes in management activities would result in lowering water temperatures to salmonid spawning criteria due to the overriding effect of high ambient air temperatures and flow alteration activities.

Because salmonid spawning does not occur in the middle or lower reach of Sinker Creek, the temperature standard for salmonid spawning will not be applied; instead the cold water temperature standard will apply to that reach throughout the year. The middle reach of Sinker Creek has shown temperature violations and thus, cold water aquatic life uses are not currently fully supported.

Evaluation Finding – Allotment is:

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

Evaluation Rationale

Riparian Wildlife Habitat

As discussed above, water quality parameters are not being met and cold water aquatic life is not fully supported in Sinker Creek due to flow alteration, sediment, and water temperature. Excess flow alteration, sediment, and water temperature levels reduce habitat quality for redband trout

and other riparian obligate wildlife species and could potentially impact the Snake River physa. Because these water quality parameters are not being met, the allotment is not meeting Standard 8 for riparian wildlife habitat.

However, significant progress toward meeting Standard 8 for riparian wildlife habitat is indicated by recent improvement in the lower reach of Sinker Creek. The 2001 riparian inventory rated the reach at the high range of FAR, with no apparent trend. The 2012 PFC assessment rated the reach in PFC. Although PFC assessments do not directly assess riparian habitat suitability, stream-associated riparian areas that are in PFC generally provide adequate cover and other necessary riparian elements.

Comparative photographs of the reach taken during the 2001 riparian inventory and 2013 field visit also document improvements in hydric vegetation along the length of the reach. Xeric invader and shallow rooted species remain minor components of the floodplain. Improvements in existing deep rooted riparian vegetation and the minor composition of xeric and shallow rooted species also indicate significant progress toward meeting Standard 8.

Focal Wildlife Species

Snake River physa

BLM has determined that permitted livestock grazing on the Sinker Butte Allotment will not affect the Snake River physa or associated critical habitat.

Columbia River Redband Trout

Evaluation of the lower reach of Sinker Creek identified that water quality parameters are not being met but that significant progress is being made toward meeting Standard 8. 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 flow. Because these in-stream and near-stream habitat characteristics are limited due to upstream water diversions, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout.

Determination:

Determination Finding: The Joyce FFR Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). _____

Determination Rationale

Riparian Wildlife Habitat

Standard 8 is not being met in riparian areas of the Sinker Butte Allotment, as described above, but significant progress in improving the health of riparian wildlife habitat is indicated by recent improvements in PFC rating and hydric vegetation along the middle reach of Sinker Creek.

Current livestock grazing management practices are not a significant causal factor for not meeting Standard 8 because the majority of the season of use occurs during perennial plants' dormant season, which results in fewer impacts to riparian vegetation than growing-season grazing. Little to no impact from livestock grazing was observed during multiple field visits in 2012 and 2013.

A significant causal factor for not meeting Standard 8 is that water quality parameters are not being met and cold water aquatic life is not fully supported in the lower reach of Sinker Creek due to flow alteration, sediment levels, and water temperature. Sinker Creek is rated as PFC but is limited by upstream water diversions on private land along the majority of its length.

Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing riparian vegetation, beaver ponds, and upstream water diversions. The storage of water in Hulet Reservoir, when combined with de-watering caused by existing water diversions, are the primary contributor to any failure to meet water temperature parameters in Sinker Creek.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 in riparian habitats because the system:

- Uses grazing management practices to maintain adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils.
- Maintains or promotes grazing management practices that provide sufficient residual vegetation to improve, restore, or maintain healthy riparian-wetland functions and structure for energy dissipation, sediment capture, ground water recharge, streambank stability, and wildlife habitat appropriate to site potential.
- Maintains or promotes appropriate stream channel and streambank morphology and function.
- Implements grazing management practices that provide for compliance with the Idaho Water Quality Standards.
- Uses grazing management practices developed in recovery plans, conservation agreements and ESA Section 7 consultations to maintain or improve habitat for federal listed threatened, endangered, and sensitive plants and animals.

Summary of Evaluation and Determination

Check one box for each	Standards							
	1	2	3	4	5	6	7	8
	Watersheds	Riparian and Wetlands	Stream Channel and Floodplain	Native Plant Communities	Seedings	Exotic Plant Communities (not seeded)	Water Quality	Threatened and Endangered Plants and Animals
Meeting the Standard		X	X					

Check one box for each	Standards							
	1	2	3	4	5	6	7	8
Not Meeting the Standard, but making significant progress toward							X	X Riparian Animals
Not Meeting the Standard; current livestock grazing practices are not significant factors	X			X	X			X Plants and Upland Animals
Not Meeting the Standard; current livestock grazing practices are a significant factor								
Not Meeting the Standard; cause not determined								
Standard does not apply						X		
Guidelines for Livestock Grazing								
Conforms with Guidelines for Livestock Grazing Management?							YES	
If no, list the Guidelines not in conformance:								

Field Manager's Signature and Date

Evaluation and Determination
Joyce FFR Allotment
2013

Interdisciplinary Team:

Rich Jackson – Hydrologist
TJ Clifford - Hydrologist
Brad Jost – Wildlife Biologist
Beth Corbin – Botanist/Ecologist
Melissa Cameron – Rangeland Management Specialist

Background:

This Evaluation and Determination cover the time period between 2003 and 2013, since the last determination.

The Joyce FFR Allotment is located in Owyhee County, Idaho between the towns of Murphy and Oreana. As discussed here, the allotment contains five pastures (Figure 1). Pastures 2 through 5 are located along Sinker Creek from Highway 78 south to private land beyond the Hulet-Sinker Creek Reservoir, between the Silver City and Fossil Butte allotments. Pasture 6 is located along the upper (southern) portion of Bates Creek between the Silver City and Red Mountain allotments. Another pasture, east of Highway 78, has been used in conjunction with the Joyce FFR Allotment, but for this evaluation/determination is considered within the Con Shea Allotment (Con Shea Pasture 3), rather than Joyce FFR Pasture 1, and will not be further discussed here.

The current permit authorizes 246 animal unit months (AUMs) of use on 1,609 acres of public lands for 13 cattle and 7 horses yearlong, with variation in animal numbers and season of use at the permittee's discretion with prior approval of the authorized office as long as active AUMs are not exceeded. See below for the actual seasons of use per pasture.

Elevations range between 3,100 feet near the bottom of Sinker Creek and 5,000 feet along the front of the Owyhee Mountains. Landforms consist of fan terraces, foothills, structural benches, and mountains. The terrain is undulating to steep. Annual precipitation ranged from 4.04 to 12.56 inches at the Swan Falls Power House collection site (about 9 miles northeast of the allotment) for the years 1935 to 2012.

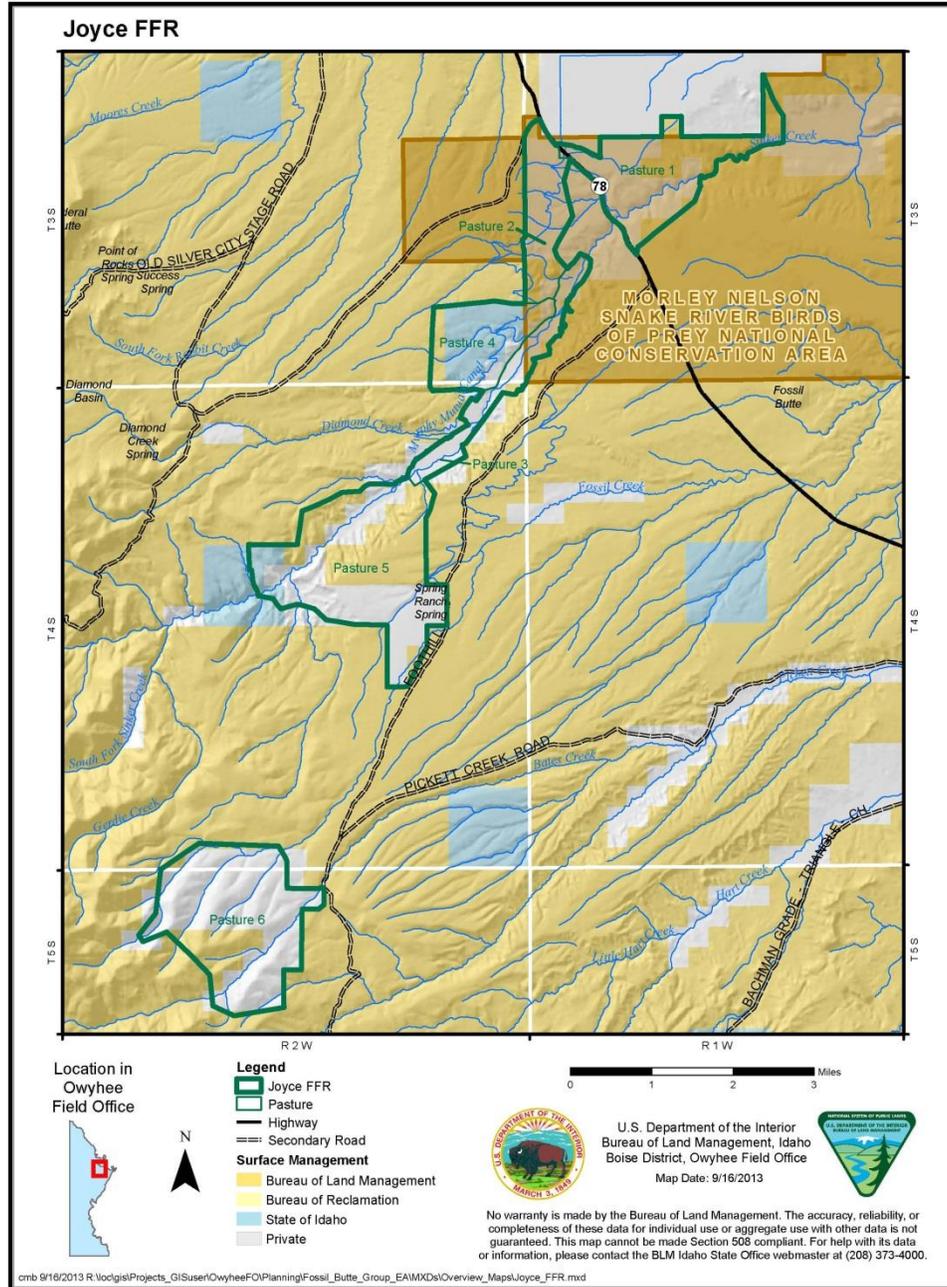


Figure 1 – General Location of the Joyce FFR Allotment

The pastures of the Joyce FFR Allotment differ as to predominant ecological site. Public lands in Pastures 2 through 5 are mostly in the Calcareous Loam ecological site, while public lands in Pasture 6 are mapped in Shallow Claypan ecological sites. The expected plant community in Calcareous Loam areas is mixed desert shrubs co-dominant with large bunchgrasses like Indian ricegrass and Thurber’s needlegrass. In Pasture 6, about half of the public land is on a drier low sagebrush/bluebunch wheatgrass ecological site and about half on a moister low sagebrush/Idaho fescue site.

Pastures	Predominant Ecological Site(s)	Expected Vegetation
2-5	Calcareous loam 7-10" ATCO-PIDE4/ACHY-ACTH7	Shadscale, budsage, Indian ricegrass, Thurber's needlegrass
6	Shallow claypan 12-16" ARAR8/FEID	Low sagebrush, Idaho fescue
	Shallow claypan 11-13" ARAR8/PSSPS	Low sagebrush, bluebunch wheatgrass

A Rangeland Health Assessment (Assessment) and subsequent Evaluation and Determination document were completed for the Joyce FFR Allotment in 2003. In the spring of 2012, the Interdisciplinary Team (IDT) determined that the 2003 Evaluation and Determination should be updated to more accurately reflect conditions on the ground. This updated Evaluation and Determination is based on additional data collected from 2003 through 2013 (see below).

Information gathered since the 2003 Assessment is discussed in the Affected Environment sections for the applicable resource for each Standard in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA. This report uses that information, and constitutes a new Evaluation and Determination for the Joyce FFR Allotment based on conditions through 2013. Note that the earlier Assessment/Evaluation/Determination used different pastures numbers than those used in the current documents.

Although the permit allows use at the permittee's discretion, grazing management through 2003 for Pasture 5 was March use (03/01-03/31) and for Pasture 6 was summer/fall use (06/01-10/31). Because Standards 4 and 8 were not being met in Pasture 5 due to current livestock grazing in 2003, the permittee agreed to eliminate March 1 through March 31 grazing use in that pasture.

Since 2003, the season of use per pasture has been as shown in the table below, based on discussions with the permittee. The permit does not specify dates or AUMs per pasture.

Joyce FFR Allotment Seasons of Use by Pasture

Pasture	Season of Use	BLM Acres	Private Acres	State Acres
2	11/1 – 2/28	126	511	0
3	Yearlong	61	476	0
4	3/1 -3/31	145	124	498
5	10/1 – 11/15	911	1,117	136
6	5/15 – 6/15 every other year; fall trailing	367	1,523	0

Data sources used for this Evaluation/Determination are as shown in the following table. Specifics are discussed under the applicable Standard. See Figures 2 and 3 for monitoring locations for Rangeland Indicators, Utilization, Riparian Assessments, Wildlife, Riparian, and Botany Field Visits, and Sage-grouse Habitat Assessments.

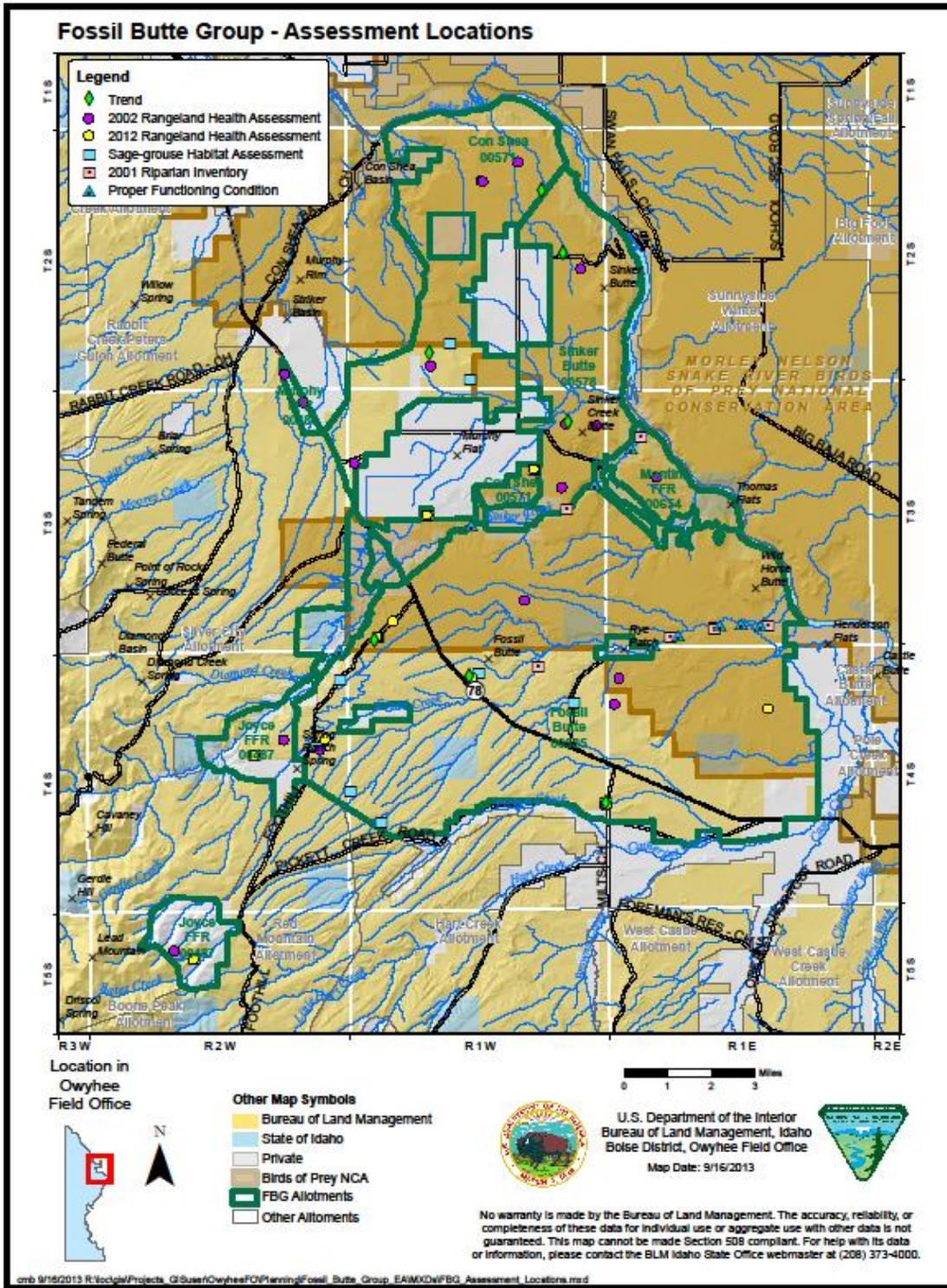


Figure 2 – Monitoring Locations within the Fossil Butte Group Allotments

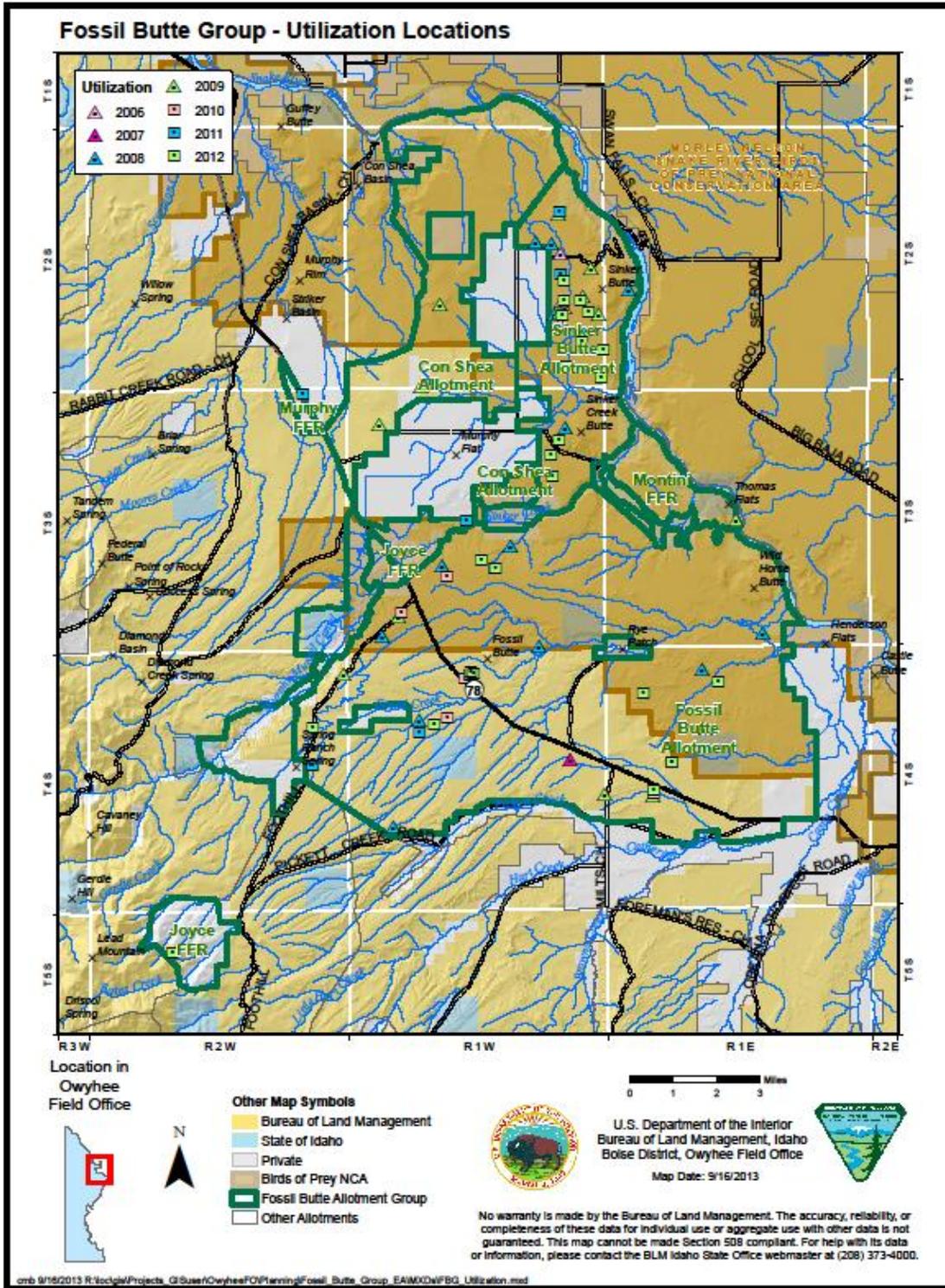


Figure 3 – Utilization Locations within the Fossil Butte Group Allotments

Data Sources for Evaluation and Determination

Information Type	Date(s)	Location of Information
Previous Assessment and Determination	2003	Owyhee Field Office Files

Information Type	Date(s)	Location of Information
Field evaluation of Interagency Technical Reference 1734-6 Interpreting Indicators of Rangeland Health (Rangeland Indicators)	2012	Owyhee Field Office Files
Vegetation and Wildlife Specialist Report for the Fossil Butte Group	2013	Owyhee Field Office Files
Ecological Site Descriptions (Natural Resources Conservation Service Draft Documents)	2005	Owyhee Field Office Files
Sinker Creek Proper Functioning Condition (PFC) Assessment	2003	Owyhee Field Office Files
Joyce FFR Allotment Actual Use	2003-2012	Owyhee Field Office Files; Chapter 2 of Fossil Butte Group EA
Joyce FFR Allotment Utilization	2012	Owyhee Field Office Files; Appendix D of Fossil Butte Group EA
Riparian, Wildlife, and Botany Field Visit Reports	2013	Owyhee Field Office Files
Idaho Department of Fish and Game's Idaho Fish and Wildlife Information System (IFWIS)	As of 2013	Owyhee Field Office Geographic Information System (GIS) Files
Sage-grouse Habitat Assessments	2012	Owyhee Field Office Files
Ecological Site mapping, Soil Survey, Existing vegetation mapping, National Agricultural Imagery Program (NAIP) photos, and Noxious Weed locations	As of 2013	Owyhee Field Office GIS Files
Idaho Department of Environmental Quality (IDEQ) Mid Snake River/Succor Creek Subbasin Assessment and Total Maximum Daily Load Report	2003	Owyhee Field Office Files
Wildlife habitat mapping, species occurrence locations, wildlife monitoring survey locations	As of 2013	Owyhee Field Office GIS Files
BLM Special Status Plant occurrence records	2012, 2013	Owyhee Field Office Files

Note that much of this information is primarily qualitative rather than quantitative, and ecological site descriptions do not include specific figures for some important elements (such as biological soil crust cover), so the evaluation uses both numerical and non-numerical comparative terms.

Standard 1 – Watersheds

Overview

As a whole, this FFR is about 5,944 acres in multiple watersheds that drain a total area of about 125,000 acres. This represents about 5 percent of the total watershed area.

A majority of the soils occur on structural benches, fan piedmonts, fan terraces, and foothills. The main body of soils formed in mixed alluvium and loess derived predominantly from lacustrine deposits and basalt. Parent material composed primarily volcanic ash, mixed alluvium, and loess. In general, the soils are shallow to deep (predominantly deep) and well drained. Surface textures are dominantly silty loams and sandy loams. Soils in this allotment have weak to moderate subsurface development. The main soils present in the area include the McKeeth-Veta gravelly loams, Willhill-Cottle-Longcreek, and Torriorthent complexes.

Evaluation:

The 2012 evaluations of Interagency Technical Reference 1734-6 Interpreting Indicators of Rangeland Health (Rangeland Indicators), 2012 utilization, and photography images were used to evaluate the watershed standard. Indicators for evaluation of the standard are: 1. The amount and distribution of ground cover, including litter, appropriate for site stability; and 2. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing, and compaction layers below the soil surface is minimal for soil type and landform.

Two evaluations of Rangeland Indicators were conducted in 2012, one in Pasture 5 and one in Pasture 6. The Pasture 5 evaluation of Rangeland Indicators rated soil and site stability and hydrologic function at a moderate departure from what is expected. Soil surface loss from erosion, presence of soil compaction, and fewer large deep-rooted perennial bunchgrasses than expected were identified as the rationale on the departure rating. Evaluations of Rangeland Indicators identified more bare ground, plant pedestaling and gullies than anticipated.

The Pasture 6 evaluation of Rangeland Indicators identified that soil and site stability and hydrologic function were at a none-to-slight departure from what is expected. There was a slight reduction in large deep-rooted perennial bunchgrasses and juniper were scattered throughout the pasture.

A review of Pasture 3 in May 2013 identified that soil and site stability was at a moderate departure from expected due to gully formations in the upper ephemeral tributary. These gullies were formed decades ago and are still visible today due to the low site productivity, however, the gullies are stabilized and not expected to increase. The hydrologic function is still impaired due to this condition.

As noted in the discussion of Standard 4, very little utilization information is available even though utilization in Pasture 6 in November 2012 noted no apparent use. Current watershed conditions of public lands in Pastures 2 - 4 has not been validated recently. Vegetation mapping and aerial imagery indicate mostly shrub-dominated (sagebrush or salt desert shrub) vegetation, with some agriculture (hay fields or irrigated pasture in valley bottoms) or weedy annual plant areas. The recent field assessment (May 2013) and photos from uplands in Pasture 3 show a sparse shrub overstory and highly depleted understory with heavy livestock use. Observations of

other adjacent lands upstream and downstream of pasture 8 indicated that pasture 3 is representative due to an assumed application of similar management (BLM fenced in with private hay meadows). Pastures with winter use only (Pasture 2) are likely to have conditions similar to Pasture 5. Conditions in Pasture 4 (March use) may also be similar to Pasture 5.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The allotment is not meeting Standard 1 as indicated by soil loss and loss of large-deep-rooted perennial bunchgrasses in Pastures 2 -5 (as indicated in Standard 4). There were gullies observed, but they were not actively eroding (as indicated by a stabilized head cut and/or vegetation stabilizing the bottom of the erosional feature). Even though Standard 4 is being met in Pasture 6, there were no indications of bunchgrass community improvement. Overall, the loss of bunchgrasses and the evidence of soil erosion mainly in the form of gullies and erosional pedestals indicate an altered watershed response and cannot meet the standard. The gullies are, however, stabilized as indicated by the growth of shrubs in the 20-30 year age class.

Determination:

Determination Finding: The Joyce FFR Allotment is (check one or more):

Meeting the Standard

Not Meeting the Standard, but making significant progress toward

Conforms with Guidelines for Livestock Grazing Management

Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors

Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors

Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

The determination for Standard 1 is based on observed soil erosional features (pedestaling, gullies, and soil loss) and the lack of large deep-rooted perennial bunchgrasses. Overall, current grazing management is not a significant causal factor for two reasons: First, no change in current grazing management would bring back the large bunchgrasses without providing for an adequate seed source; and second, shrubs growing in the bottom of gullies are in the 20-30 year age class indicating an event or practice that has since been gradually restoring itself. Conversations with local residents imply that there was a flood event that scoured Sinker Creek below the dam in about the same time period (permittee conv. 2013).

There are localized grazing activities that are not meeting standards and impairing full recovery of the watershed resources. Pasture 3 is one of these areas that do not meet standards as a result of historic and present practices. Historic livestock grazing practices likely reduced the large bunchgrasses which increased erosional rates due to less cover and led to current condition. The

observed gully formation, especially in Pasture 3, indicates a causal factor other than grazing, even though grazing may have prevented full recovery of a productive soil in the last 30 years. Overall, watershed function has been altered and has not fully recovered.

***Standard 2 – Riparian Areas and Wetlands and
Standard 3 – Stream Channel/Floodplain***

Not Applicable

Overview

There is a 0.1 mile reach of stream and riparian area within BLM lands on the Joyce FFR allotment. However, the BLM considers that this reach is as functional as is capable given the flow alteration upstream, within, and downstream of this reach. The stream characteristics associated with this landscape setting cannot be achieved through a change in BLM management. Although the riparian conditions may support Standard 8 as habitat, this reach will not be further evaluated for Standards 2, 3, or 7.

BLM personnel visited this portion of Sinker Creek on May 29, 2013 to assess the health of the riparian area. This area of pasture 3 had evidence of grazing impacts as well as heavily altered stream function. It is adjacent to private land on three sides. This private land includes multiple diversions, irrigated agricultural lands, and effects from heavy grazing. The riparian area within BLM lands indicated perennial streamflow was in fair condition and consisted of stable banks, bankfull indicators, and riparian species. However, the access to the floodplain was interrupted by multiple diversions and channel alterations. This section was so short and altered immediately upstream and downstream, that there is no capability to improve functionality within this section. Another notable observation of this small section of BLM land was the possible horse use within the pasture. BLM observed evidence of horse use between the diversion channel and the stream channel as well as on the hillslope just above the diversion channel. This has had a substantial impact on the understory grasses and forbs in these areas even though the private land is irrigated pasture. Grazing management in this localized area does not conform with Standard 1, specifically, guideline 1 and 2, the amount and distribution of ground cover is limited and compaction exceeds capacity for the landform.

A dry, intermittent, tributary with its confluence on the downstream end of the public lands also shows signs of past gullying, soil compaction, and heavy use. However, the sagebrush that is growing on the eroded banks and within the dry channel indicates that recovery has been taking place for many years, maybe decades. The gullies appear to have developed as a result of a past base-level fall and moved their way to the top of the tributary watershed. This sediment may not have impacted the small reach of stream within BLM lands, but may have had a substantial impact to Sinker Creek downstream.

Standard 4 – Native Plant Communities

Overview

Upland areas in Pastures 2-5 are expected (based on reference conditions) to be dominated by salt desert shrubs, Indian ricegrass, and Thurber's needlegrass, but have lost the large bunchgrass component. Pasture 6 is close to expected conditions of low sagebrush with Idaho fescue or bluebunch wheatgrass.

Evaluation:

Information sources to evaluate Standard 4 include the 2003 Assessment and Determination, 2012 Rangeland Indicators, sage-grouse habitat assessments, existing vegetation mapping, NAIP photos, Riparian/Wildlife Field Visit Report, BLM noxious weed GIS layer, and utilization. Indicators to evaluate the Standard include large bunchgrass abundance and seed production, native forb diversity and abundance, shrub diversity and cover, ground cover by basal perennial vegetation and biological soil crusts, and the extent and cover of invasive plants, all as compared to reference conditions described in the ecological site descriptions. Significant progress toward meeting the Standard would be indicated by an increase in some or all of these indicators, without an increase in bare ground, noxious weeds, and invasive annuals.

The 2003 Assessment and Determination were based on two 2002 Rangeland Indicators. In Pasture 5, the Rangeland Indicators were rated as a moderate to extreme departure from reference conditions due to a reduction in native forbs and large bunchgrasses, and an increase in shadscale, Sandberg bluegrass, cheatgrass, halogeton, clasping pepperweed, gravel, and pedestals. Squirreltail was limited and of low vigor. In Pasture 6, the 2002 Rangeland Indicators were within an acceptable range of similarity to the reference site.

In 2012, two Rangeland Indicators were conducted. In Pasture 5, biotic integrity was moderately departed from reference conditions, based on the loss of large bunchgrasses which have been replaced by Sandberg bluegrass, some reduction in forbs and biological crusts, and extensive patches of invasive plants (cheatgrass, clasping pepperweed, halogeton, and flixweed). In Pasture 6, the low sagebrush plant community was nearly intact, with only a slight reduction in large bunchgrasses, some small patches of cheatgrass, and juniper cover slightly higher than expected. Bluebunch wheatgrass was subdominant with Sandberg bluegrass and low sagebrush on the south-facing slopes, while Idaho fescue was subdominant on the north-facing slopes. Native forb diversity was high, and biological soil crusts (mostly soil moss) were comparable to reference conditions. In both pastures, seed head production was as expected for climatic conditions.

Sage-grouse habitat assessment transects were done in Pastures 5 and 6 in 2012, and the plant community data corroborate the biotic integrity conditions from the Rangeland Indicators. In Pasture 5, the shrub canopy cover transect measured 12% cover for Wyoming sagebrush, 8% for shadscale, and 2% for spiny hopsage. Native grass and forb diversity was low (2 species). Ground cover was mostly bare ground (40%) or non-persistent litter (36%; including cheatgrass and other annuals), with 12% basal perennial vegetation (Sandberg bluegrass), 6% embedded litter, 4% rock, and 2% moss. This indicates that shrub cover is close to reference conditions, but large bunchgrasses are lacking, biological soil crusts are reduced, and cheatgrass and bare ground are higher than expected. In Pasture 6, shrub canopy cover was 14% low sagebrush and 8% Wyoming sagebrush. Native grass and forb diversity was moderate (7 species). Ground cover in Pasture 6 was mostly rock/bedrock (34%) or non-persistent litter (32%, but of shrub and

perennial grass leaves, not cheatgrass at this site), with 20% basal perennial vegetation (Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, and lupine), 10% moss and lichen, and 4% embedded vegetation; no bare ground was recorded on the transect. These cover figures indicate current conditions are close to reference conditions for the ecological site in this pasture.

Little information is available on current conditions of public lands in Pastures 2-4. Vegetation mapping and NAIP imagery indicate mostly shrub-dominated (sagebrush or salt desert shrub) vegetation, with some agriculture (hay fields or irrigated pasture in valley bottoms) or weedy annual plant areas. Photos from the May 2013 Riparian/Wildlife Field Visit Report from uplands in Pasture 3 show a sparse shrub overstory and highly depleted understory, with heavy livestock use (including no visible seed heads). Conditions in Pasture 2 are likely to be similar to those in Pasture 5 because they are both Calcareous Loam ecological sites which have mostly dormant season use.

Few noxious weeds are mapped on public lands in the allotment, and most infestations were chemically treated at the time of the record.

Noxious Weeds Recorded in the Joyce FFR Allotment

Pasture	Weed and Number of Infestations
2	Russian knapweed – 1
3	Russian olive – 1 Scotch thistle – 1
5	Whitetop – 1
6	Scotch thistle - 2

Very little utilization information is available. Utilization in Pasture 6 in November 2012 noted no apparent use, and utilization in Pasture 5 in 2011 found 3% utilization of Indian ricegrass; no other utilization data is available.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

Joyce FFR Pastures 2-5 are not meeting Standard 4, as shown by the data discussed above for these specific indicators:

- Large bunchgrass abundance has been highly reduced in plant communities where those grasses (Indian ricegrass and Thurber’s needlegrass) are expected to be sub-dominant with shrubs. These grasses have been replaced by Sandberg bluegrass (a small bunchgrass) or cheatgrass (an annual invasive grass).
- Native forb abundance and diversity has been reduced compared to reference conditions.
- Basal perennial vegetation and biological soil crusts have substantially lower cover than expected under reference conditions.
- There are extensive patches of invasive plants.

No indication of significant progress in native plant community health is apparent. The salt desert shrub component appears close to reference conditions.

Standard 4 is being met in Joyce FFR Pasture 6, as the indicators (large bunchgrasses, native forbs, shrubs, perennial basal vegetation, biological soil crusts, and invasive plants) are all within expected ranges for the ecological sites. The low sagebrush native plant community is only slightly departed from reference conditions and ecological processes appear to be intact.

Determination:

Determination Finding: The Joyce FFR Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management**
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors.**
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

The overall allotment determination call is based on conditions in the preponderance of acres and pastures in the allotment, because the largest blocks of public land and four of the five pastures are either meeting Standard 4 or current livestock grazing is not a causal factor for not meeting the Standard. However, in Pasture 3, which makes up 4% of the public acres in the allotment, current livestock management is a causal factor for not meeting Standard 4, as discussed below.

Idaho Guidelines for Livestock Grazing Management that relate to Standard 4 include:

- 1 – Use grazing management practices to maintain or promote significant progress toward adequate amounts of ground cover (determined on an ecological site basis) to support infiltration, maintain soil moisture storage, and stabilize soils.
- 4 - Implement grazing management practices that provide periodic rest or deferment during critical growth stages.
- 9 -Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired plants.
- 12 - Apply grazing management practices that maintain or promote the physical and biological conditions necessary to sustain native plant populations.

Standard 4 is not being met in Pastures 2, 4, and 5. Current management is suitable for maintaining the altered plant community (existing Sandberg bluegrass and limited native forbs and large bunchgrasses). Winter use (Pasture 2) or fall use (Pasture 5) pastures do not have critical growing period use. Short-duration spring use provides the opportunity for regrowth (Pasture 4). Grazing management conforms with Guidelines in these pastures because regular deferment during the critical growing season is provided (Pastures 2 and 5). The opportunity for growth or regrowth during most of the growing season is suitable to maintain plant vigor and the physical and biological conditions necessary to sustain native plant populations.

Significant causal factors for not meeting Standard 4 in Pastures 2, 4, and 5 include historic grazing practices, which have eliminated the large bunchgrasses and allowed invasive weeds to gain a foothold and spread. Historic grazing (over 20 years ago) presumably included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses and more bare ground conducive for invasive annual grass establishment. No change in current grazing management would bring back the large bunchgrasses without providing for an adequate seed source.

Standard 4 is being met in Pasture 6, which makes up 23% of the public land acres in the allotment. Livestock grazing management conforms with the Guidelines in this pasture because use includes growing season rest every other year, and light utilization in use years. This management provides for periodic rest, leading to adequate plant vigor and the physical and biological conditions necessary to sustain the native plant community.

Standard 4 is not being met in Pasture 3. Current management is a significant causal factor, as it is not suitable to maintain what little perennial vegetation exists because livestock use the pasture year-long, including during the critical growing period, with a high level of use, as shown by the lack of seed heads. Thus, in this pasture, Guidelines 1, 4, 9, and 12 are out of conformance because periodic rest or deferment is not provided, plant vigor and reproduction are compromised by the intensity of use, and insufficient ground cover is available to provide erosion control and nutrient cycling under current grazing management. Public lands in this pasture make up 11% of the total acres in the pasture, and about 4% of the public land in the allotment. Because of the small proportion of public (versus private) land in the pasture, and the very small proportion of the allotment this pasture comprises, this pasture is not driving the determination call for the allotment as a whole.

Other than in Pasture 6, the native plant community has been highly degraded by the loss of large bunchgrasses and soil crusts and the presence of invasive plants, resulting in altered structure and ecological function. Because of those changes, a threshold has been passed such that making significant progress toward restoring the plant community cannot occur by changing grazing management alone. Substantial seed application, weed control, and time for soil crust recovery would be required.

Standard 5 – Seedings

Not Applicable

Standard 6 – Exotic Plant Communities, Other than Seedings

Not Applicable

Standard 7 – Water Quality

Not Applicable

Overview

Streams with designated beneficial uses are addressed under the Idaho Administrative Procedures Act 16.01.02.140. Sinker Creek is in the Mid-Snake River/Succor Creek sub-basin (hydrologic unit number 17050103). Idaho Department of Environmental Quality (IDEQ) identified Sinker Creek as water quality limited due to flow alteration, sediment, and temperature, and total maximum daily loads (TMDLs) were developed for sediment and temperature. Designated uses for Sinker Creek include cold water aquatic life, salmonid spawning, and primary contact recreation.

Refer to discussion for Standards 2 and 3.

Standard 8 – Threatened and Endangered Plants and Animals

Botany

Overview

Five species of special status plants are reported in Pastures 5 and 6 of the Joyce FFR Allotment; no occurrences are documented in the other pastures. Two species are spring/early summer annuals, and the other three are perennials that flower in late spring to early summer. The annuals white-margined wax plant and rigid threadbush normally germinate in late March to April, and flower and set seed in May and June. Snake River milkvetch and Malheur cryptantha, which generally grow at lower elevations, normally dry up and go dormant by mid-summer, while stiff milkvetch (in somewhat higher elevation habitat) may remain green throughout the summer.

Special Status Plant Species on Public Lands in the Joyce FFR Allotment

Species	Life Form	Habitat	Pasture
White-margined wax plant <i>Glyptopleura marginata</i>	Annual	Open sandy, gravelly, or ashy soil	5
Rigid threadbush <i>Nemacladus rigidus</i>	Annual	Sandy or cindery soil	5
Snake River milkvetch <i>Astragalus purshii</i> var. <i>ophiogenes</i>	Perennial	Sand or gravel on bluffs, dunes, or ash beds	5
Malheur cryptantha <i>Cryptantha propria</i>	Perennial	Rocky, gravelly, or clay outcrops	5
Stiff milkvetch <i>Astragalus conjunctus</i>	Perennial	Rocky hillsides, ridges, or benches with sagebrush/bunchgrasses	6

Evaluation

Information used in evaluating this Standard includes IFWIS data, BLM special status plant occurrence records (2012 and 2013), and the 2013 Botany Field Visit Report. Indicators used to evaluate the Standard are the vigor and health of plants, habitat quality relating to invasive plants, and the timing and degree of physical disturbance to plants and habitats.

Stiff milkvetch was discovered in Pasture 6 in 2012. White-margined wax plant and rigid threadbush were discovered in 1996, and occurrences have not been seen since; occurrence areas for these annuals were visited in April 2013, and none of these plants was seen, probably because this dry year is not favorable for annuals. (In 2003, the rigid threadbush occurrence area was revisited, but no plants were found.) The possible occurrence of Snake River milkvetch in this allotment is based on a collection from 1980 with only general location information; plants that are probably this variety were seen in 2013. Malheur cryptantha was first recorded in the allotment in 2013.

The stiff milkvetch occurrence appeared healthy in 2012 and is in a mostly intact plant community, so current grazing management appears suitable for this occurrence.

Habitat areas for white-margined wax plant and rigid threadbush in the allotment visited in 2013 appeared suitable for these species. There was little or no grazing or vehicle disturbance. Although cheatgrass was present, it did not appear to be significantly limiting the specific habitat.

Malheur cryptantha and Snake River milkvetch occurrences also appeared healthy in 2013, with minimal cattle, vehicle, or cheatgrass disturbance, although cheatgrass was thick in many surrounding loamy areas.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

The Joyce FFR Allotment is meeting Standard 8 for Special Status Plants, as shown by the following indicators, based on the above information. Occurrences of the stiff milkvetch, Malheur cryptantha, and Snake River milkvetch were healthy and vigorous in 2012 and 2013 observations. Habitat for stiff milkvetch had no invasive plants noted. Although surrounding areas have cheatgrass, occurrences for other special status plants (Pasture 5) have little cheatgrass impact to specific habitat areas. All occurrences have little or no physical disturbance during the growing season.

Determination:

Determination Finding: The Joyce FFR Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale:

Guidelines for livestock management that relate to Standard 8 for Special Status Plants include:

- Implement grazing management practices that provide periodic rest or deferment during critical growth stages.
- Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of these plants.
- Apply grazing management practices that maintain or promote the physical and biological conditions necessary to sustain native plant populations.

Current livestock management conforms to these guidelines for livestock management because use is primarily during the dormant season, providing for regular deferment during the growing season (Pasture 5). Pasture 6 (the stiff milkvetch occurrence) has growing season rest every other year, providing periodic rest. Also, the level of use (based on utilization for Pasture 6 and habitat observations in Pasture 5) is sufficient to maintain adequate vigor for seed production, dispersal, and seedling survival of special status plants. This timing and level of use are suitable to maintain the physical and biological conditions necessary for these special status plant populations, as discussed below for each species.

The occurrence of stiff milkvetch in Pasture 6 is healthy. Light spring use, alternated with rest, is suitable to maintain health, vigor, and habitat for this species.

Habitat for special status plants at occurrence areas in Pasture 5 also is stable and mostly undisturbed, with very little sign of cattle disturbance. The fall use in this pasture has no effect on annual special status plants (white-margined wax plant and rigid threadbush) because these plants have completed their yearly life cycle by that time. The observed low level of dormant-season use within habitat for the perennial special status species (Malheur cryptantha and Snake River milkvetch) results in negligible effects to these plants.

Wildlife

Overview

Many wildlife species utilize a variety of habitats in the Fossil Butte 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 the 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 is not discussed here in the same depth as species upon which the BLM places management emphasis.

The BLM, U. S. Fish and Wildlife Service (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, 2008), 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 Joyce FFR Allotment and whose habitat may be affected by grazing activities.

One invertebrate species is listed as endangered under the Endangered Species Act of 1973, as amended (ESA). Two birds and one amphibian species are listed as candidate species under the ESA. Seven mammals, 13 birds, three reptiles, three amphibians, two fish, and one invertebrate species with special status potentially occur within the Fossil Butte Group allotments and may be affected by grazing activities. See Appendix D, Special Status Wildlife Species, in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA for a list of special status wildlife species, their status, and occurrence potential within the Joyce FFR Allotment.

With the exception of a few well-studied species, current occurrence and population data for most special status animal species within the Fossil Butte 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 Snake River physa, greater sage-grouse, and Columbia River redband trout. Other special status animal species, migratory birds, raptors, and species of socio-economic importance (e.g., big game) and their habitats will be included in discussions in the broader context of upland and riparian habitat conditions.

Although no federally listed threatened or endangered species or designated critical habitat occurs within the Joyce FFR Allotment, the Snake River physa snail (*Physa natricina*) is listed as endangered under the ESA and occurs in the Snake River downstream of the allotment. One ESA candidate species is known to occur within the allotment: the greater Sage-grouse (*Centrocercus urophasianus*).

Evaluation

Rangeland Health Standards (Standards) are interrelated, especially when addressing wildlife special status species requirements. Standards 1-7 provide the basis for healthy wildlife habitats that are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species. Indicators for Standard 8, Threatened and Endangered Animals include:

- Parameters described in the Idaho Water Quality Standards.
- Riparian/wetland vegetation with deep, strong, binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.
- Age class and structural diversity of plant species are appropriate for the site.
- Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.
- The diversity of native plant and animal communities are maintained.

- The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
- Noxious weeds are not increasing.

Evaluation:

Upland Wildlife Habitat

Previous 2003 Assessment

The 2003 Assessment was based on two 2002 Rangeland Indicators. In Pasture 5, the Rangeland Indicators were rated as a moderate to extreme departure from reference conditions due to a reduction in native forbs and large bunchgrasses, and an increase in shadscale, Sandberg bluegrass, cheatgrass, halogeton, clasping pepperweed, gravel, and pedestals. Squirreltail was limited and of low vigor. In Pasture 6, the 2002 Rangeland Indicators were within an acceptable range of similarity to the reference site

Current Assessment

In 2012, two Rangeland Indicators were conducted. In Pasture 5, biotic integrity was moderately departed from reference conditions, based on the loss of large bunchgrasses which have been replaced by Sandberg bluegrass, some reduction in forbs and biological crusts, and extensive patches of invasive plants (cheatgrass, clasping pepperweed, halogeton, and flixweed). In Pasture 6, the low sagebrush plant community was nearly intact, with only a slight reduction in large bunchgrasses, some small patches of cheatgrass, and juniper cover slightly higher than expected. Bluebunch wheatgrass was subdominant with Sandberg bluegrass and low sagebrush on the south-facing slopes, while Idaho fescue was subdominant on the north-facing slopes. Native forb diversity was high, and biological soil crusts (mostly soil moss) were comparable to reference conditions.

Little information is available on current conditions of public lands in Pastures 2-4. Vegetation mapping and NAIP imagery indicate mostly shrub-dominated (sagebrush or salt desert shrub) vegetation, with some agriculture (hay fields or irrigated pasture in valley bottoms) or weedy annual plant areas. Photos from the May 2013 Riparian/Wildlife Field Visit Report from uplands in Pasture 3 show a sparse shrub overstory and highly depleted understory, with heavy livestock use. Conditions in Pasture 2 are likely to be similar to those in Pasture 5 because they are both Calcareous Loam ecological sites which have mostly dormant season use.

Focal Wildlife Species

Greater Sage-grouse

Currently, suitable sage-grouse habitats in Pastures 2-5 are very limited or absent within the Joyce FFR allotment. As discussed previously, the shrub structure on public lands in these pastures is more or less intact, but large bunchgrasses have been lost and have been replaced by Sandberg bluegrass and/or cheatgrass. Pasture 6 is still providing suitable sage-grouse habitats as the low sagebrush native plant community is only slightly departed from reference conditions and ecological processes appear to be intact.

Based on an interim, updated (2012) version of the ISHPM completed by the Idaho Sage-grouse Advisory Committee (ISAC 2006), approximately 85% (1,442 acres) of public land within the

Joyce FFR Allotment is currently classified as key sage-grouse habitat, 0% (0 acres) is classified as perennial native and non-native grasslands with high restoration potential, and 0% (0 acres) is classified as conifer encroachment areas with high restoration potential (Table XX). The remaining 15% (255 acres) of the Joyce FFR Allotment is not considered sage-grouse habitat. Makela and Major (2012) identified approximately 0.05% (1 acre) of public lands within the Joyce FFR Allotment as PGH and 85% (1,443 acres) as PPH. The habitat identified as PPH was further classified as 100% (1,443 acres) sagebrush, 0% (0 acres) perennial grassland, and 0% (0 acres) conifer encroachment areas.

Sage-grouse habitat acreage on public lands within the Joyce FFR Allotment

Pasture	Idaho Sage-grouse Habitat Planning Map				PGH/PPH	
	Sagebrush	Perennial Grassland	Conifer Encroachment	Total	PGH	PPH
2	0	0	0	0	0	0
3	48	0	0	48	0	48
4	146	0	0	146	1	145
5	911	0	0	911	0	911
6	367	0	0	367	0	367

In 2012, BLM personnel conducted two sage-grouse habitat assessments within the Joyce FFR allotment. Habitat assessments indicate that the allotment is providing marginal (missing some necessary indicators) sage-grouse breeding and upland summer habitats in Pasture 5 due to a reduction in large stature perennial bunchgrasses, co-dominance of cheatgrass and Sandberg bluegrass in the understory, and low preferred forb abundance. However, habitat assessments indicate that Pasture 6 is providing suitable (necessary food/cover indicators are present) breeding and upland summer habitats. Habitat assessments also indicate that the allotment is providing suitable sage-grouse winter habitat at all sites assessed.

2012 Joyce FFR allotment sage-grouse habitat assessment seasonal habitat summary

Site ID	Ecological Site	Sage-grouse Seasonal Habitat Type		
		Breeding	Upland Summer	Winter
0487-1-04S02W15a-2012	Calcareous Loam 7-10"	Marginal	Marginal	Suitable
0487-2-05S02W09a-2012	Shallow Claypan 11-13"	Suitable	Suitable	Suitable

Evaluation Finding – Allotment is (check one)

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Upland Wildlife Habitat

The Joyce FFR Allotment is managed as a native plant community and Pastures 2-5 are not meeting Standard 4. Large stature perennial bunchgrasses have been reduced or lost across these pastures and have been replaced by Sandberg bluegrass and/or cheatgrass. This vegetation

community shift reduces effective nesting, escape, hiding, travel, and foraging cover values for wildlife species associated with sagebrush steppe communities. This allotment is failing to provide suitable upland habitat conditions for sagebrush steppe-associated wildlife, including sage-grouse, and therefore is not meeting Standard 8. No indication of significant progress in native plant community health is apparent, so there is no indication of progress being made toward meeting Standard 8.

Standard 4 is being met in Joyce FFR Pasture 6, as the indicators (large bunchgrasses, native forbs, shrubs, perennial basal vegetation, biological soil crusts, and invasive plants) are all within expected ranges for the ecological sites. The low sagebrush native plant community is only slightly departed from reference conditions and ecological processes appear to be intact. Because Standard 4 is being met, it is expected that upland habitat composition and structure are meeting vegetation cover and forage needs of most sagebrush steppe-associated wildlife, including sage-grouse, and therefore is meeting Standard 8 in Pasture 6.

Determination:

Determination Finding: The Joyce FFR Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management**
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors**
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale

Upland Wildlife Habitat

The overall allotment determination is based on conditions in the preponderance of acres and pastures in the allotment, because the largest blocks of public land and four of the five pastures are either meeting Standard 8 or current livestock grazing is not a causal factor for not meeting the Standard. However, in Pasture 3, which makes up 4% of the public acres in the allotment, current livestock management is a causal factor for not meeting Standard 8.

Standard 8 is being met in Pasture 6, which makes up 23% of public land within the allotment. Current management is suitable for maintaining existing perennial vegetation because use includes growing season rest every other year, and light utilization in use years.

Standard 8 is not being met in Pastures 2, 4, and 5, which make up 73% of public lands within the allotment, and no significant progress in improving the health of upland wildlife habitat is indicated by available data. Current management is suitable for maintaining the altered plant community (existing Sandberg bluegrass and limited native forbs and large bunchgrasses). Winter use (Pasture 2) or fall use (Pasture 5) pastures do not have critical growing period use. Short-duration spring use provides the opportunity for regrowth (Pasture 4).

Significant causal factors for not meeting Standard 8 in Pastures 2, 4, and 5 include historic grazing practices, which have eliminated the large bunchgrasses and allowed invasive weeds to gain a foothold and spread. Historic grazing (over 20 years ago) presumably included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses and more bare ground conducive for invasive annual grass establishment.

The current grazing system in Pastures 2 and 4-6 conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 because the system:

- Provides periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate for site potential.
- Maintains or promotes the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.
- Maintains adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.
- Maintains or promotes the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.
- Minimizes adverse impacts due to management fencing in order to maintain habitat integrity and connectivity for native plants and animals.

Standard 8 is not being met in Pasture 3, which makes up 4% of public lands within the allotment. Current management is a significant causal factor, as it is not suitable to maintain existing perennial vegetation because livestock use the pasture year-long, including during the critical growing period.

The current grazing system in Pasture 3 does not conform with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 because the system:

- Does not provide periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate for site potential.
- Does not maintain or promote the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.
- Does not maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.
- Does not maintain or promote the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.

Evaluation:

Riparian Wildlife Habitat
Previous 2003 Assessment

The 2003 Assessment was based on one 2003 PFC, which rated the reach as properly functioning. Riparian areas along the reach were described as being near potential with diverse riparian vegetation adequate to protect streambanks and dissipate high flows. Cottonwoods were recorded as being present and noxious weeds were not documented along this reach.

Current Assessment

Riparian areas includes approximately 0.1 mile of Sinker Creek in Pasture 3. There are no known lentic sites on public lands within this allotment.

BLM considers the reach of Sinker Creek that occurs within the allotment as functional as is capable given the flow alteration upstream, within, and downstream of the reach. The natural stream characteristics associated with this reach cannot be achieved through a change in BLM management; therefore this reach is not assessed under Standards 2 and 3. However, enough controlled natural perennial flow (approximately 40%) reaches the original stream channel to support a riparian plant community consisting of mature woody vegetation with a herbaceous understory component, which could provide habitat for various riparian-obligate wildlife species. Therefore, this will be analyzed for riparian wildlife habitat under Standard 8.

One field visit to the reach was conducted by BLM personnel in 2013. The reach is bordered by private agricultural land to the north, west, and south. Impacts to this reach include agricultural use, multiple water diversions, and livestock grazing. The riparian area found on BLM lands that received annual flow consisted of stable banks, bankfull indicators, and woody and herbaceous riparian vegetation. Reach access to the floodplain was interrupted by water diversions and channel alterations upstream, within, and downstream of the reach. Livestock impacts to the riparian vegetation within the stream channel appeared minimal.

Designated uses for this reach of Sinker Creek include cold water aquatic life and primary contact recreation. IDEQ 305b list identified this reach of Sinker Creek as water quality limited and not fully supporting cold water aquatic life due to flow alteration, sediment, and water temperature. Total Maximum Daily Loads (TMDLs) were developed for sediment and temperature.

Focal Wildlife Species

Snake River physa

The recovery area for the species extends from Snake River RM 553 to Snake River RM 675. There are currently no planned conservation efforts that target the Snake River physa. The conservation needs to facilitate recovery of this species are to ensure that water quality and quantity, as well as habitat quality, are maintained within the Snake River to ensure Snake River physa can maintain viable populations. Water sources contributing to the quantity and quality of the Snake River (e.g., tributaries and aquifers) also need to be maintained, meeting the standards for cold-water biota and remaining free of contaminants and excessive nutrients. Snake River physa locations and potential habitat have been documented within the Snake River upstream, downstream, and immediately adjacent to portions of the Fossil Butte Group Allotments.

Based on the information discussed above, BLM has determined that permitted livestock grazing on the allotment does not contribute to excess sediment loads or increased water temperature in

Sinker Creek or the Snake River. Consequently, BLM has also determined that permitted livestock grazing on the Joyce FFR Allotment will not affect the Snake River physa or associated critical habitat.

Current grazing management is maintaining upland habitat conditions, adequate ground cover, and perennial vegetation necessary to prevent excess water runoff or sedimentation within the watershed. As discussed previously, livestock have limited access to the Snake River and consequently, have little effect on associated riparian areas, sediment loads, and channel morphology. Sinker Creek is rated as PFC and is limited by upstream water diversions; current livestock grazing does not appear to impact this stream. Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing riparian vegetation, beaver ponds, and upstream water diversions. Field observations confirmed minimal connectivity between Sinker Creek and the Snake River.

Columbia River Redband Trout

Occurrence information available from IDFG documents redband trout in the middle and lower reaches of Sinker Creek. IDEQ identified the middle and lower reaches of Sinker Creek as not fully supporting cold water aquatic life and salmonid spawning beneficial uses. While Sinker Creek is listed for salmonid spawning, there is no evidence of redband spawning in the reach found within the Joyce FFR Allotment. Young-of-the-year trout have not been found below Hulet Reservoir in past electrofishing efforts. This is likely due to a combination of factors relating to flow alteration, lack of spawning habitat due to stream characteristics, and barriers to fish migration due to Hulet Reservoir. IDFG occurrence data document redbands higher in the watershed above Hulet Reservoir.

IDFG has determined that the listed section of Sinker Creek has not historically been, nor is currently, spawning habitat due to gradient and temperature regimes. IDFG further states that this section of Sinker Creek has historically served primarily as a migratory corridor. Hulet reservoir and the various water diversions also serve as barriers to fish migration to the downstream sections for spawning. The storage of water in the reservoir as well as the de-watering of the stream result in higher water temperatures, but it is unlikely that changes in management activities would result in lowering water temperatures to salmonid spawning criteria due to the overriding effect of high ambient air temperatures and flow alteration activities.

Because salmonid spawning does not occur in the middle or lower reach of Sinker Creek, the temperature standard for salmonid spawning will not be applied; instead the cold water temperature standard will apply to that reach throughout the year. The middle reach of Sinker Creek has shown temperature violations and thus, cold water aquatic life uses are not currently fully supported.

Evaluation Finding – Allotment is (check one)

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Riparian Wildlife Habitat

As discussed above, water quality parameters are not being met and cold water aquatic life is not fully supported in Sinker Creek due to flow alteration, sediment, and water temperature. Excess flow alteration, sediment, and water temperature levels reduce habitat quality for redband trout and other riparian obligate wildlife species and could potentially impact the Snake River physa. Because these water quality parameters are not being met, the allotment is not meeting Standard 8 for riparian wildlife habitat. No indication of significant progress in riparian plant community health or water quality parameters is apparent, so there is no indication of progress being made toward meeting Standard 8.

Focal Wildlife Species

Snake River physa

BLM has determined that permitted livestock grazing on the Joyce FFR Allotment will not affect the Snake River physa or associated critical habitat.

Columbia River Redband Trout

Evaluation of Sinker Creek identified that water quality parameters are not being met within the Joyce FFR Allotment. 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 flow. Because these in-stream and near-stream habitat characteristics are absent or limited due to upstream water diversions, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout.

Determination:

Determination Finding: The Joyce FFR Allotment is:

- Meeting the Standard
- Not meeting the Standard, but making significant progress toward meeting
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s)

Determination Rationale

Riparian Wildlife Habitat

Standard 8 is not being met in riparian areas of the Joyce FFR Allotment and there is no indication of progress being made toward meeting Standard 8, as described above. Current livestock grazing management practices are not a significant causal factor for not meeting Standard 8 because the majority of livestock use appears to occur on adjacent private agriculture

lands and BLM uplands. Little to no impact to riparian areas from livestock grazing was observed during the 2013 field visit.

A significant causal factor for not meeting Standard 8 is that water quality parameters are not being met and cold water aquatic life is not fully supported in Sinker Creek due to flow alteration, sediment levels, and water temperature. Sinker Creek is rated as PFC but is limited by water diversions on private land along the majority of its length. Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing riparian vegetation, beaver ponds, and water diversions. The storage of water in Hulet Reservoir, when combined with de-watering caused by existing water diversions, are the primary contributor to any failure to meet water temperature parameters in Sinker Creek.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 in riparian habitats because the system:

- Uses grazing management practices to maintain adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils.
- Maintains or promotes grazing management practices that provide sufficient residual vegetation to improve, restore, or maintain healthy riparian-wetland functions and structure for energy dissipation, sediment capture, ground water recharge, streambank stability, and wildlife habitat appropriate to site potential.
- Maintains or promotes appropriate stream channel and streambank morphology and function.
- Implements grazing management practices that provide for compliance with the Idaho Water Quality Standards.
- Uses grazing management practices developed in recovery plans, conservation agreements and ESA Section 7 consultations to maintain or improve habitat for federal listed threatened, endangered, and sensitive plants and animals.

Summary of Evaluation and Determination

Check one box for each	Standards							
	1	2	3	4	5	6	7	8
	Watersheds	Riparian and Wetlands	Stream Channel and Floodplain	Native Plant Communities	Seedings	Exotic Plant Communities (not seeded)	Water Quality	Threatened and Endangered Plants and Animals
Meeting the Standard								X Plants
Not Meeting the Standard, but making significant progress toward								
Not Meeting the Standard; current livestock grazing practices are not significant factors	X			X				X Upland and Riparian Animals
Not Meeting the Standard; current								

	Standards							
Check one box for each	1	2	3	4	5	6	7	8
livestock grazing practices are a significant factor								
Not Meeting the Standard; cause not determined								
Standard does not apply		X	X		X	X	X	
Guidelines for Livestock Grazing								
Conforms with Guidelines for Livestock Grazing Management?							YES	
If no, list the Guidelines not in conformance:								

Field Manager's Signature and Date

Evaluation and Determination
Montini FFR Allotment
2013

Interdisciplinary Team:

Rich Jackson – Hydrologist
TJ Clifford – Hydrologist
Brad Jost – Wildlife Biologist
Beth Corbin – Botanist/Ecologist
Melissa Cameron – Rangeland Management Specialist

Background:

This Evaluation and Determination covers the time period between 2007 and 2013, since the last determination.

The Montini FFR Allotment is located in Owyhee County, Idaho approximately 9.0 miles east of Murphy, Idaho. Elevations within the allotment range between 2,300 and 2,700 feet. The Snake River borders the northeast portion of the allotment (Figure 1).

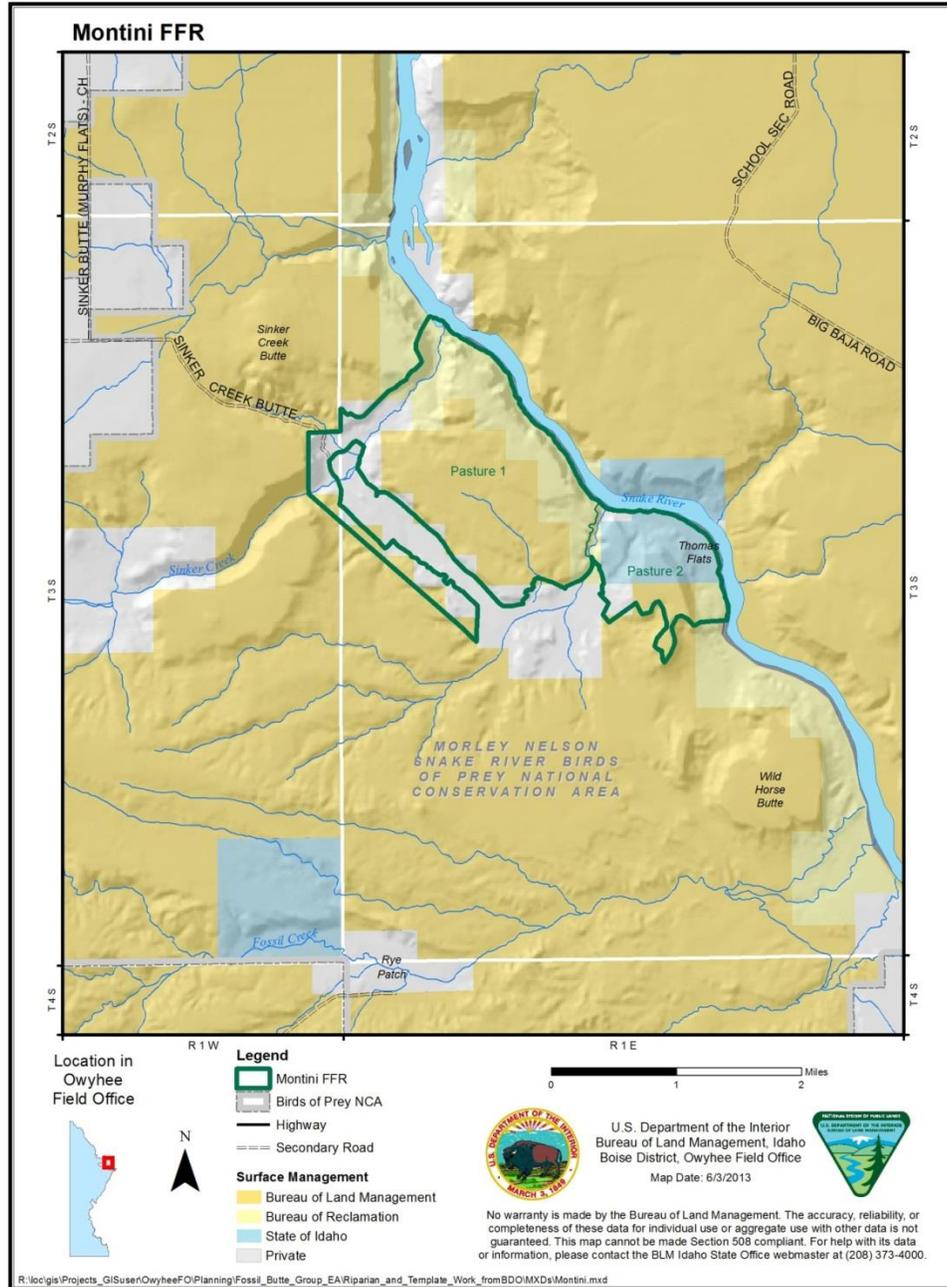


Figure 1 – General Location of the Montini FFR Allotment

The allotment is currently managed as two pastures which are used concurrently. The current permit authorizes 140 animal unit months (AUMs) of authorized livestock use on 1,679 of public lands for 38 cattle. The season of use is at the permittee’s discretion, but has occurred between 1/10 and 4/30 on all reported actual use forms since 2003. Elevations range between 2,300 feet in the northern and western portions of the allotment along the Snake River to 2,800 feet in the adjacent uplands. Landforms within the allotment are generally bottomlands and benches with deep to very deep sand and sandy loam soils, and shallow soil cap rock areas. Annual precipitation ranged from 4.04 to 12.56 inches at the Swan Falls Power House collection site, located approximately 5 miles west of the allotment boundary, from 1935 to 2012.

The Montini FFR Allotment is primarily made up of a loamy 8-12" Wyoming sagebrush/bluebunch wheatgrass – Thurber’s needlegrass ecological site, with sandy loam, calcareous loam and saline bottom inclusions. The expected vegetation on the loamy/sandy loam soils (defined by reference conditions) is Wyoming sagebrush co-dominant with bluebunch wheatgrass and Thurber’s needlegrass. The expected vegetation types on calcareous loam are salt desert shrubs co-dominant with Indian ricegrass and Thurber’s needlegrass, and on saline bottom areas is greasewood with basin wildrye. There are no known wildfires documented with the allotment boundary (Figure 2).

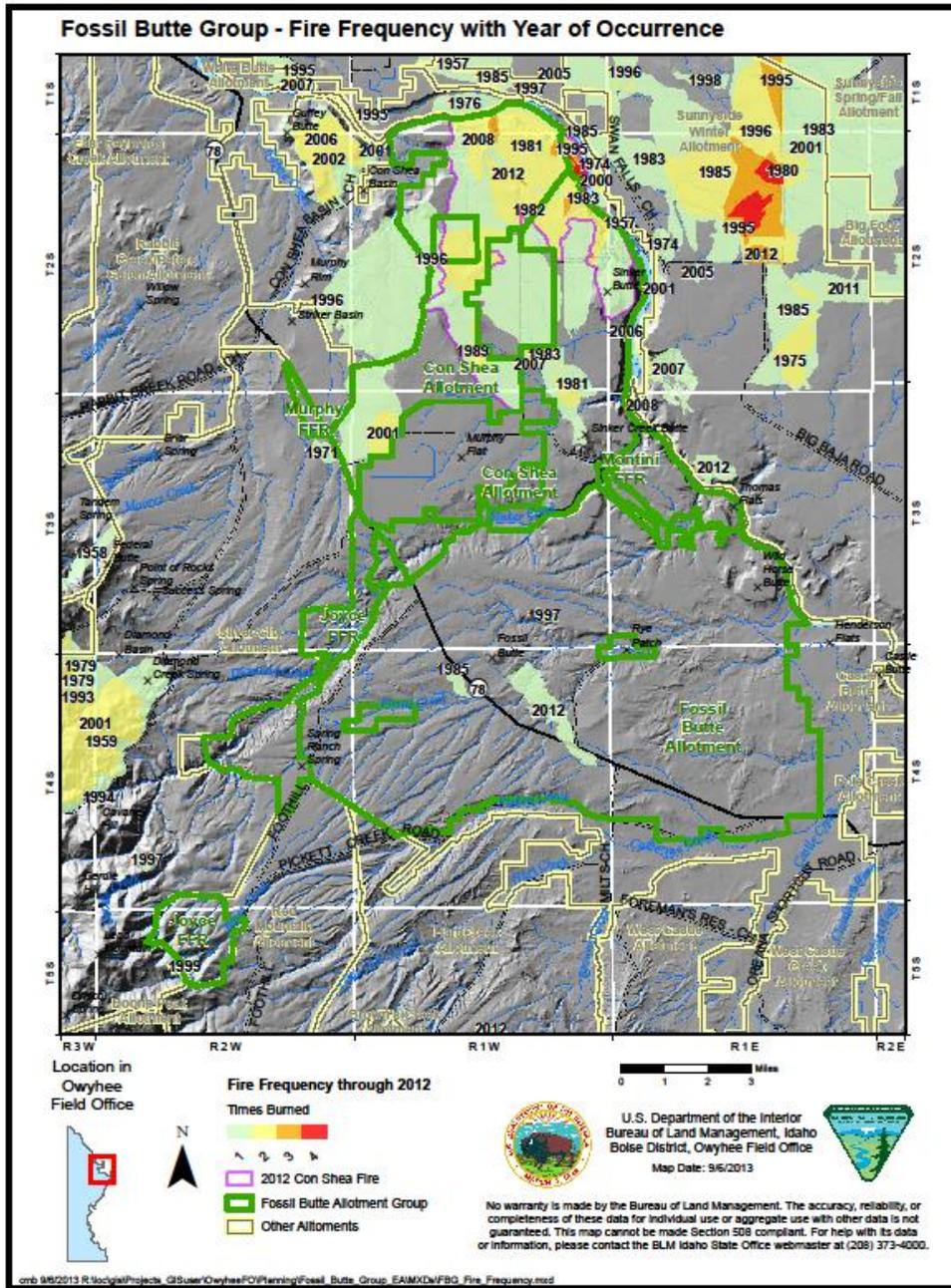


Figure 2 – Fire Frequency with Year of Occurrence within Fossil Butte Group Allotments

A Rangeland Health Assessment (Assessment) and Evaluation and Determination was completed for the Montini FFR Allotment in 2007. In the spring of 2012, the Interdisciplinary Team (IDT) determined that the 2007 Evaluation and Determination should be updated to more accurately reflect conditions on the ground. Information gathered since the 2007 Assessment is discussed in the Affected Environment sections for the applicable resource for each Standard in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA. This report uses that information, and constitutes a new Evaluation and Determination for the Fossil Butte Allotment based on conditions through 2013. Based on discussion with the permittee, the southern allotment boundary has been adjusted (compared to the 2007 Assessment/Evaluation/Determination) to reflect on-the-ground natural boundaries and fences. This resulted in roughly 800 acres of public lands previously mapped within the Montini FFR Allotment now mapped within the Fossil Butte Allotment.

Data sources used for this Evaluation/Determination are as shown in the following table. Specifics are discussed under the applicable Standard. See Figures 3 and 4 for monitoring locations for Rangeland Indicators, Riparian Assessments, and Utilization.

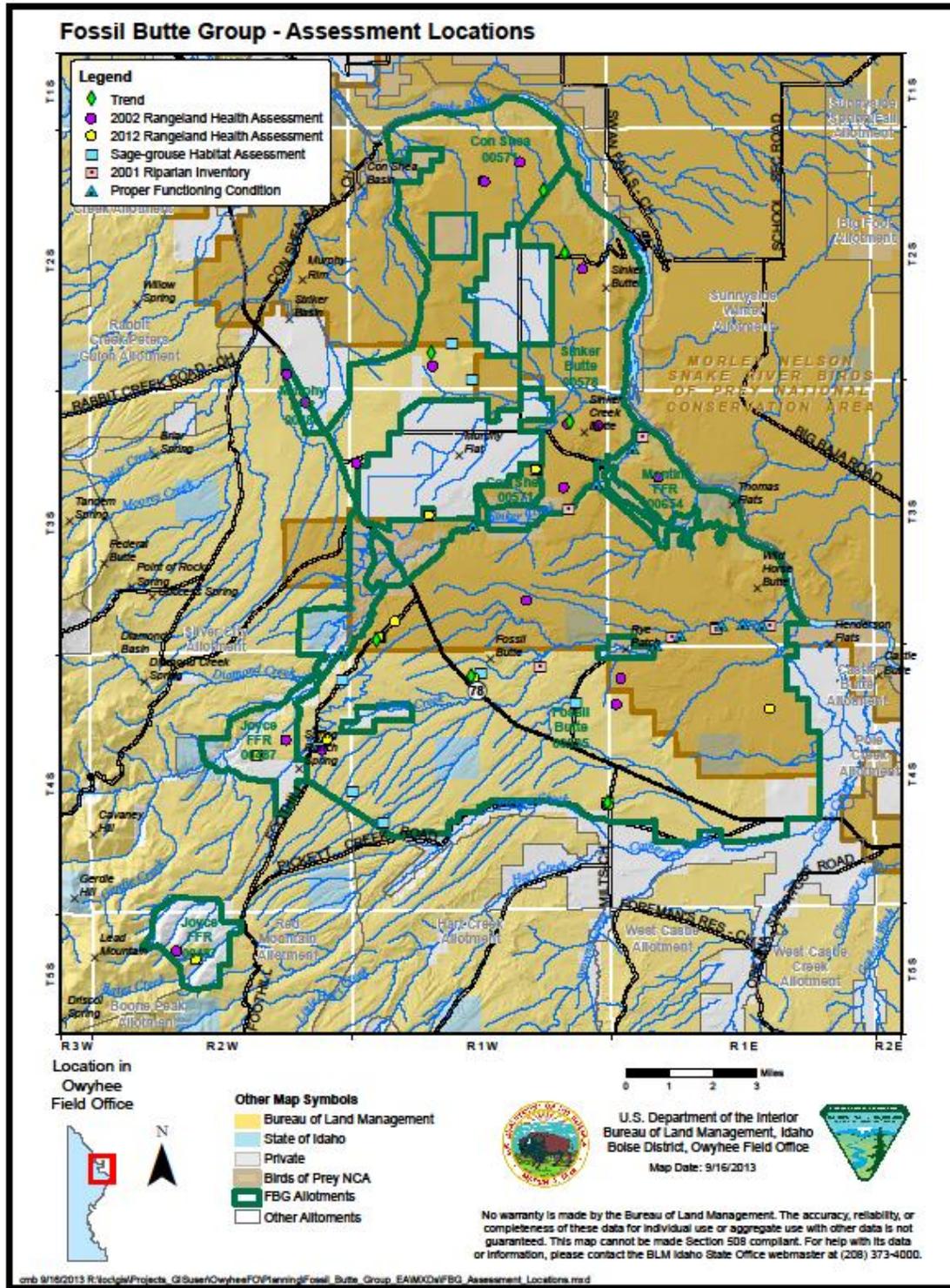


Figure 3 – Monitoring Locations within the Fossil Butte Group Allotments

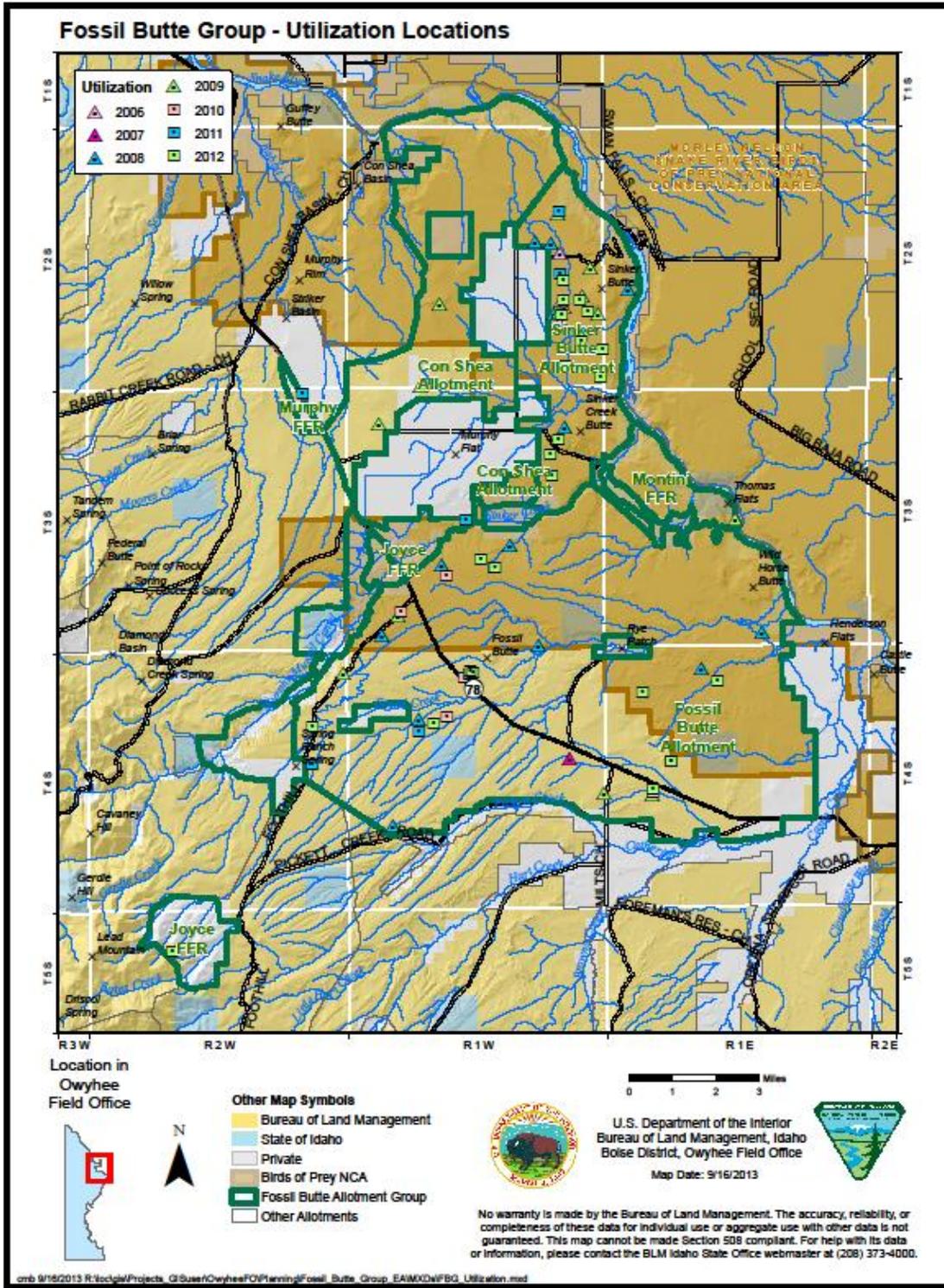


Figure 4 – Utilization Locations within the Fossil Butte Group Allotments

Data Sources for Evaluation and Determination

Information Type	Date(s)	Location of Information
Previous Assessment and Determination	2007	Owyhee Field Office Files

Information Type	Date(s)	Location of Information
Vegetation and Wildlife Specialist Reports for the Fossil Butte Group	2013	Owyhee Field Office Files
Ecological Site Descriptions (Natural Resources Conservation Service Draft Documents)	2005	Owyhee Field Office Files
Sinker Creek Riparian Inventory and Proper Functioning Condition (PFC) Assessments	2001 and 2012	Owyhee Field Office Files
Montini FFR Allotment Actual Use	2007-2012	Owyhee Field Office Files; Chapter 2 of Fossil Butte Group EA
Montini FFR Allotment Utilization	2007, 2010	Owyhee Field Office Files; Appendix D of Fossil Butte Group EA
Botany, Riparian, and Wildlife Field Visit Reports	2013	Owyhee Field Office Files
Idaho Department of Fish and Game's (IDFG) Idaho Fish and Wildlife Information System (IFWIS)	As of 2013	Owyhee Field Office Geographic Information System (GIS) Files
Ecological Site mapping, Soil Survey, Existing vegetation mapping, and Noxious Weed locations	As of 2013	Owyhee Field Office GIS Files
Idaho Department of Environmental Quality (IDEQ) Mid Snake River/Succor Creek Subbasin Assessment and Total Maximum Daily Load Report	2003	Owyhee Field Office Files
Wildlife habitat mapping, species occurrence locations, wildlife monitoring survey locations	As of 2013	Owyhee Field Office GIS Files

Note that much of this information is primarily qualitative rather than quantitative, and ecological site descriptions do not include specific figures for some important elements (such as biological soil crust cover), so the evaluation uses both numerical and non-numerical comparative terms.

Standard 1 – Watersheds

Overview

A majority of the soils occur on structural benches, fan piedmonts, fan terraces, and foothills. The main body of soils formed in mixed alluvium and loess derived predominantly from lacustrine deposits and basalt. Parent material is composed primarily of volcanic ash, mixed alluvium, and loess. In general, the soils are shallow to deep (mostly deep) and well drained. Surface textures are predominantly silty loams and sandy loams. Soils in this allotment have weak to moderate subsurface development. The main soils present in the area include: Typic

Torrripsamments-Typic Torriorthents, Xeric Torriorthents, Xerollic Haplargids, and Bruncan series complexes.

Evaluation:

The 2007 Assessment (based on one 2002 field evaluation of Interagency Technical Reference 1734-6 Interpreting Indicators of Rangeland Health [Rangeland Indicators]), 2007 Evaluation and Determination, 2007 and 2010 utilization, and photographs were used to evaluate the watershed standard. Indicators for evaluation of the standard are: 1. The amount and distribution of ground cover, including litter, appropriate for site stability; and 2. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing, and compaction layers below the soil surface is minimal for soil type and landform.

The 2002 evaluation of Rangeland Indicators data for water flow patterns and the composition and distribution of the plant community relative to infiltration and runoff rated in the moderate and moderate to extreme ranges of departure from what would be expected for the ecological site. The composition/distribution of the plant community, the capacity to resist soil erosion, and water flow patterns all indicated watershed related issues were present. These issues were compromising the ability of the watershed to function adequately and maintain the appropriate perennial plant community. Water flow patterns were observed to be longer than expected, interconnected, and wider than deep with signs of instability, such as deposition. The loss of the larger bunchgrasses in the plant community and the subsequent replacement by cheatgrass, an invasive exotic annual grass, compromises the ability of the area to adequately retain moisture.

Compared to the observations described during the 2002 evaluations, the 2007 evaluations indicate that the sites have stabilized or maintained conditions. Utilization data and photographs identify that shrub cover is maintained (similar to what was described in the 2007 Evaluation) and there appears to be an adequate amount of residual litter for site protection and to replenish soil nutrients, even though the majority of this cover is provided by annual exotics.

Evaluation Finding – Allotment is (check one):

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

This is an altered site that is being assessed under Standard 6 (exotic plant communities, other than seedings) instead of Standard 4 (native plant communities) due to the density of cheatgrass and the lack of other grasses. Therefore the site potential has changed, and deep-rooted perennial bunchgrasses are no longer part of the system. Evaluation of the altered watershed condition is now based on soil protection indicated by adequate litter and standing dead plant material. Shrubs are on site and healthy, and cheatgrass is at densities and at apparent heights to protect the soil surface from erosion. Indicators of accelerated soil erosion, while observed in 2007, had not increased compared with observations from 2002.

Determination:

Determination Finding: The Montini FFR Allotment is (check one or more):

Meeting the Standard

Not Meeting the Standard, but making significant progress toward

Conforms with Guidelines for Livestock Grazing Management

Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors

Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors

Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

The current season (late winter/early spring) and level of use (based on 2007 and 2010 utilization of 7-9% on cheatgrass) are appropriate to maintain existing plant communities and provide adequate soil cover for site protection and replenishment of soil nutrients. Although the permit allows use at any time of year, the history of actual use shows a fairly consistent pattern of late winter/early spring use, which provides regular deferment during the majority of the critical growing season. Thus, current management conforms with livestock grazing guidelines appropriate for the mostly non-native plant community. The observed maintenance of indicators associated with accelerated soil erosion (rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing, and compaction layers) led to the determination that the watershed is meeting the standard even though site potential has changed and is now dominated by exotic plant communities, other than seedings.

Standard 2 – Riparian Areas and Wetlands and

Standard 3 – Stream Channel/Floodplain

Overview

Riparian areas include approximately 4 miles of the Snake River and 0.75 miles of Sinker Creek. The Snake River flows east to west and is the north-east border of the Montini FFR Allotment. Livestock have limited access to the Snake River due to bluffs and steep terrain. Consequently, livestock have little effect on riparian and channel morphology and the Snake River is not analyzed for Standards 2 and 3.

Sinker Creek is a perennial stream that flows west to east into the Snake River, and is the border between the Sinker Butte and Montini FFR allotments. Sinker Creek also has diversions approximately 5.5 miles upstream on private lands that affect stream channel and floodplain functionality along the 0.75-mile reach.

No known lentic areas occur in the allotment.

Evaluation:

Sinker Creek is geographically confined by a channel approximately 150 feet wide until it nears the mouth of the Snake River, then the channel opens up into a large wooded riparian complex. Total riparian area is approximately 25 acres. Many obligate riparian plant species were observed, such as carex, rush, cattails, woody shrubs, and cottonwoods. Some upland species were beginning to encroach on the riparian area upstream. Salt cedar, knapweed, and cocklebur

were observed in isolated locations. The stream had consistent flow; however, flow was reduced from previous Sinker Creek monitoring locations upstream. This is likely due to diversions. Little to no impact from livestock grazing was observed. This reach was assessed as proper functioning condition in 2012.

BLM personnel visited this portion of Sinker Creek again on May 29, 2013 to assess the health of the riparian area. This portion includes the confluence with the Snake River. As identified in the 2001 report, the water “goes underground and the channel becomes non-distinct approximately 0.25 miles above the confluence with the Snake River.” We observed stream channel “bed and bank” downstream to a point that was approximately 0.2 miles above the confluence with the Snake River. Our observations confirm the 2001 report that identify that there is minimal to no connectivity between Sinker Creek and the Snake River.

Sinker Creek is dewatered along its channel by the many diversions for irrigation and other uses. Evidence of sediment delivery by annual high flows was observed during our visit. Sediment deposits were observed approximately 0.2 miles upstream from the Snake River, but not below. These deposits were fresh enough to indicate an annual deposit, however, terminated into lush, but dryer vegetation types in the valley bottom. Riparian vegetation was observed (willows and rushes) just upstream from the terminus of the sediment deposits indicating a high water table for a majority of the year. Finally, surface water was observed at a point approximately 0.25 miles above the Snake River with active beaver dams, cattails, and large pools.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

Standards 2 and 3 are being met on this reach of Sinker Creek. Sinker Creek is at its potential given the upstream dewatering. The area at the confluence of the Snake River is a mature wooded riparian area that is stable with a plethora of riparian vegetation species. Knapweed and salt cedar occur in isolated areas and do not appear to be increasing. Sinker Creek was assessed as PFC, but does not have any connectivity with the Snake River.

Determination:

Determination Finding: The Montini FFR Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

Sinker Creek is at its potential in respect to the upstream dewatering. The 25-acre riparian complex is stable and functioning properly. Sinker Creek is at its potential given the upstream dewatering. Sinker Creek has a healthy, stable riparian vegetation community, the floodplain is accessible and functioning, channel characteristics are consistent with type and landform, and reach is expected to dissipate energy effectively during flood events. The reach was assessed as proper functioning in 2001 and 2012. Noxious weeds are present in a localized area. Knapweed and salt cedar occur in isolated area and do not appear to be increasing. Livestock grazing impacts were not observed and therefore do not affect the functionality of this stream reach. This reach of the Montini FFR meet Standards 2 and 3. The reach will dissipate energy of high flows, has stable streambanks, access to floodplain, no evident increases to noxious weeds, no excessive soil compaction, and the diversity and vigor of riparian vegetation is healthy.

Standard 4 – Native Plant Communities

Not Applicable: Although the shrub component is present, the lack of perennial grasses (replaced by cheatgrass), makes Standard 6 more appropriate than Standard 4 for this allotment.

Standard 5 – Seedings

Not Applicable: No seedings occur in the allotment.

Standard 6 – Exotic Plant Communities, Other than Seedings

Overview

In the Montini FFR Allotment, the native grasses have been nearly all lost, replaced by cheatgrass. The shrub component is present, indicating no recent wildfires, and none are mapped in BLM's fire history layer. Because of the lack of perennial grasses and infeasibility of restoring a functioning native plant community, the entire allotment is being evaluated under the standard for exotic plant communities.

Evaluation:

Information used to evaluate Standard 6 includes the 2007 Assessment, Evaluation, and Determination, the 2013 Montini FFR IDT Field Visit Report, BLM noxious weed records, and utilization and actual use data. Indicators to assess whether the allotment is meeting or making significant progress toward meeting the Standard are the number of perennial species maintained over time, plant vigor of remnant native plants, adequate litter for site protection and soil nutrient recycling, and evidence that noxious weeds are not increasing.

The 2007 Assessment, Evaluation and Determination noted that perennial grasses were almost completely lacking, replaced by cheatgrass. The 2002 Rangeland Indicators was done in a drought year, and recorded low cheatgrass and litter cover and a high percentage of bare ground. All plants showed low vigor, and greasewood was increased compared to reference conditions. The Assessment noted high utilization of squirreltail in 2000.

The March 2013 IDT field visit found similar conditions to those described in the 2007 documents. Shrub cover and vigor were within the natural range of variation for the ecological

sites, but very few (in both species number and abundance) perennial grasses were present. Wyoming sagebrush and greasewood communities had sparse (in the shallowest soil areas) to moderate shrub cover. A point intersect transect in 2013 indicated 13% shrub cover (7% Wyoming sagebrush, 3% spiny hopsage, 2% greasewood, and 1% littleleaf horsebrush). There was very low cover by Sandberg bluegrass and moderate to high cheatgrass cover, with very few large bunchgrasses (such as squirreltail and Indian ricegrass). Ground cover was 51% non-persistent litter (mostly cheatgrass and other annual weeds), 19% gravel, 16% bare ground, 7% persistent litter, 4% rock, and 3% biological crusts. This indicates adequate litter for an annual-dominated herbaceous community to provide ground cover, relative to site potential for an altered plant community.

Few noxious weeds are mapped within the allotment (only one small whitetop infestation). Utilization was measured in 2007 and 2010, on cheatgrass, at 9% and 7% respectively. Actual use indicates generally late winter/early spring use.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

The Montini FFR Allotment is meeting Standard 6 because, as shown by the specific indicators identified above, native shrub cover and vigor are being maintained, a sufficient amount of litter is present to provide watershed protection and replenish soil nutrients relative to the altered site potential, and noxious weeds are not increasing.

Determination:

Determination Finding: The Montini FFR Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). ____

Determination Rationale

Idaho Guidelines for Livestock Grazing Management relating to Standard 6 include: using grazing management practices that maintain soil conditions that support water infiltration, plant vigor, and permeability rates appropriate to site potential; implementing grazing management practices that provide periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain adequate vegetative cover and plant vigor; maintain grazing management practices that provide sufficient ground cover and residual vegetation to stabilize soils; and apply grazing management practices to maintain the interaction of the hydrologic

cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate, and landform.

The current season (late winter/early spring) and level of use (based on 2007 and 2010 utilization) are appropriate to maintain the native shrub component and provide adequate soil cover (non-persistent litter) for site protection and to replenish soil nutrients. The litter cover varies with precipitation, with cheatgrass sparse in drier years and more abundant in wetter years. Cheatgrass does not appear to be limited by grazing management (note the low utilization figures), but rather by naturally low precipitation at this low elevation site and/or other site characteristics. The grazing practices maintain a combination of shrub structure and ground cover adequate for hydrologic, nutrient, and energy cycles appropriate for this altered plant community. Although the permit allows use at any time of year, the history of actual use shows a fairly consistent pattern of late winter/early spring use, which provides regular deferment during the majority of the critical growing season. Thus, livestock grazing management conforms with Guidelines appropriate for Standard 6.

Standard 7 – Water Quality

Overview

Streams with designated beneficial uses are addressed under the Idaho Administrative Procedures Act (IDAPA) 16.01.02.140. The Snake River along with one tributary, Sinker Creek are in the Mid-Snake River/Succor Creek sub-basin (hydrologic unit number 17050103). Idaho Department of Environmental Quality (IDEQ) identified the Snake River as water quality limited for dissolved oxygen, flow alteration, and nutrients, and developed total maximum daily loads (TMDLs) for nutrients and dissolved gases. Designated uses for the Snake River include cold water aquatic life (CWAL), primary contact recreation, and domestic water supply. Sinker Creek has also been identified as water quality limited due to flow alteration, sediment, and temperature, and TMDLs were developed for sediment and temperature. Designated uses for Sinker Creek include Cold water biota, salmonid spawning, and primary contact recreation. Streams with designated beneficial uses are addressed under the Idaho Administrative Procedures Act (IDAPA) 16.01.02.140. Sinker Creek is in the Mid-Snake River/Succor Creek sub-basin (hydrologic unit number 17050103).

Evaluation:

The 2012 proper functioning condition assessment, field notes and photographs, and *E. coli* water concentrations were used to evaluate the water quality standard. Indicators for evaluating the standard include the physical, chemical, and biologic parameters described in the Idaho Water Quality Standards. These standards were evaluated using surrogates that included the density and health of herbaceous and woody riparian vegetation, evidence of high concentrations of livestock use in the waterway, turbidity, and fine sediment deposits in the channel.

This reach of Sinker Creek was assessed as properly functioning. The riparian area has carex, willow, and cottonwoods in sufficient densities to withstand high flow events. They also have root systems capable of holding and securing streambanks during high flow events, dissipate flood energy and deposit sediments on the floodplain. Sediment load and/or associated contaminants are effectively stored on the floodplain rather than getting delivered downstream.

Water quality analysis conducted in 2012 identified an *E. coli* concentration of 470 organisms per 100 milliliters. IDEQ has identified a single sample maximum of 406 *E. coli* organisms per 100 milliliters for waters designated as primary contact recreation.

Evaluation Finding – Allotment is (check one):

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

Evaluation Rationale

From the limited water quality information available, riparian areas appear appropriately vegetated with shade-producing trees and shrubs. With the density of trees and shrubs in the riparian areas, water quality should improve. However, IDEQ has Sinker Creek on the 305b and 303d list for impaired water quality and our limited data does not constitute a change in designations. *E. coli* concentrations exceeded the one-time criterion for primary recreation. IDEQ identifies that a water sample exceeding the *E. coli* single sample maximum indicates likely exceedance of the geometric mean criterion, but is not alone a violation of water quality standards. Additional data should be gathered to confirm this apparent water quality trend for sediment, temperature, and *E. coli*.

Due to the dewatering effect of multiple diversions upstream, Sinker Creek has very infrequent surface water connectivity with the Snake River. Connectivity with the Snake River would only happen during very large streamflow events, estimated to be much larger than bankfull and estimated to be above a 10-year recurrence interval. Even during these large streamflow events, the stream would likely flow across the entire valley bottom leaving most sediment as deposits prior to reaching the Snake River. Due to this lack of connectivity, it is not expected that temperature or sediment impairment within Sinker Creek will contribute to the water quality of the Snake River.

Determination:

Determination Finding: The Montini FFR Allotment is (check one or more):

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). ____

Determination Rationale

Sinker Creek is not meeting Standard 7, but is making significant progress. Standard 7 is closely tied to Standards 2 and 3. As identified in evaluations for Standard 2 and 3, evidence of current

livestock grazing within the perennial, riparian stream reach is non-existent. As stated in Standard 7 evaluation above, until IDEQ removes Sinker Creek from the 305b and 303d list for impaired water quality, Sinker Creek cannot meet this standard, even though it is unlikely that current livestock management contributes to impairment within this reach of pasture 3. There was no evidence of erosion or any sediment delivery adjacent to the channel eliminating sediment as a contributing issue from this pasture and stream reach. The buffering ability of riparian vegetation and beaver ponds would also minimize downstream sediment issues. *E. coli* was also measured and found to be within IDEQ water quality standards. It is likely that upstream water diversions (dewatering) are the primary contributors to any failure to meet water temperature criteria on Sinker Creek. The exact source of *E. coli* is undetermined; however it is unlikely caused by livestock because the area had no signs of livestock grazing. Significant progress toward meeting the Standard is being made because riparian plants shade the streams thereby lowering water temperatures, have root systems capable of holding and securing streambanks during high flow events, and slow flows and effectively buffer sediment and other contaminants from the upland area, thereby decreasing the sediment load.

Standard 8 – Threatened and Endangered Plants and Animals

Botany

Overview:

Six species of special status plants may occur in the Montini FFR Allotment. Some are specifically mapped within the allotment, and some have non-specific locations recorded that may or may not be within the allotment. Occurrence records for these species date from 1971 to 2013, with few recent monitoring visits in this allotment.

Special Status Plant Species in the Montini FFR Allotment

Species	Life Form	Habitat Description	Occurrence Notes
Snake River milkvetch <i>Astragalus purshii</i> var. <i>ophiogenes</i>	Perennial	Sand or gravel on bluffs, dunes, or ash beds	Part of one occurrence, last visited in 2000
Desert pincushion <i>Chaenactis stevioides</i>	Annual	Open, sandy areas	Small part of one occurrence, last visited in 2000
White eatonella <i>Eatonella nivea</i>	Annual	Sandy or volcanic soils often with sagebrush	Non-specific location, likely within allotment but unknown whether on private or BLM; last visited in 1974
Cowpie buckwheat <i>Eriogonum shockleyi</i> var. <i>packardiae</i>	Perennial	Gravelly benches on lakebed sediments in shadscale and mixed desert shrub communities	Non-specific location, likely not within allotment; last visited in 1971
White-margined wax plant <i>Glyptopleura marginata</i>	Annual	Sandy, gravelly, or loose ash soils	One occurrence discovered in 2013
Rigid threadbush <i>Nemacladus rigidus</i>	Annual	Open sandy or cindery soil	One occurrence discovered in 2013

Evaluation:

Information used to evaluate this Standard includes the 2007 Assessment, IFWIS data, BLM occurrence records, and general vegetation conditions (see Standard 6). Indicators used to determine whether Standard 8 (special status plants) is being met or making significant progress are the health and vigor of recorded special status plant occurrences, habitat quality relating to invasive plants and general vegetation conditions, and the timing and degree of physical disturbance to plants and habitats.

The 2007 Assessment for the Montini FFR Allotment addressed desert pincushion, cowpie buckwheat, and turtleback, noting that these three species were all found on well-drained soils with calcareous tendencies. Plant communities were not providing adequate habitat for special status species because invasive species and drought had reduced community health. The turtleback occurrence is no longer in the Montini FFR Allotment, as mapped, so this species will not be addressed further here. Cowpie buckwheat is known from the northeast side of the Snake River, but not the Owyhee County side; the non-specific record likely corresponds to those occurrences, so the plant is unlikely to occur in the Montini FFR Allotment.

IFWIS data show records of two special status plants besides those addressed in the 2007 Assessment: a specific occurrence of Snake River milkvetch is mapped within the allotment, and a non-specific occurrence of white eatonella is mapped as probably occurring in the allotment. Habitats for these two plants are similar to the other species discussed. No recent monitoring information is available for previously (IFWIS, before 2013) recorded special status plants in the Montini FFR Allotment. Previous records indicate threats from cattle grazing (2000), cheatgrass, and fire, where threats were noted.

Two new species (white-margined wax plant and rigid threadbush) were discovered in 2013 (see BLM occurrence records). These late spring/early summer annuals' life-cycle and habitat are similar to the desert pincushion addressed in the 2007 Assessment. Plant numbers in 2013 were low (<25 plants at each occurrence), typical of a dry year. Habitat was somewhat impacted by cheatgrass within the occurrence area, and plant communities in the surrounding areas were highly altered by weeds and a lack of native grasses, which was made worse by adjacent, unauthorized hay feeding. No physical disturbance (i.e. grazing or trampling) during the current growing season was observed at these occurrences.

Plant communities in the allotment are highly altered from reference conditions (see Standard 6), and thus special status plant habitat is also likely to be highly altered. There is no indication that special status plant habitat is significantly improved over 2007 conditions.

Evaluation Finding – Allotment is (check one)

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

The Montini FFR Allotment is not meeting Standard 8 for special status plants, as shown by the following indicators:

- Special status plant occurrences are not as healthy and vigorous as expected because their habitat has been degraded by weeds and plant community changes.
- Habitat for these species is being negatively impacted by invasive weeds (primarily cheatgrass). Cheatgrass and other invasive plants alter special status plant habitat by shading out the special status plants and competing for water and nutrients, reducing their vigor, seed production, and seedling establishment.
- Native plant communities throughout the allotment are highly altered from reference conditions, as indicated by the virtual lack of perennial grasses and presence of cheatgrass. Although special status plants generally grow on specialized soil types (such as open sandy spots or ash outcrop inclusions) where cheatgrass is less likely to become dominant, the special status plant habitat has also been highly altered by the presence of cheatgrass and lack of diverse perennials, which has affected the plant communities' nutrient, energy, and hydrologic cycling.

Determination:

Determination Finding: The Montini FFR Allotment is (check one or more):

Meeting the Standard

Not Meeting the Standard, but making significant progress toward

Conforms with Guidelines for Livestock Grazing Management

Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors

Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors

Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

Guidelines for livestock management that relate to Standard 8 for special status plants include:

- Implement grazing management practices that provide periodic rest or deferment during critical growth stages.
- Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of these plants.
- Apply grazing management practices that maintain or promote the physical and biological conditions necessary to sustain native plant populations.

Current livestock management conforms to these guidelines for livestock management because use is primarily during the dormant season (based on actual use), providing for regular deferment during the growing season. Although the permit allows use at any time of year, the history of actual use shows a fairly consistent pattern of late winter/early spring use (generally February and March). Also, the level of use (based on utilization) at this time is sufficient to maintain adequate vigor for seed production, dispersal, and seedling survival. This timing and level of use are suitable to maintain the physical and biological conditions necessary for these special status plant populations, as discussed below for each species.

Current livestock grazing management is likely to not significantly impact Snake River milkvetch because this plant is a low, perennial forb which is mostly dormant during the typical season of use (later winter/early spring). Its growing points are at or below ground level, so plants are mostly not subject to grazing impacts at that time, although they probably begin to emerge by late March. Heavy trampling could dislodge individual plants, but the current level of use does not appear likely to create heavy trampling effects in Snake River milkvetch habitat.

It is unlikely that cowpie buckwheat occurs in the Montini FFR Allotment, but if present, dormant or early season grazing could affect this tufted perennial plant because its growing points are above ground, and plants would be subject to herbivory and trampling year-round. However, its habitat of gravelly benches is unlikely to be heavily used by livestock, so substantial effects to plants or habitat would not be expected.

The annuals desert pincushion, white eatonella, rigid threadbush, and white-margined wax plant are unlikely to be affected by most of the typically used season, because these plants germinate in the spring and are active from spring to early summer. Late March or April use, when plants are beginning to germinate, may affect some plants by trampling on emerging seedlings, but these species' habitat (specialized soil open areas within sagebrush or salt desert shrub) is generally not highly used by livestock, and thus the combination of the current season and level of use recorded in the Montini FFR Allotment is unlikely to be negatively affecting these occurrences.

As shown by the above discussion, current authorized grazing management is not a significant causal factor for not meeting Standard 8 for special status plants. The significant causal factors are historic grazing (which is expected to have altered the plant communities' current ecological processes by removing perennial bunchgrasses) and invasive weeds, primarily cheatgrass. Habitat for white-margined wax plant and rigid threadbush is being affected by unauthorized supplemental hay feeding, but not current authorized grazing.

Wildlife

Overview

Many wildlife species utilize a variety of habitats in the Fossil Butte 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 the 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 is not discussed here in the same depth as species upon which the BLM places management emphasis.

The BLM, U. S. Fish and Wildlife Service (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, 2008), 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 Montini FFR Allotment and whose habitat may be affected by grazing activities.

One invertebrate species is listed as endangered under the Endangered Species Act of 1973, as amended (ESA). Two birds and one amphibian species are listed as candidate species under the ESA. Seven mammals, 13 birds, three reptiles, three amphibians, two fish, and one invertebrate species with special status potentially occur within the Fossil Butte Group allotments and may be affected by grazing activities. See Appendix D, Special Status Wildlife Species, in Environmental Assessment (EA) # DOI-BLM-ID-130-2011-0010-EA, Fossil Butte Group EA for a list of special status wildlife species, their status, and occurrence potential within the Montini FFR Allotment.

With the exception of a few well-studied species, current occurrence and population data for most special status animal species within the Fossil Butte 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 Snake River physa, greater sage-grouse, and Columbia River redband trout. Other special status animal species, migratory birds, raptors, and species of socio-economic importance (e.g., big game) and their habitats will be included in discussions in the broader context of upland and riparian habitat conditions.

Although no federally listed threatened or endangered species or designated critical habitat occurs within the Montini FFR Allotment, the Snake River physa snail (*Physa natricina*) is listed as endangered under the ESA and occurs in the Snake River immediately adjacent to the allotment. No ESA candidate species are known to occur within the allotment.

Evaluation:

Rangeland Health Standards (Standards) are interrelated, especially when addressing wildlife special status species requirements. Standards 1-7 provide the basis for healthy wildlife habitats that are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species. Indicators for Standard 8, Threatened and Endangered Animals include:

- Parameters described in the Idaho Water Quality Standards.
- Riparian/wetland vegetation with deep, strong, binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.
- Age class and structural diversity of plant species are appropriate for the site.
- Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.
- The diversity of native plant and animal communities are maintained.

- The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
- Noxious weeds are not increasing.

Upland Wildlife Habitat

Previous 2007 Assessment

The 2007 Assessment evaluated the allotment under Standard 6. One Rangeland Indicator was conducted on the allotment in 2002. The indicators that showed the greatest departure from reference conditions were functional/structural groups and invasive species, due to the loss of perennial grasses and dominance of cheatgrass in the understory throughout the allotment. Due to the low precipitation in 2002, annual species were not abundant, all plants exhibited low vigor, and very little plant litter was observed, resulting in a high percentage of bare ground. The Assessment noted heavy (70%) utilization of squirreltail along Sinkers Creek in 2000.

Current Assessment

Little additional information since 2007 is available. There is no trend monitoring or updated Rangeland Indicators within the allotment. However, BLM personnel conducted two separate field visits within the allotment in March 2013. Based on the March 2013 field visits and utilization photos, the shrub component is being maintained similar to reference conditions. No noxious weeds are mapped within the allotment. Utilization was measured in 2007 and 2010, on cheatgrass, at 9% and 7% respectively. Ground cover data collected in 2013 indicates adequate litter for an annual-dominated herbaceous community to provide ground cover. See Standard 6 for additional information.

Evaluation Finding – Allotment is:

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

Evaluation Rationale

Upland Wildlife Habitat

The Montini FFR Allotment is managed as an exotic plant community due to the loss of perennial bunchgrasses and the dominance of cheatgrass. 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.

The native shrub component within the allotment is being maintained. However, no improvement in native plant functional/structural groups or the amount of invasives (cheatgrass) within the understory is apparent, so there is no indication of progress being made toward meeting Standard 8.

Determination:

Determination Finding: The Montini FFR Allotment is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s).

Determination Rationale

Upland Wildlife Habitat

Standard 8 is not being met in upland areas of the Montini FFR Allotment, as described above, and no significant progress in improving the health of upland wildlife habitat is indicated by available data. Current livestock grazing management does not appear to be a significant causal factor because the season of use occurs mostly during perennial plants' dormant season, which has fewer effects than growing-season grazing.

A significant causal factor for not meeting Standard 8 is the presence of invasive weeds, primarily cheatgrass. Invasive weeds have become dominant in the shrub understory due to the reduction in large bunchgrasses as a result of historic grazing practices. Historic grazing (over 20 years ago) likely included growing season use and a higher intensity of use (overstocking) than current management, which led to the reduction/loss of large, palatable bunchgrasses.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 because the system:

- Provides periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate for site potential.
- Maintains or promotes the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate and landform.
- Maintains adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.
- Maintains or promotes the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.
- Minimizes adverse impacts due to management fencing in order to maintain habitat integrity and connectivity for native plants and animals.

Evaluation:

Riparian Wildlife Habitat

Previous 2007 Assessment

The 2007 Assessment was based on one 2001 riparian inventory which rated the reach of Sinker Creek within the allotment at the high range of Functional-at-Risk (FAR), with no apparent trend. The inventory identified early stages of invasion by tamarisk and Russian olive and that

noxious weeds (Russian knapweed and whitetop) occurred within the riparian area. The 2001 inventory described the area as being “significantly impacted by dewatering and livestock.” However, riparian stubble height was estimated to be seven inches at the time of inventory.

Current Assessment

No known lentic sites occur in the Montini FFR Allotment. Riparian areas include approximately 4 miles of the Snake River and 0.75 miles of Sinker Creek. The Snake River flows east to west and is the north-west border of the Montini FFR Allotment. Livestock have limited access to the Snake River due to bluffs and steep terrain. Consequently, livestock grazing has little effect on the river and adjacent riparian vegetation, so the Snake River is not analyzed for Standard 8.

One PFC assessment was conducted on the reach of Sinker Creek within the allotment in 2012. The 2012 PFC assessment rated the reach as properly functioning. Many obligate riparian plant species were observed such as carex, rush, cattails, woody shrubs, and cottonwoods. Some upland species were beginning to encroach on upstream riparian areas. Tamarisk, knapweed, and cocklebur were observed in isolated locations. Perennial flow within the reach was observed. However, due to water diversions, the flow was reduced from previously monitored Sinker Creek locations upstream. Little to no impact from livestock grazing was observed.

One site visit to the reach was conducted by BLM personnel in 2013. As identified in a 2001 riparian inventory, the stream flow, “goes underground and the channel becomes non-distinct approximately 0.25 miles above the confluence with the Snake River.” BLM observed stream channel “bed and bank” downstream to a point approximately 0.2 miles above the confluence with the Snake River. BLM observations confirmed minimal connectivity between Sinker Creek and the Snake River. BLM also observed evidence of sediment delivery by annual high flows. Sediment deposits were observed approximately 0.2 miles upstream from the Snake River but none were observed below that point. These deposits were fresh enough to indicate annual deposition, but dryer vegetation types in the valley bottom further indicated that surface water did not flow beyond the observed sediment deposition site. Woody and herbaceous riparian vegetation was observed upstream from the terminus of the sediment deposits, indicating a high water table for a majority of the year. Finally, surface water was observed at a point approximately 0.25 miles above the Snake River with active beaver dams, cattails, and large pools present.

Designated uses for this reach of Sinker Creek include cold water aquatic life and primary contact recreation. IDEQ 305b list identified this reach of Sinker Creek as water quality limited and not fully supporting cold water aquatic life due to flow alteration, sediment, and water temperature. Total Maximum Daily Loads (TMDLs) were developed for sediment and temperature.

Focal Wildlife Species

Snake River physa

The recovery area for the species extends from Snake River RM 553 to Snake River RM 675. There are currently no planned conservation efforts that target the Snake River physa. The conservation needs to facilitate recovery of this species are to ensure that water quality and

quantity, as well as habitat quality, are maintained within the Snake River to ensure Snake River physa can maintain viable populations. Water sources contributing to the quantity and quality of the Snake River (e.g., tributaries and aquifers) also need to be maintained, meeting the standards for cold-water biota and remaining free of contaminants and excessive nutrients. Snake River physa locations and potential habitat have been documented within the Snake River upstream, downstream, and immediately adjacent to portions of the Fossil Butte Group Allotments.

Based on the information discussed above, BLM has determined that permitted livestock grazing on the allotment does not contribute to excess sediment loads or increased water temperature in Sinker Creek or the Snake River. Consequently, BLM has also determined that permitted livestock grazing on the Montini FFR Allotment will not affect the Snake River physa or associated critical habitat.

Current grazing management is maintaining upland habitat conditions, adequate ground cover, and perennial vegetation necessary to prevent excess water runoff or sedimentation within the watershed. As discussed previously, livestock have limited access to the Snake River and consequently, have little effect on associated riparian areas, sediment loads, and channel morphology. Sinker Creek is rated as PFC and is limited by upstream water diversions; current livestock grazing does not appear to impact this stream. Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing riparian vegetation, beaver ponds, and upstream water diversions. Field observations confirmed minimal connectivity between Sinker Creek and the Snake River.

Columbia River Redband Trout

Occurrence information available from IDFG documents redband trout in the lower reach of Sinker Creek. IDEQ identified the middle and lower reaches of Sinker Creek as not fully supporting cold water aquatic life and salmonid spawning beneficial uses. While Sinker Creek is listed for salmonid spawning, there is no evidence of redband spawning in the reach found within the Montini FFR allotment. Young-of-the-year trout have not been found in past electrofishing efforts. This is likely due to a combination of factors relating to flow alteration, lack of spawning habitat due to stream characteristics, and barriers to fish migration due to Hulet Reservoir. IDFG occurrence data document redbands higher in the watershed above Hulet Reservoir.

IDFG has determined that the listed section of Sinker Creek has not historically been, nor is currently, spawning habitat due to gradient and temperature regimes. IDFG further states that this section of Sinker Creek has historically served primarily as a migratory corridor. Hulet reservoir and the various water diversions also serve as barriers to fish migration to the downstream section for spawning. The storage of water in the reservoir as well as the de-watering of the stream result in higher water temperatures, but it is unlikely that changes in management activities would result in lowering water temperatures to salmonid spawning criteria due to the overriding effect of high ambient air temperatures and flow alteration activities.

Because salmonid spawning does not occur in the lower reach of Sinker Creek, the temperature standard for salmonid spawning will not be applied; instead the cold water temperature standard

will apply to that reach throughout the year. The lower reach of Sinker Creek has shown temperature violations and thus, cold water aquatic life uses are not currently fully supported.

Evaluation Finding – Allotment is:

Meeting the Standard

Not meeting the Standard, but making significant progress toward meeting

Not meeting the Standard

Evaluation Rationale

Riparian Wildlife Habitat

As discussed above, water quality parameters are not being met and cold water aquatic life is not fully supported in the lower reach of Sinker Creek due to flow alteration, sediment, and water temperature. Excess flow alteration, sediment, and water temperature levels reduce habitat quality for redband trout and other riparian obligate wildlife species and could potentially impact the Snake River physa. Because these water quality parameters are not being met, the allotment is not meeting Standard 8 for riparian wildlife habitat.

However, significant progress toward meeting Standard 8 for riparian wildlife habitat is indicated by recent improvement in the lower reach of Sinker Creek. The 2001 riparian inventory rated the reach at the high range of FAR, with no apparent trend. The 2012 PFC assessment rated the reach in PFC. Although PFC assessments do not directly assess riparian habitat suitability, stream-associated riparian areas that are in PFC generally provide adequate cover and other necessary riparian elements.

Comparative photographs of the reach taken during 2000 utilization monitoring and 2013 field visits also document improvements in hydric vegetation along the length of the reach. Xeric invader and shallow rooted species remain minor components of the floodplain. Improvements in existing deep rooted riparian vegetation and the minor composition of xeric and shallow rooted species also indicate significant progress toward meeting Standard 8.

Focal Wildlife Species

Snake River physa

BLM has determined that permitted livestock grazing on the Montini FFR Allotment will not affect the Snake River physa or associated critical habitat.

Columbia River Redband Trout

Evaluation of the lower reach of Sinker Creek identified that water quality parameters are not being met but that significant progress is being made toward meeting Standard 8. 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 flow. Because these in-stream and near-stream habitat characteristics are limited due to upstream water diversions, this allotment is not providing adequate riparian conditions to sustain viable populations of redband trout.

Determination:

Determination Finding: The Montini FFR Allotment is:

- Meeting the Standard
- Not Meeting the Standard, but making significant progress toward
- Conforms with Guidelines for Livestock Grazing Management
- Not Meeting the Standard; Current Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard; Current Livestock Grazing Management Practices are **not** Significant Factors
- Does not conform with Guidelines for Livestock Grazing Management Guidelines No(s). ____

Determination Rationale

Riparian Wildlife Habitat

Standard 8 is not being met in riparian areas of the Montini FFR Allotment, as described above, but significant progress in improving the health of riparian wildlife habitat is indicated by recent improvements in PFC rating and hydric vegetation along the lower reach of Sinker Creek. Current livestock grazing management practices are not a significant causal factor for not meeting Standard 8 because the majority of the season of use occurs during perennial plants' dormant season, which results in fewer impacts to riparian vegetation than growing-season grazing. Little to no impact from livestock grazing was observed during multiple field visits in 2012 and 2013.

A significant causal factor for not meeting Standard 8 is that water quality parameters are not being met and cold water aquatic life is not fully supported in the lower reach of Sinker Creek due to flow alteration, sediment levels, and water temperature. Sinker Creek is rated as PFC but is limited by upstream water diversions on private land along the majority of its length. Sediment levels within the stream causing impacts to the Snake River are not an issue due to the buffering ability of existing riparian vegetation, beaver ponds, and upstream water diversions. The storage of water in Hulet Reservoir, when combined with de-watering caused by existing water diversions, are the primary contributor to any failure to meet water temperature parameters in Sinker Creek.

The current grazing system conforms with the Idaho Guidelines for Livestock Grazing Management as it relates to Standard 8 in riparian habitats because the system:

- Uses grazing management practices to maintain adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils.
- Maintains or promotes grazing management practices that provide sufficient residual vegetation to improve, restore, or maintain healthy riparian-wetland functions and structure for energy dissipation, sediment capture, ground water recharge, streambank stability, and wildlife habitat appropriate to site potential.
- Maintains or promotes appropriate stream channel and streambank morphology and function.
- Implements grazing management practices that provide for compliance with the Idaho Water Quality Standards.

- Uses grazing management practices developed in recovery plans, conservation agreements and ESA Section 7 consultations to maintain or improve habitat for federal listed threatened, endangered, and sensitive plants and animals.

Summary of Evaluation and Determination

Check one box for each	Standards							
	1	2	3	4	5	6	7	8
	Watersheds	Riparian and Wetlands	Stream Channel and Floodplain	Native Plant Communities	Seedings	Exotic Plant Communities (not seeded)	Water Quality	Threatened and Endangered Plants and Animals
Meeting the Standard	X	X	X			X		
Not Meeting the Standard, but making significant progress toward							X	X Riparian Animals
Not Meeting the Standard; current livestock grazing practices are not significant factors								X Plants and Upland Animals
Not Meeting the Standard; current livestock grazing practices are a significant factor								
Not Meeting the Standard; cause not determined								
Standard does not apply				X	X			
Guidelines for Livestock Grazing								
Conforms with Guidelines for Livestock Grazing Management?							YES	
If no, list the Guidelines not in conformance:								

Field Manager's Signature and Date

DETERMINATION

Achieving Standards for Rangeland Health and Conforming with Guidelines for Livestock Grazing Management

Resource Area: Owyhee

Watershed Name/Number: Mid Snake River/Succor Creek (17050103)

Grazing Allotment Name/Number: Murphy FFR (0486)

Public Land Acres: 56

Streams miles on Public Land: 0

Date(s) of Assessment: June 2, 2003

Name of Permittee(s): Joyce Livestock Co.

Assessment Participants (Name & Discipline or Interest):

- Botanist: Valerie Geertson
- Wildlife Management Biologist: Tim Carrigan
- Ecologist: Lynn Wessman
- Soil Specialist: Paul Seronko
- Rangeland Management Specialist: Pat Kane
- Natural Resource Specialist: Allen Tarter
- Outdoor Recreation Planner: Judi Zuckert

Standard 1 - Watersheds

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.

Check those that apply: [*One or more boxes must be checked.*]

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline(s):

Rationale/Information Sources:

System	Pasture	Determination Meeting/Not Meeting	Livestock Grazing Management Practices are a Significant Factor?	Other Concerns: Historic Grazing, Drought, Fire, OHV Use	Rationale
March	N/A	Meeting	N/A	N/A	Site has been converted to an annual grassland. There is concern that bare ground is greater than expected. Important to leave 50% organic material at the end of the grazing period.

Standard 2 - Riparian Areas and Wetlands

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.

Check those that apply: [*One or more boxes must be checked.*]

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline(s):

Rationale/Information Sources:

Pasture 4861

Standard 2 does not apply to this allotment.

Riparian/wetland resources do not occur on BLM administered public lands in this allotment

Standard 3 - Stream Channel/Floodplain

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.

Check those that apply: [*One or more boxes must be checked.*]

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline(s):

Rationale/Information Sources:

Pasture 4861

Standard 3 does not apply to this allotment.

Riparian/wetland resources do not occur on BLM administered public lands in this allotment

Standard 4 - Native Plant Communities

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.

Check those that apply: [*One or more boxes must be checked.*]

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline(s)

Rationale/Information Sources:

Standard 5 - Rangeland Seedings

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.

Check those that apply: [*One or more boxes must be checked.*]

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline(s):

Rationale/Information Sources:

Standard 6 - Exotic Plant Communities, other than Seedings

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Check those that apply: *[One or more boxes must be checked.]*

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline #1:
 1. Use grazing management practices and/or facilities to maintain or promote significant progress toward adequate amounts of ground cover (determined on an ecological site basis) to support infiltration, maintain soil moisture storage, and stabilize soils.

Rationale/Information Sources:

System	Pasture	Determination Meeting/Not Meeting	Livestock Grazing Management Practices are a Significant Factor?	Other Concerns: Historic Grazing, Drought, Fire, OHV Use	Rationale
March	N/A	Meeting	N/A	N/A	No perennial grasses remaining. No noxious weeds present. The amount of ground cover remaining at the end of the grazing season is marginal.

Standard 7 - Water Quality

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Check those that apply: [*One or more boxes must be checked.*]

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline(s):

Rationale/Information Sources:

Standard 8 - Threatened and Endangered Plants and Animals

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Check those that apply: [*One or more boxes must be checked.*]

- Standard does not apply
- Meeting the Standard
- Not Meeting the Standard, Livestock Grazing Management Practices are Significant Factors
- Not Meeting the Standard, Livestock Grazing Management Practices are **not** Significant Factors
- Not Meeting the Standard, but Making Significant Progress towards
- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Livestock Grazing Management Guideline(s):

Rationale/Information Sources:

Redband trout-

This standard does not apply.

Wildlife-

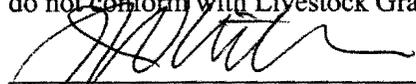
This allotment provides very little wildlife habitat, being isolated pieces of BLM and having a long history of heavy grazing. Past grazing practices are the reason for lack of native grasses and forbs.

Plants-

It is unknown if this standard is being met in Murphy FFR. The presence or absence of special status plants in these pastures has not been determined.

Determination:

I have determined that Standards 1 and 6, of the Idaho Standards for Rangeland Health are being met in the Murphy FFR Allotment. Standard 8 is not being met, but livestock are not significant factors. Standards 2, 3, 4, 5, and 7 are not applicable in this allotment. Current livestock management practices do not conform with Livestock Grazing Management Guidelines 1.



Field Manager

6/16/03
Date

Appendix B – Response to Scoping Comments

This is a brief summary of relevant comments received during 2011 scoping. The response indicates how the comment was addressed within the EA (such as in alternative development or discussion of environmental effects), or whether it was beyond the scope of the project analysis. WWP is Western Watershed Project, and Miller Land Company, Inc., Joyce Livestock Company, and Kershner are permittees.

Commenter	Comment	Response
WWP	There are resource impacts associated with water haul sites	The existing and proposed water haul sites will be analyzed as part of the range of alternatives for this action.
WWP	Alternatives that propose reduced grazing with area closures, no-grazing, and seasonal adjustment should be included.	A reduced grazing and no-grazing alternative will be analyzed as part of the range of alternatives and per BLM regulations.
WWP	Closure to livestock grazing and full restoration of lands acquired by the BLM should be included in this project analysis.	The closure of acquired lands can be considered as an alternative or part of another. However, restoration of lands is not within the scope of this project and analysis.
WWP	Adverse impacts to small prey species and their habitat as it relates to birds of prey.	Effects to various wildlife species, including small mammals and raptors, are addressed in the wildlife sections of this EA.
WWP	Active and passive restoration should be included in the range of alternatives.	Active restoration is not within the scope of this analysis and project. However, passive restoration would be the result of both reduced grazing and no-grazing alternatives.
WWP	Trampling promotes and spreads weeds and damages microbiotic crusts. Such also may damage nesting sites and burrows.	Trampling effects on weeds and microbiotic crusts are addressed in the vegetation section of the EA. Trampling effects to nesting and burrowing wildlife are addressed in the wildlife section of the EA.
WWP	Lack of effectiveness of exclosures	Is being addressed as part of this action.
WWP	Failure to prepare an EIS	Based on the results of NEPA analysis, the authorized officer will issue a determination of the significance of the environmental effects and whether an environmental impact statement (EIS) would be required.
WWP	Fall grazing may impact native plants	Effects from fall grazing (as well as other seasons) are addressed in the EA.
WWP	BLM must designate ACECs	The designation of ACECs is not within the scope of this project or analysis.

WWP	Need to analyze the cumulative effect of OHV trails and off-road motorized recreation to special status species (plant and animal) habitat.	Cumulative effects of OHV use to vegetation and wildlife are considered and analyzed in the respective cumulative effects section of this EA.
WWP	Review the areas within the Snake River Birds of Prey NCA for wilderness values.	Such review is not within the scope of this project and analysis.
WWP	Sage steppe and salt desert shrub habitat fragmentation	Effects resulting in sage steppe and salt desert shrub habitat fragmentation are addressed in this EA.
WWP	Fences provide predator perches that may affect nesting and brood rearing habitats.	Effects resulting from existing fencing to wildlife will be addressed in the wildlife section of this EA.
WWP	Removal of fencing and no further fencing should be considered in the range of alternatives	No new fence construction is proposed in any of the alternatives addressed in this EA. Removal of all existing fencing is outside of the scope of this analysis and does not serve the purpose and need of this action.
WWP	Removal of shrub cover from livestock grazing affects nesting and brood rearing habitat and reduces important forage for antelope and wintering mule deer.	Grazing effects to various wildlife species, including bird and big game species, are addressed in the wildlife sections of this EA.
WWP	Spread of disease to migratory birds and sage-grouse, such as West Nile Virus, as cattle create muddy areas suitable for mosquito larvae growth	Effects of West Nile Virus to bird species are addressed in the wildlife cumulative effects section of this EA.
WWP	Effects to climate change	Effects to climate change will be discussed in the issues section of the EA.
WWP	Effects to watershed health, riparian areas, and soils as a result of livestock grazing	Effects to watershed health, riparian areas, and soils as a result of livestock grazing are addressed in the watershed, riparian, and soil sections of this EA.
WWP	Effects of grazing as they relate to increased desertification across the landscape.	Effects of grazing to watersheds and vegetation is addressed in this EA. However, best available data does not indicate increased desertification across the landscape, therefore it is not specifically addressed in this EA.
WWP	Potential effects to public safety along HWY 78.	Public safety along HWY 78 is administered by the Idaho Department of Transportation and is outside of the scope of this document.

Miller Land Company, Inc.	BLM should actively manage invasive weeds	This is outside the scope of this project and analysis. However, such management actions do take place for noxious weeds. Invasive weed management is undertaken on a case-by-case basis as funding and other needs allow.
Joyce Livestock Company	It would appear to be prudent to develop a new alternative, possibly a combination of Alternatives A & B that incorporate many of the water haul sites but with the addition of a pre-season on-site meeting of BLM and permittees/interested public on any year that key growing season precipitation is 30% below normal or 20% below normal on successive years for the purpose of determining proper usage for that season.	Complete precipitation data is often lacking for the area, which would make it difficult to generate a qualified decision on adjusting AUMs. In addition, the time involved in coordinating and facilitating a pre-season meeting may be more than BLM can commit to on a long-term basis.
Kershner	Water haul sites help to better distribute livestock and therefore need to be included as part of the proposals.	The existing and proposed water haul sites will be analyzed as part of the range of alternatives for this action.
BLM Interdisciplinary Team	Fencing of FFR lands	Fencing BLM lands in the FFR Allotments into the surrounding adjacent BLM Allotment was considered. This was not brought forward for further analysis because of the expense of the project and because mitigation for known and predicted cultural and paleontological sites from vehicle and human traffic while building the fences would be too time consuming for our small staff.

**Appendix C –
Plant Species Mentioned in Fossil Butte Group EA**

Names based on USDA PLANTS Database (<http://plants.usda.gov/java/>) as of 2013

Common Name	Scientific Name	Code¹	Growth Form and Status
arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>		Native perennial forb
basin big sagebrush	<i>Artemisia tridentata</i> ssp. <i>tridentata</i>		Native shrub
basin wildrye	<i>Leymus cinereus</i>	LECI4	Native perennial grass
bindweed	<i>Convolvulus arvensis</i>		Noxious perennial forb
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i> ssp. <i>spicata</i>	PSSPS	Native perennial grass
budsage	<i>Artemisia spinescens</i> / <i>Picrothamnus desertorum</i>	ARSP5	Native shrub
bulbous bluegrass	<i>Poa bulbosa</i>	POBU	Invasive bunchgrass
bur buttercup	<i>Ceratocephala testiculata</i>		Invasive annual forb
Canada thistle	<i>Cirsium arvense</i>		Noxious perennial forb
cheatgrass	<i>Bromus tectorum</i>	BRTE	Invasive annual grass
clasping pepperweed	<i>Lepidium perfoliatum</i>		Invasive annual forb
cowpie buckwheat	<i>Eriogonum shockleyi</i> var. <i>packardaei</i>		Special status perennial forb
crested wheatgrass	<i>Agropyron cristatum</i>	AGCR	Non-native perennial grass
desertparsley	<i>Lomatium</i> spp.		Native perennial forb
desert pincushion	<i>Chaenactis stevioides</i>		Special status annual forb
fleabane	<i>Erigeron</i> spp.		Native perennial forb
flixweed	<i>Descurainia sophia</i>		Invasive annual forb
fourwing saltbush	<i>Atriplex canescens</i>		Native shrub
Gardner saltbush	<i>Atriplex gairdneri</i>		Native shrub
greasewood	<i>Sarcobatus vermiculatus</i>	SAVE4	Native shrub
halogeton	<i>Halogeton glomeratus</i>		Invasive annual forb
horsebrush	<i>Tetradymia</i> spp.		Native shrub
Idaho fescue	<i>Festuca idahoensis</i>		Native perennial grass
Indian ricegrass	<i>Achnatherum hymenoides</i>	ACHY	Native perennial grass
kochia	<i>Bassia scoparia</i>		Invasive annual forb
longleaf phlox	<i>Phlox longifolia</i>		Native perennial forb
low sagebrush	<i>Artemisia arbuscula</i>		Native shrub

Common Name	Scientific Name	Code ¹	Growth Form and Status
Malheur prince's plume	<i>Stanleya confertifolia</i>		Special status biennial forb
mountain big sagebrush	<i>Artemisia tridentata</i> ssp. <i>tridentata</i>		Native shrub
Mulford's milkvetch	<i>Astragalus mulfordiae</i>		Special status perennial forb
musk mustard	<i>Chorispora tenella</i>		Invasive annual forb
needle-and-thread grass	<i>Hesperostipa comata</i>		Native perennial grass
perennial pepperweed	<i>Lepidium latifolium</i>		Noxious perennial forb
prickly lettuce	<i>Lactuca serriola</i>		Invasive annual forb
puncturevine	<i>Tribulus terrestris</i>		Noxious annual forb
purple loosestrife	<i>Lythrum salicaria</i>		Noxious perennial forb
rabbitbrushes	<i>Chrysothamnus viscidiflorus</i> or <i>Ericameria nauseosa</i>		Native shrub
rigid threadbush	<i>Nemacladus rigidus</i>		Special status annual forb
rush skeletonweed	<i>Chondrilla juncea</i>		Noxious perennial forb
Russian knapweed	<i>Acroptilon repens</i>		Noxious perennial forb
Russian olive	<i>Elaeagnus angustifolia</i>		Invasive shrub/tree
Russian thistle	<i>Salsola tragus</i>		Invasive annual forb
Russian wildrye	<i>Psathyrostachys juncea</i>		Non-native perennial grass
salt cedar	<i>Tamarix spp.</i>		Noxious shrub/tree
Saltgrass	<i>Distichlis spicata</i>		Native perennial grass
Sandberg bluegrass	<i>Poa secunda</i>	POSE	Native perennial grass
sand dropseed	<i>Sporobolus cryptandrus</i>		Native bunchgrass
Scotch thistle	<i>Onopordum acanthium</i>		Noxious biennial forb
shadscale	<i>Atriplex confertifolia</i>	ATCO	Native shrub
shining flatsedge	<i>Cyperus bipartitus</i>		Special status annual graminoid
slickspot peppergrass	<i>Lepidium papilliferum</i>		Special status biennial/perennial forb
Snake River milkvetch	<i>Astragalus purshii</i> var. <i>ophiogenes</i>		Special status perennial forb
spiny hopsage	<i>Grayia spinosa</i>		Native shrub
squirreltail	<i>Elymus elymoides</i> ssp. <i>elymoides</i>	ELELE	Native perennial grass

Common Name	Scientific Name	Code¹	Growth Form and Status
stiff milkvetch	<i>Astragalus conjunctus</i>		Special status perennial forb
stork's bill	<i>Erodium cicutarium</i>		Invasive annual forb
tamarisk	<i>Tamarix</i> spp.		Noxious shrub
tapertip hawksbeard	<i>Crepis acuminata</i>		Native perennial forb
teasel	<i>Dipsacus fullonum</i>		Invasive biennial forb
Thurber's needlegrass	<i>Achnatherum thurberianum</i>	ACTH7	Native perennial grass
tumble-mustard	<i>Sisymbrium altissimum</i>		Invasive annual forb
turtleback	<i>Psathyrotes annual</i>		Special status annual forb
white eatonella	<i>Eatonella nivea</i>		Special status annual forb
white-margined wax plant	<i>Glyptopleura marginata</i>		Special status annual forb
whitetop	<i>Cardaria draba</i>		Noxious perennial forb
winterfat	<i>Krascheninnikovia lanata</i>	KRLA2	Native shrub
Wyoming sagebrush	<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>	ARTRW8	Native shrub
yellow salsify	<i>Tragopogon dubius</i>		Invasive annual forb

1 Codes are included only for species that use a code within the document, for example in Ecological Site names or the utilization table (Appendix F).

Appendix D

Special Status Wildlife Species in the Owyhee Field Office and Occurrence Potential within the Fossil Butte Group Allotments

Common Name	Species	Status (conservation plans) ¹	General Habitat ²	Habitat Present ³	Species Present ⁴
Snake River Physa	<i>Physa natricina</i>	ESA E	Believed to inhabit deep water on the margins of moderately swift rapids or riffles. Individuals have been found in relatively undisturbed areas with gravel, boulder, or cobble substrates and low percentage of epiphytic algae or macrophytes.	No	Not Present
Columbia Spotted Frog	<i>Rana luteiventris</i>	ESA C (SGCN)	Cool, permanent, quiet water in streams, rivers, lakes, pools, springs, and marshes usually in hilly areas from sea level to about 3000 m. Highly aquatic, but may disperse into forests, grasslands, and shrublands	No	Improbable
Greater Sage-grouse	<i>Centrocercus urophasianus</i>	ESA C (SGCN/HPBB/BCC)	Broad sagebrush covered valleys and foothills interspersed with wet meadows.	Yes; Fossil Butte and Joyce FFR allotments	Present
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	ESA C (SGCN/BCC)	Extensive, mature riparian woodlands, especially of cottonwoods or willows, and other open woodlands with dense understories at lower elevations. Mature riparian areas with willow and alder thickets.	No	Improbable
American White Pelican	<i>Pelecanus erythrorhynchos</i>	BLM 2 (SGCN/HPBB)	Typically occur on isolated islands in freshwater lakes, marshes or rivers, on lakes, reservoirs and rivers supporting large fish populations and on mud, sand or gravel shores.	No	Improbable
Bald Eagle	<i>Haliaeetus leucocephalus</i>	BGEPA – BLM 2 (SGCN/BCC)	Restricted to large rivers and water bodies near mixed conifer forest, occasionally sagebrush foothills. Nest in oldest trees in the stand. Always associated with aquatic forage area.	No	Improbable
Golden Eagle	<i>Aquila chrysaetos</i>	BGEPA (HPBB/BCC)	Open habitats in mountains and hill country, prairies and other grasslands. Open sagebrush areas adjacent to nesting cliffs. Found on prairies, tundra, open wooded country, and barren areas, especially in hilly or mountainous areas. In Idaho, prefers open and semi-open areas in deserts and mountains.	Yes; all allotments	Present
Northern Leopard Frog	<i>Rana pipiens</i>	BLM 2 (SGCN)	Permanent water sources on plains, foothill, and in montane zones.	Yes, all allotments except Murphy FFR	Possible
Pygmy Rabbit	<i>Brachylagus idahoensis</i>	BLM 2 (SGCN)	Throughout much of the Great Basin; relatively large areas of tall/dense sagebrush and deep soils. In Idaho, closely associated with large stands of sagebrush; prefers areas of tall, dense sagebrush cover with high percent woody cover.	Yes	Improbable
Columbia River Redband Trout	<i>Oncorhynchus mykiss gibbsi</i>	BLM 2 (SGCN)	Redband trout are found in a range of stream habitats from desert areas in southwestern Idaho to forested mountain streams in central and northern Idaho.	Yes, all allotments except Murphy FFR	Present
White Sturgeon	<i>Acipenser transmontanus</i>	BLM 2 (SGCN)	Rely on streams, rivers, and estuarine habitat as well as marine waters during their lifecycle. Prefer to spawn in rivers with swift currents and large cobble; no nest is built.	No	Not Present
Black Tern	<i>Chlidonias niger</i>	BLM 3 (SGCN)	Rivers and ponds. Nests in or on emergent vegetation in alkaline lakes and freshwater marshes, or in marshy areas along rivers,	No	Improbable

Common Name	Species	Status (conservation plans) ¹	General Habitat ²	Habitat Present ³	Species Present ⁴
			lakes, or ponds. Forages within a few hundred meters of nest.		
Brewer's Sparrow	<i>Spizella breweri</i>	BLM 3 (SGCN/HPBB/BCC)	Sagebrush steppe. Idaho study found Brewer's Sparrows prefer large, living sagebrush for nesting. A recent study in southwestern Idaho concluded that their distribution was influenced by both local vegetation cover and landscape-level features such as patch size.	Yes; all allotments	Present
California Bighorn Sheep	<i>Ovis canadensis californiana</i>	BLM 3 (SGCN)	Extremely rugged mountain areas with jutting crags, deep canyons and precipitous cliffs. Grassy slopes near cliffs and rocky ridges in mountains. Forages on mesic to xeric grass. Avoids dense vegetation cover.	Yes, all allotments except Murphy FFR	Present
California Floater	<i>Anodonta californiensis</i>	BLM 3 (SGCN)	Occurs in lakes and large streams at low elevations. This species is typically found on soft substrates and in areas with relatively slow current.	No	Not Present
Calliope Hummingbird	<i>Stellula calliope</i>	BLM 3 (HPBB/BCC)	In Idaho, found in mountains along meadows, canyons and streams, in open montane forests and willow and alder thickets	No	Improbable
Columbia Sharp-tailed Grouse	<i>Tympanuchus phasianellus columbianus</i>	BLM 3 (SGCN/HPBB)	Found in grasslands (especially with scattered woodlands), arid sagebrush, brushy hills, oak savannas, and edges of riparian woodlands.	No	Not Present
Common Garter Snake	<i>Thamnophis sirtalis</i>	BLM 3	Usually found in habitats associated with water, such as streams, rivers, lakes, ponds and marshes. They can also be found in open meadows and coniferous forests.	Yes, all allotments except Murphy FFR	Possible
Ferruginous Hawk	<i>Buteo regalis</i>	BLM 3 (SGCN/HPBB/BCC)	Found in shrub steppe at periphery of juniper or other woodlands.	Yes; all allotments	Present
Flammulated Owl	<i>Otus flammeolus</i>	BLM 3 (SGCN/HPBB/BCC)	Prefers old growth. In Idaho, occupies older ponderosa pine, Douglas-fir, and mixed coniferous forests.	No	Improbable
Fringed Myotis	<i>Myotis thysanodes</i>	BLM 3 (SGCN)	Found primarily in desert shrublands, sagebrush-grassland, and woodland habitats. Roosts in caves, mines, rock crevices, buildings, and other protected sites. Prefer to forage in riparian areas characterized by intermittent streams with wide channels.	Yes, all allotments except Murphy FFR	Possible
Hammond's Flycatcher	<i>Empidonax hammondi</i>	BLM 3 (HPBB)	Found in coniferous forests and woodlands. In Idaho, associated with old-growth Douglas-fir/ponderosa pine forests.	No	Improbable
Lewis' Woodpecker	<i>Melanerpes lewis</i>	BLM 3 (SGCN/HPBB/BCC)	Found in open forests and woodlands (often logged or burned), including oak, coniferous forests (primarily ponderosa pine), and riparian woodlands and orchards.	No	Improbable
Loggerhead Shrike	<i>Lanius ludovicianus</i>	BLM 3 (HPBB/BCC)	Found in open country with scattered trees and shrubs, in savannas, desert scrub and, occasionally, in open juniper woodlands. Often found on poles, wires or fenceposts.	Yes; all allotments	Present
Longnose Snake	<i>Rhinocheilus lecontei</i>	BLM 3 (SGCN)	Found in desert lowland areas that have sandy or loose soil and numerous burrows.	Yes; all allotments	Present
Mojave Black-collared Lizard	<i>Crotaphytus bicinctores</i>	BLM 3 (SGCN)	Associated with arid habitats with sparse vegetation and the presence of rocks and boulders.	Yes; all allotments	Present
Mountain Quail	<i>Oreortyx pictus</i>	BLM 3 (SGCN/HPBB)	Mountain quail breed and winter in shrub-dominated riparian communities of hawthorn, willow, and chokecherry in the intermountain West.	No	Not Present
Northern Goshawk	<i>Accipiter gentilis</i>	BLM 3 (HPBB)	Found in deciduous and coniferous forests, along forest edges and in open woodlands. In Idaho, summers and nests in coniferous and aspen forests; winters in riparian and agricultural areas.	No	Improbable

Common Name	Species	Status (conservation plans) ¹	General Habitat ²	Habitat Present ³	Species Present ⁴
Olive-sided Flycatcher	<i>Contopus borealis</i>	BLM 3 (HPBB)	Found in forests and woodlands (especially in burned-over areas with standing dead trees)	No	Not Present
Peregrine Falcon	<i>Falco peregrinus</i>	BLM 3 (SGCN/BCC)	Cliffs near forest, lakes, ponds, and rivers. Most are thought to migrate south of Idaho during winter but individuals remain near urban nest sites in Nampa and Boise year around.	Yes, all allotments	Possible
Piute Ground Squirrel	<i>Spermophilus mollis</i>	BLM 3 (SGCN)	Sagebrush and grasslands.	Yes, all allotments	Present
Prairie Falcon	<i>Falco mexicanus</i>	BLM 3 (HPBB)	Cliffs and rock outcrops in sagebrush steppe, grassland, montane meadows, marshes, and riparian areas.	Yes; all allotments	Present
Sage Sparrow	<i>Amphispiza belli</i>	BLM 3 (HPBB/BCC)	Shrub steppe, mixed desert shrub/grassland communities.	Yes; all allotments	Present
Spotted Bat	<i>Euderma maculatum</i>	BLM 3 (SGCN)	Various habitats from desert to montane coniferous forests. Observed in canyons of Owyhee County. Normally roost in deep rock crevices of canyon and cliff walls but specific roost characteristics are not well documented.	Yes; all allotments	Present
Townsend's Big-eared Bat	<i>Plecotus townsendii</i>	BLM 3 (SGCN)	Juniper, desert shrub, and dry coniferous forest throughout Idaho; day roosts and hibernates in caves and abandoned mines, forages over water	Yes; all allotments	Possible
Western Groundsnake	<i>Sonora semiannulata</i>	BLM 3 (SGCN)	Xeric habitat characterized by sandy or loose soil textures, talus slopes, and boulder fields. Vegetation is typically sparse, comprising of shrubs, such as shadscale, sagebrush, greasewood, and bunchgrasses and annual grasses.	Yes; all allotments	Present
Western Toad	<i>Bufo boreas</i>	BLM 3	Wide variety of habitats such as desert springs and streams, meadows and woodlands, and in and around ponds, lakes, reservoirs, and slow-moving rivers and streams.	Yes, all allotments except Murphy FFR	Possible
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	BLM 3 (HPBB/BCC)	Dry open woods, orchards, farmlands, and foothills	No	Not Present
Willow Flycatcher	<i>Empidonax trailii</i>	BLM 3 (HPBB/BCC)	Found in thickets, scrubby and brushy areas, open second growth, swamps, and open woodlands. In Idaho, associated with mesic and xeric willow (riparian) habitats.	Yes, all allotments except Murphy FFR	Possible
Woodhouse Toad	<i>Bufo woodhousii</i>	BLM 3 (SGCN)	Found in grasslands, shrub steppe, woods, river valleys, floodplains, and agricultural lands, usually in areas with deep, friable soils.	Yes, all allotments except Murphy FFR	Possible
Black-throated Sparrow	<i>Amphispiza bilineata</i>	BLM 4	Open shrub areas with Sagebrush, Atriplex, Rabbitbrush, saltsage, horsebrush. Not found in dense sagebrush stands. Found in desert scrub, thorn bush. In Idaho prefers open shrub areas dominated by big sage, spiny hopsage, or horsebrush exceeding 50cm in height.	Yes	Present
California Myotis	<i>Myotis californicus</i>	BLM 4	Occurs in dry conifer forest, sagebrush steppe, riparian, and juniper habitats. Roost types in Idaho are poorly known. Mines and caves are reportedly used. Elsewhere, buildings and bridges are major roost types, and individuals are also found under loose tree bark.	No	Improbable
Dark Kangaroo Mouse	<i>Microdipodops megacephalus</i>	BLM 4	Soft, sandy soils in hot dry sagebrush areas. In Idaho found in loose sands and gravel in shadscale scrub, sagebrush scrub, and alkali sink plant communities. May occur in sand dunes near margins of range	No	Not Present
Kit Fox	<i>Vulpes velox</i>	BLM 4	Inhabits arid and semi-arid regions encompassing desert scrub, chaparral, halophytic, and grassland communities. Loose	Yes	Possible

Common Name	Species	Status (conservation plans) ¹	General Habitat ²	Habitat Present ³	Species Present ⁴
			textured soils may be preferred for denning.		
Little Pocket Mouse	<i>Perognathus longimembris</i>	BLM 4	Shadscale and low sage areas on lower slopes of alluvial fans with pea-sized gravel. Found in sagebrush, creosote bush, and cactus communities. On slopes with widely spaced shrubs, found in firm, sandy soil overlain with pebbles. In Idaho, found in shadscale/low sage on lower slopes of alluvial fans.	No	Not Present
Merriam's Ground Squirrel	<i>Spermophilus canus vigilis</i>	BLM 4	Prefers sandy soils in dry, open sagebrush and grassland habitats. Occurs in the lower Snake River Valley south and west of the Snake River in Owyhee County, Idaho and Malheur County, Oregon from Reynolds Creek to Huntington and west to Westfall.	Yes	Possible
White-faced Ibis	<i>Plegadis chihi</i>	BLM 4 (SGCN/HPBB)	Found mostly in freshwater areas, on marshes, swamps, ponds and rivers. In Idaho, prefers shallow-water areas.	No	Not Present
Wyoming Ground Squirrel	<i>Spermophilus elegans nevadensis</i>	BLM 4	Mountainous areas and higher plateaus in open and semi-forested habitats. Grasslands. In Idaho found in grasslands and sagebrush, especially on upland slopes with loose, sandy soils. Occupies a variety of sage plain and grassland habitats such as valley bottoms and foothills, montane meadows, subalpine talus slopes, and reclaimed surface-mine areas.	No	Not Present

¹ Status includes Endangered (ESA E) and Candidate (ESA C) species listed under the Endangered Species Act (16 U.S.C. § 1531-1544), eagles (BGEPA) protected by the Bald and Golden Eagle Protection Act (16 U.S.C. § 668-668d), and BLM Type 2 (BLM 2), Type 3, (BLM 3), and Type 4 (BLM 4) special status species (USDI-BLM 2003). Additional designations under state and national conservation plans include Idaho Species of Greatest Conservation Need (SGCN; IDFG 2006), Idaho Partners in Flight High Priority Breeding Bird (HPBB; IPIF 2000), and U.S. Fish and Wildlife Service Birds of Conservation Concern (BCC; USDI-FWS 2008).

² Habitat descriptions modified from IDVMD 2011.

³ Presence of habitat within project area was determined from IDVMD 2011; OWE 2011; Yensen and Sherman 2003; Idaho, Oregon and Nevada BLM unpublished data; and specialist expertise.

⁴ Categories include species presence documented (**Present**), species likely to occur based on preferred habitat and local species abundance and nearby (<5 miles) occurrences within 5 miles (**Probable**), species may occur based on preferred habitat and/or occurrences within 25 miles (**Possible**), species not likely to occur based on limited or lack of preferred habitat and/or occurrence over 50 miles (**Improbable**), and species not present due to lack of habitat (**Not Present**).

Appendix E

Migratory Bird Species with Potential to Occur within the Fossil Butte Group Allotments

Common Name	Species Name	BLM STATUS ¹	ID SGCN ²	HPBB ³	BCC ⁴	IWJV ⁵	NABCI ID ⁶
American Avocet	<i>Recurvirostra americana</i>		S3	Y		Y	Y
American Coot	<i>Fulica americana</i>						
American Crow	<i>Corvus brachyrhynchos</i>						
American Dipper	<i>Cinclus mexicanus</i>			Y			Y
American Goldfinch	<i>Carduelis tristis</i>						
American Kestrel	<i>Falco sparverius</i>						
American Pipit	<i>Anthus rubescens</i>						
American Robin	<i>Turdus migratorius</i>						
American Widgeon	<i>Anas americana</i>					Y	Y
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>						
Bank Swallow	<i>Riparia riparia</i>						
Barn Owl	<i>Tyto alba</i>						
Barn Swallow	<i>Hirundo rustica</i>						
Barrow's Goldeneye	<i>Bucephala islandica</i>		GAME	Y			Y
Belted Kingfisher	<i>Ceryle alcyon</i>						
Black Rosy-finch	<i>Leucosticte atrata</i>		S3	Y	Y		Y
Black-billed Magpie	<i>Pica pica</i>			Y			
Black-capped Chickadee	<i>Poecile atricapilla</i>						
Black-chinned Hummingbird	<i>Archilochus alexandri</i>			Y			
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>		S2B				Y
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>						
Black-necked Stilt	<i>Himantopus mexicanus</i>		S3	Y		Y	Y
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>			Y	Y		
Blue-winged Teal	<i>Anas discors</i>						Y
Bobolink	<i>Dolichonyx oryzivorus</i>						Y
Bohemian Waxwing	<i>Bombycilla garrulus</i>						
Bonaparte's Gull	<i>Larus philadelphia</i>						

Common Name	Species Name	BLM STATUS¹	ID SGCN²	HPBB³	BCC⁴	IWJV⁵	NABCI ID⁶
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	BLM 5					
Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>						
Brown Creeper	<i>Certhia americana</i>						
Brown-headed Cowbird	<i>Molothrus ater</i>						
Bufflehead	<i>Bucephala albeola</i>						Y
Bullock's Oriole	<i>Icterus bullocki</i>						
Bushtit	<i>Psaltiriparus minimus</i>						
California Gull	<i>Larus californicus</i>		S2B				Y
California Quail	<i>Callipepla californica</i>		GAME				
Canada Goose	<i>Branta canadensis</i>						Y
Canvasback	<i>Aythya valisineria</i>		S2N			Y	Y
Canyon Wren	<i>Catherpes mexicanus</i>						
Caspian Tern	<i>Sterna caspia</i>		S2B				Y
Cassin's Finch	<i>Carpodacus cassinii</i>	BLM 5				Y	Y
Cassin's Vireo	<i>Vireo cassinii</i>						
Cattle Egret	<i>Bubulcus ibis</i>		S2B				Y
Cedar Waxwing	<i>Bombycilla cedrorum</i>						
Chipping Sparrow	<i>Spizella passerina</i>						
Chukar	<i>Alectoris chukar</i>		GAME				
Cinnamon Teal	<i>Anas cyanoptera</i>		GAME	Y		Y	Y
Clark's Grebe	<i>Aechmophorus clarkii</i>		S2B			Y	Y
Clark's Nutcracker	<i>Nucifraga columbiana</i>					Y	Y
Cliff Swallow	<i>Hirundo pyrrhonota</i>						
Common Goldeneye	<i>Bucephala clangula</i>						Y
Common Loon	<i>Gavia immer</i>		S1B			Y	y
Common Merganser	<i>Mergus merganser</i>						
Common Nighthawk	<i>Chordeiles minor</i>						
Common Poorwill	<i>Phalaenoptilus nuttallii</i>						
Common Raven	<i>Corvus corax</i>						

Common Name	Species Name	BLM STATUS¹	ID SGCN²	HPBB³	BCC⁴	IWJV⁵	NABCI ID⁶
Common Yellowthroat	<i>Geothlypis trichas</i>						
Cooper's Hawk	<i>Accipiter cooperii</i>						
Cordilleran Flycatcher	<i>Empidonax occidentalis</i>	BLM 5					Y
Dark-eyed Junco	<i>Junco hyemalis</i>						
Double-crested Cormorant	<i>Phalacrocorax auritus</i>						
Downy Woodpecker	<i>Picoides pubescens</i>						
Dunlin	<i>Calidris alpina</i>						Y
Dusky Flycatcher	<i>Empidonax oberholseri</i>			Y		Y	Y
Eared Grebe	<i>Podiceps nigricollis</i>				Y	Y	Y
Eastern Kingbird	<i>Tyrannus tyrannus</i>						
Forster's Tern	<i>Sterna forsteri</i>		S1				Y
Franklin's Gull	<i>Larus pipixcan</i>		S2B	Y		Y	Y
Gadwall	<i>Anas strepera</i>					Y	Y
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	BLM 5	S2B	Y			Y
Gray Flycatcher	<i>Empidonax wrightii</i>		N	Y		Y*	
Gray Jay	<i>Perisoreus canadensis</i>						
Gray Partridge	<i>Perdix perdix</i>		GAME				
Great Blue Heron	<i>Ardea herodias</i>						
Great Egret	<i>Ardea alba</i>		S1B				
Great Horned Owl	<i>Bubo virginianus</i>						
Greater Yellowlegs	<i>Tringa melanoleuca</i>						Y
Green-tailed Towhee	<i>Pipilo chlorurus</i>	BLM 5			Y	Y	Y
Green-winged Teal	<i>Anas crecca</i>						Y
Hairy Woodpecker	<i>Picoides villosus</i>						
Hermit Thrush	<i>Catharus guttatus</i>						
Hooded Merganser	<i>Lophodytes cucullatus</i>		S2B	Y			
Horned Grebe	<i>Podiceps auritus</i>		S1				Y
Horned Lark	<i>Eremophila alpestris</i>						
House Finch	<i>Carpodacus mexicanus</i>						

Common Name	Species Name	BLM STATUS ¹	ID SGCN ²	HPBB ³	BCC ⁴	IWJV ⁵	NABCI ID ⁶
House Wren	<i>Troglodytes aedon</i>						
Killdeer	<i>Charadrius vociferus</i>			Y			Y
Lark Sparrow	<i>Chondestes grammacus</i>			Y			
Lazuli Bunting	<i>Passerina amoena</i>						Y
Least Sandpiper	<i>Calidris minutilla</i>					Y	Y
Lesser Goldfinch	<i>Carduelis psaltria</i>		S2				Y
Lesser Scaup	<i>Aythya affinis</i>		S3			Y	Y
Lesser Yellowlegs	<i>Tringa flavipes</i>						Y
Lincoln's Sparrow	<i>Melospiza lincolnii</i>						
Long-billed Curlew	<i>Numenius americanus</i>	BLM 5	S2B	Y	Y	Y	Y
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>					Y	Y
Long-eared Owl	<i>Asio otus</i>						
MacGillivray's Warbler	<i>Oporornis tolmiei</i>			Y			Y
Mallard	<i>Anas platyrhynchos</i>					Y	Y
Marbled Godwit	<i>Limosa fedoa</i>		S2		Y		Y
Marsh Wren	<i>Cistothorus palustris</i>						
Merlin	<i>Falco comlumbarius</i>		S2B				
Mountain Bluebird	<i>Sialia currucoides</i>					Y	Y
Mourning Dove	<i>Zenaida macroura</i>						
Nashville Warbler	<i>Vermivora ruficapilla</i>						
Northern Flicker	<i>Colaptes auratus</i>						
Northern Harrier	<i>Circus cyaneus</i>						
Northern Pintail	<i>Anas acuta</i>		S2N			Y	Y
Northern Pygmy-owl	<i>Glaucidium gnoma</i>	BLM 5					Y
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>						
Northern Saw-whet Owl	<i>Aegolius acadicus</i>						
Northern Shoveler	<i>Anas clypeata</i>		S2N			Y	Y
Northern Shrike	<i>Lanius excubitor</i>						
Orange-crowned Warbler	<i>Vermivora celata</i>						
Osprey	<i>Pandion haliaetus</i>						Y
Pied-billed Grebe	<i>Podilymbus podiceps</i>						

Common Name	Species Name	BLM STATUS ¹	ID SGCN ²	HPBB ³	BCC ⁴	IWJV ⁵	NABCI ID ⁶
Pine Siskin	<i>Carduelis pinus</i>						
Red-breasted Nuthatch	<i>Sitta canadensis</i>						Y
Red-eyed Vireo	<i>Vireo olivaceus</i>						
Redhead	<i>Aythya americana</i>		GAME	Y		Y	Y
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	BLM 5				Y	
Red-necked Phalarope	<i>Phalaropus lobatus</i>					Y	Y
Red-tailed Hawk	<i>Buteo jamaicensis</i>						
Red-winged Blackbird	<i>Aeglais phoeniceus</i>						
Ring-billed Gull	<i>Larus delawarensis</i>						
Ring-necked Duck	<i>Aythya collaris</i>						Y
Rock Wren	<i>Salpinctes obsoletus</i>			Y			
Rough-legged Hawk	<i>Buteo lagopus</i>						
Ruby-crowned Kinglet	<i>Regulus calendula</i>						
Ruddy Duck	<i>Oxyura jamaicensis</i>		S2N			Y	Y
Rufous Hummingbird	<i>Selasphorus rufus</i>			Y		Y	Y
Sage Thrasher	<i>Oreoscoptes montanus</i>	BLM 5		Y	Y	Y	Y
Sandhill Crane	<i>Grus canadensis</i>		GAME	Y		Y	Y
Savannah Sparrow	<i>Passerculus sandwichensis</i>						
Say's Phoebe	<i>Sayornis saya</i>						
Sharp-shinned Hawk	<i>Accipiter striatus</i>			Y			
Short-eared Owl	<i>Asio flammeus</i>	BLM 5	S4	Y			Y
Snow Bunting	<i>Plectrophenax nivalis</i>						
Snow Goose	<i>Chen caerulescens</i>						Y
Snowy Egret	<i>Egretta thula</i>		S2B			Y	Y
Song Sparrow	<i>Melospiza melodia</i>						
Sora	<i>Porzana carolina</i>						
Spotted Sandpiper	<i>Actitis macularia</i>					Y	Y
Spotted Towhee	<i>Pipilo maculatus</i>						
Stellar's Jay	<i>Cyanocitta stelleri</i>						
Swainson's Hawk	<i>Buteo swainsoni</i>	BLM 5	S3B	Y		Y	Y
Townsend's Solitaire	<i>Myadestes townsendi</i>						Y

Common Name	Species Name	BLM STATUS¹	ID SGCN²	HPBB³	BCC⁴	IWJV⁵	NABCI ID⁶
Townsend's Warbler	<i>Dendroica townsendi</i>			Y			Y
Tree Swallow	<i>Tachycineta bicolor</i>						
Tundra Swan	<i>Cygnus columbianus</i>						Y
Turkey Vulture	<i>Cathartes aura</i>						
Vaux's Swift	<i>Chaetura vauxi</i>						Y
Veery	<i>Catharus fuscescens</i>						
Vesper Sparrow	<i>Pooecetes gramineus</i>						
Violet-green Swallow	<i>Tachycineta thalassina</i>						
Virginia Rail	<i>Rallus limicola</i>						
Warbling Vireo	<i>Vireo gilvus</i>						
Western Burrowing Owl	<i>Athene cunicularia</i>	BLM 5	S2				Y
Western Grebe	<i>Aechmophorus occidentalis</i>		S2B	Y		Y	Y
Western Kingbird	<i>Tyrannus verticalis</i>						
Western Meadowlark	<i>Sturnella neglecta</i>						
Western Sandpiper	<i>Calidris mauri</i>					Y	Y
Western Screech-Owl	<i>Otus kennicotti</i>						
Western Tanager	<i>Piranga ludoviciana</i>			Y			Y
Western Wood-Pewee	<i>Contopus sordidulus</i>						
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>						
White-headed Woodpecker	<i>Picoides albolarvatus</i>		S2	Y	Y	Y	Y
White-throated Swift	<i>Aeronautes saxatalis</i>					Y	
Willet	<i>Catoptrophorus semipalmatus</i>					Y	Y
Wilson's Phalarope	<i>Phalaropus tricolor</i>	BLM 5	S3B			Y	Y
Wilson's Snipe	<i>Gallinago delicata</i>						Y
Wilson's Warbler	<i>Wilsonia pusilla</i>						
Wood Duck	<i>Aix sponsa</i>						Y
Yellow Warbler	<i>Dendroica petechia</i>			Y			

Common Name	Species Name	BLM STATUS¹	ID SGCN²	HPBB³	BCC⁴	IWJV⁵	NABCI ID⁶
Yellow-breasted Chat	<i>Icteria virens</i>						
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>					Y*	
Yellow-rumped Warbler	<i>Dendroica coronata</i>						

¹BLM Status includes species on the watch list (BLM 5; USDI BLM 2003c).

²ID SGCN includes Idaho Species of Greatest Conservation Need with the following designations: S-State Rank, 1-critically imperiled, 2-imperiled, 3-rare, B-breeding population, N-nonbreeding population, and GAME - game bird (IDFG 2006b).

³HPBB includes Idaho Partners in Flight High Priority Breeding Bird species (IPIF 2000).

⁴BCC includes U.S. Fish and Wildlife Service Birds of Conservation Concern (USDI USFWS 2008).

⁵IMJV includes Intermountain West Joint Venture Continentally Important Species. Asterisk denotes that the species is not CIS in Intermountain West Avifaunal Biome.

⁶NABCI includes Continental and Regional Priority Bird Species of Idaho listed by North American Bird Conservation Initiative partners (North American Waterfowl Plan, U.S. Shorebird Conservation Plan, Partners in Flight, Waterbird Conservation for the Americas) under state and national conservation plans.

Appendix F
Fossil Butte Group Allotment Utilization (2003 – 2012)

Utilization was not taken on all allotments every year. Only years in which utilization was taken are reflected in this appendix. Utilization was not conducted on individual species in years indicated by dashes (--). See Appendix C for plant species codes.

Fossil Butte

Species	% Utilization by Year						
	2007	2008	2009	2010	2011	2012	
PSSPS	33	-- ²	38	20	--	--	
	47		43				39
	54		47				
	54						
	Avg: 47%		Avg: 43%	Avg: 30%			
BRTE	14	--	10	22	--	--	
	17		11				
	17		12				
	19						
	22						
	Avg: 18%		Avg: 11%	Avg: 22%			
ACHY	--	42	--	--	--	23	
		43					
		Avg: 43%					Avg: 23%
POBU	--	20	--	--	--	--	
		Avg: 20%					
POSE	--	--	0	13	--	--	
			6				22
							22
							24
		Avg: 3%	Avg: 20%				
ELELE	--	20	--	--	7	9	
		36			7	10	
					11	15	
					17	17	
					20	18	
	Avg: 28%		Avg: 12%	Avg: 14%			

Con Shea

Species	% Utilization by Year			
	2006	2009	2011	2012
PSSPS	--	29	--	--
		Avg: 29%		
ACHY	--	--	--	9
				Avg: 9%
POSE	30	7	--	--
	Avg: 30%	9		

Species	% Utilization by Year			
	2006	2009	2011	2012
ELELE	--	--	6	12
			15	18
			26	
			Avg: 16%	Avg: 15%

Sinker Butte

Species	% Utilization by Year				
	2006	2008	2009	2011	2012
AGCR	26	29	11	0	13
	34		14		13
	44		20		14
	45		23		15
			30		20
	Avg: 37%	Avg: 29%	Avg: 20%	Avg: 7%	Avg: 15%
ACHY	--	18	--	--	--
		Avg: 18%			
POSE	--	--	--	15	14
				25	16
					17
				Avg: 20%	Avg: 17%
ELELE	--	5	--	9	--
		16		12	
		Avg: 11%		Avg: 11%	

Joyce FFR

Species	% Utilization by Year	
	2011	2012
PSSPS	--	0
		Avg: 0%
ACHY	3	--
	Avg: 3%	

Montini FFR

Species	% Utilization by Year	
	2007	2010
BRTE	9	7
	Avg: 9%	Avg: 7%

Murphy FFR

Species	% Utilization by Year
	2012
BRTE	3
	Avg: 3%