

**Rangeland Health Assessment**  
**Final Rangeland Health Standards and Guidelines Assessment**  
**For**  
**Feltwell Allotment (0544)**

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# **Rangeland Health Standards and Guidelines Assessment**

## **Feltwell Allotment (0544) Rangeland Health Assessment**

Standards for Rangeland Health and Guidelines for Livestock Grazing Management

### **I. Background**

In 1997, in accordance with 43 CFR 4180 2(b), the Idaho BLM adopted Rangeland Health Standards and Guidelines for Livestock Grazing Management (Appendix A-1), which were developed in coordination with Resource Advisory Councils. There are eight Standards, not all of which apply to any one parcel of land. The Standards of rangeland health are expressions of the level of physical and biological condition or degree of function required for healthy, sustainable rangelands. Rangelands should be meeting or making significant progress toward meeting the Standards. If the Standards are met, nutrient and hydrologic cycling and energy flow are adequate to sustain the rangeland.

Indicators are typical physical and biological factors and processes that can be measured or observed. This document examines the indicators for each Standard and uses quantitative and qualitative information including inventory data, monitoring data, health assessment information, or other observations to evaluate the current status of the indicator relating to each Standard. Condition ratings of indicators relating to each Standard and trends in measured indicators are discussed below for all of the Standards that are applicable to these allotments.

Guidelines direct the selection of grazing management practices, and where appropriate, livestock management facilities, to promote significant progress toward, or the attainment and maintenance of the Standards.

Conclusions as to whether or not allotments are meeting, or making significant progress toward meeting the Standards and Guidelines will be provided in a separate evaluations and determinations document based on information provided in this document. Additional information will be considered in developing the evaluations and determinations if received in a timely manner.

### **II. Rangeland Health Assessment**

Resource conditions are evaluated according to the Standards for Rangeland Health, as adopted by Idaho BLM in 1997. The following subsections discuss resource conditions, by allotment and pasture, as they relate to each standard.

#### **FELTWELL ALLOTMENT (0544)**

##### **Allotment Background Information**

The Feltwell allotment is located approximately 12 miles south of Jordan Valley, Oregon (Map RNGE-1). It is located northwest of South Mountain and is part of the South Mountain Core Area. Elevations range from 5,000 to 5,800 feet. The area is characterized by primarily north-to-south trending steep mountains and sideslopes that are dominated by stands of sagebrush-bunchgrass communities intermingled with stands of antelope bitterbrush and scattered juniper. Most landform features are rhyolitic in origin and consist of foothills, ridges, and a broader basin to the southeast containing perennial and ephemeral drainages that form the headwaters of Owl Creek.

The allotment is within the USDA Major Land Resource Area D-25; Owyhee High Plateau (USDA NRCS 2006b). The majority of the soils in the allotment are shallow to moderately deep and well drained. Soils are clayey to loamy and vary in surface and subsurface rock fragments. These soils formed in residuum and alluvium that was derived predominantly from welded rhyolitic tuff. The associated ecological sites consist primarily the following: Loamy 13-16” ecological sites with mountain big sagebrush, Idaho fescue, and bluebunch wheatgrass plant communities; Loamy 16+” ecological sites with mountain big sagebrush, Idaho fescue, and bluebunch wheatgrass plant communities; and Shallow Claypan 12-16” ecological sites with low sagebrush, Idaho fescue, and bluebunch wheatgrass communities.

The Feltwell allotment includes six pastures with BLM, state and private lands totaling approximately 1,666 acres (Map RNGE-1).

**Table LVST-1:** Feltwell allotment land status acres\*

<b>Pasture</b>	<b>BLM</b>	<b>State</b>	<b>Private</b>	<b>Total</b>
<b>1</b>	178	0	0	178
<b>2</b>	1	0	239	240
<b>3</b>	684	4	5	693
<b>4</b>	87	0	362	449
<b>5/6</b>	0	0	107	107
<b>Total</b>	949	4	713	1,666

*\*These numbers represent best available estimates*

Historically cattle and sheep grazed the Feltwell allotment, but the area was divided into separate cattle and sheep allotments around 1937. Large bands of sheep grazed and trailed through the area each spring and fall. Since 1960, the area has been grazed only by cattle.

The Feltwell allotment is part of the historic South Mountain administrative unit. The South Mountain Unit was inventoried in 1963 and adjudicated in 1965. No reductions were imposed, resulting in an allocation of 279 AUMs of permitted use.

**Actual and Authorized use, including season of use**

Current permitted use in the allotment is 279 AUMs with a May 1-August 31 season of use (Table LVST-2). WF Carolyn D Peton is the sole permittee in this allotment, which is currently leased to Mindy Kershner.

**Table LVST-2:** Total permitted use, active permitted use, and suspended use, in the Feltwell allotment (1982 - present)

Allotment	Permittee	Active Use	Suspended Use	Total Use	% PL
Feltwell (0544)	WF Carolyn D Peton (4126)	279	0	279	100

Actual use ranged from 71 to 283 AUMs from 1997 to 2011, with average actual use of 224 AUMs (Table LVST-3). No data was reported in 2002-2004 and 2007. Actual use reported was insufficient to estimate actual use by pasture due to the splitting the pastures with other pastures that were all private land. Therefore, only allotment total AUMs will be sufficient to analyze for actual use reported in the Feltwell allotment.

Actual use reported in 2006, 2008, 2010, and 2011 were insufficient to use for calculating average actual use, because AUMs were reported for combined pastures and it was unclear which pasture was used.

In November 1988, a decision was implemented to graze the allotment as permitted. However, the rangeland inventory conducted at that time suggested that the allotment was overstocked and needed further monitoring information to support any reduction.

**Table LVST-3: Actual use as reported by permittees 1997-2009**

	Pasture 1		Pasture 2 (majority private)		Pasture 3		Pasture 4		Pasture 5/6 (private)		Allotment AUMS
	Date	AUMS	Date	AUMS	Date	AUMS	Date	AUMS	Date	AUMS	
<b>2009</b>	5/1-5/19	Split pasture 5	5/20-6/15	Split pasture 4	6/16-9/1	177	5/20-6/15	Split pasture 2	5/1-5/19	Split pasture 1	281
<b>2005</b>	5/1-5/19	Split pasture 5	5/20-6/15	Split pasture 4	6/16-9/1	177	5/20-6/15	Split pasture 2	5/1-5/19	Split pasture 1	283
<b>2001</b>	5/1-8/15	190	7/15-8/15	Split pasture 4	8/15-9/1	Split pasture 5	7/15-8/15	Split pasture 2	8/15-9/1	Split pasture 3	281
<b>2000</b>	No pasture data available 5/15-8/8										193
<b>1999</b>	Rest	0	Rest	0	7/15-8/25	36	6/1-7/15	35	No Data	No Data	71
<b>1998</b>	5/15-6/12 60 AUMs				7/16-8/11	57	6/13-7/15	69	No Data	No Data	186
<b>1997</b>	7/16-8/15 56 AUMs				6/19-8/15	67	5/15-7/15	152	No Data	No Data	275

## Rangeland Health

### Standard 1 Watersheds

Rangeland health assessments (RHAs) were completed by an interdisciplinary team during the 2000 field season (two RHAs) and in 2013 (two RHAs). The assessments were conducted in accordance with the procedure described in BLM-Technical Reference 1734-6 *Interpreting Indicators of Rangeland Health-Version 3* for monitoring in 2000, and version 4 for monitoring in 2013. Evaluation methods are discussed in Appendix B.

Twelve of the 17 rangeland health indicators included in the standard matrix are related to Standard 1; ratings are summarized by pasture in Table SOIL-1. Indicator ratings by site are included in Appendix C; see Appendix E Map RNGE-1 for rangeland health evaluation locations.

**Table SOIL-1:** Summary of watershed-related ratings of soil/site stability and hydrologic function indicators for the Feltwell allotment from 2000 and 2013 RHAs (Appendix C)

Standard 1- Watersheds	Degree of Departure				
	None to Slight	Slight to Moderate	Moderate	Moderate to Extreme	Extreme
Pasture *1	7	3	2	0	0
Pasture *3	19	5	0	0	0
Pasture *4	10	6	2	2	0

\*1 Summarizes: 1 Loamy 13-16" ecological site

\*3 Summarizes: 1 Loamy 13-16" and 1 Shallow Claypan 13-16" ecological sites

\*4 Summarizes: 1 Shallow Claypan 13-16" ecological site

#### Pasture 1

Indicators of pedestals/terraces and associated soil loss and degradation showed moderate departures from reference conditions at 07S06W13. Numerous pedestals were associated with mechanical disturbance and some water flow patterns in localized areas along gentler ground; the land displayed historic as well as active erosion based on root exposure. Around shrubs, bare ground was slight-to-moderate and less-dominant than in more open and exposed heavier-use shrubless areas.

The plant community indicator, as it relates to hydrologic function, shows a none-to-slight degree of departure, with a variety of herbaceous vegetation providing cover in most areas. In more accessible areas, vegetation is reduced by physical impacts. Functional/structural groups are altered at slight-to-moderate levels from site potential due to a reduction of large, perennial grasses, and an increase in small perennial bunchgrasses and a moderate increase in invasive annuals.

#### Pasture 3

Indicators of soil erosion are present in the form of water flow patterns and pedestals and terracettes that were rated with none-to-slight to slight-to-moderate departures from reference site conditions at the two sites (RH1A and RH2A at 07S06W25). Flow paths are generally minor and unconnected but contain evidence of historic pedestal formation, with many being moss covered, indicating various stages of stability. Soil structure is maintained, though some bare ground is present and associated with historic soil loss within water flow patterns and in trails.

Soil factors affecting the hydrologic function consist of stabilizing rock cover, adequate organic matter content in the surface layer, and sufficient soil structure that aids in protecting the soil from rain drop impact and overland flow. However, microbiotic soil crusts were noted to be present but were less than expected. The plant community indicator, as it relates to hydrologic function, shows a slight-to-moderate degree of departure. Recruitment of deep-rooted bunchgrasses is occurring, although invasive grasses are on the increase and juniper is present.

#### **Pasture 4**

Water flow patterns at site 07S06W13 are often distinct with cut edges, deep, and connected. Past and active pedestaling occurs on mixed species vegetation, some of which possibly can be attributed to frost heave that was accentuated by increased flow. Mechanical impacts and surface sealing are common, especially within bare interspaces. Pedestaling is rated at a moderate-to-extreme departure from reference conditions and is most common in the interspatial areas where there is evidence of extensive past soil loss. This has left behind coarser fragments that aid in stabilizing soils.

The plant community indicator, as it relates to hydrologic function, shows a none-to-slight degree of departure as a mix of shallow and deep-rooted bunchgrasses and adequate shrubs are represented throughout the site. Invasive annuals are at slight-to-moderate levels and are widespread. Biological soil crusts are less than expected, as they primarily occur under protective shrub canopies and are less frequently found in interspaces.

#### **2013 Observations**

Field observations in pastures 1 and 4 in the late spring of 2013 (see Owyhee Field Office project file) showed a variety of impact levels across the BLM portion of the Feltwell allotment. In pasture 1, soil loss and degradation were found in localized areas, especially clay pockets along the loamy slopes above Minear Creek, where pedestaling is extensive and mounding of shrubs was noted. However, some of the steeper terrain is densely vegetated with shrubs and shows fewer disturbances, likely due to restrictive movement within the woody shrubs. Among a component of native perennial bunchgrasses and shrubs, invasive perennials are present with bulbous bluegrass being the most widespread, followed by annual cheatgrass.

Pasture 4 is dominated by broad convex slopes that steepen along its sides. Rocky shallow to very shallow, more gently sloping areas include grassy clay pockets that are heavily pugged and trampled, with pedestaled plants, mostly Idaho fescue and Sandberg bluegrass, showing crown die off. Soil loss and degradation and physical impacts appear to be ongoing, especially since the pasture is usually grazed in the spring. Recent utilization was higher on fescue compared to bluebunch wheatgrass and varied across the landscape.

## Evaluation Findings and Determination

### 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.

#### Standard

- Standard does not apply
- Meeting the Standard
- Not meeting the Standard; Current livestock grazing management practices are significant factors
- Not Meeting the Standard; Making significant progress toward
- Not Meeting the Standard; Current livestock grazing management practices are not significant factors

#### Guidelines

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 1, 3, 8

### Rationale for Evaluation Finding and Determination

Current and past livestock grazing management practices are significant causal factors for not meeting upland watershed Standard 1 in pastures 1 and 4 in the Feltwell FFR allotment; pasture 3 is meeting and pastures 2 and 5 are private.

Both past and active accelerated erosional processes have resulted in pedestaling of plants, water flow patterns, and widespread physical soil impacts by livestock hoof action from a large network of trails. Biological soil crusts are variable, ranging from being present to being greatly reduced or absent, especially in interspatial areas. Repeated spring and early summer season use by cattle under wet conditions have promoted mechanical damage to the soil surface and bare ground.

Non-mechanical impacts are associated with altered plant community composition and distribution from a decrease in relative abundance of large, deep-rooted native perennial bunchgrasses. Although soil surface loss varies across the landscape, the reduced protection resulting from absent vegetation and persistent cover increases the susceptibility to erosion, especially when soils are churned and bare. Where pugging occurs, soil structure and hydrologic function is altered and vegetation is impacted or removed.

Degraded ecological conditions have resulted in the departure from reference conditions, affect infiltration and runoff, and do not project improvement in watershed health, especially with spring grazing and limited rest. Taken together, the decreased ecological function and impaired soils indicate that soil and hydrologic function are compromised.

Current and past livestock management is the primary causal factor in not meeting Standard 1 and ORMP soil management objectives of improving unsatisfactory watershed health/conditions in the Feltwell FFR allotment.
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## Standard 2 Riparian Areas and Wetlands

The ORMP identified perennial and fish-bearing streams that occur on public lands and included an assessment of the mileage present and the condition at the time (1999). None of the streams that occur in the Feltwell allotment are identified in the ORMP.

According to the National Hydrography Dataset (NHD; BLM standard IM 2009-212), the Feltwell allotment contains three named streams (Minear Creek, Owl Creek, and Owl Tributary Creek) with approximately 3.9 miles of intermittent and 1.1 miles of perennial streams. The NHD does not identify any springs/seeps within the allotment.

### Pastures 1, 2, & 4

Approximately 0.2 mile of Minear Creek in pasture 1, 0.2 mile of Owl Creek in pasture 2, and 0.2 mile of an Owl Creek tributary in pasture 4 traverse BLM lands within the Feltwell allotment. Although condition ratings have been made as part of longer PFC assessments (see table RIPN-1 below), the reaches have been used for water gaps.

### Pasture 3

Approximately 0.2 mile of Owl Creek and 0.7 mile of an Owl Creek tributary occur on BLM lands in pasture 3 of the Feltwell allotment. The reach of Owl Creek was assessed FAR because there was inadequate riparian vegetation present to bind and protect the stream banks, there were only mature and decadent shrub species present, indicating a lack of recruitment, and more than 70 percent of the stream is accessible and impacted by livestock. The reach of the tributary to Owl Creek was also FAR because both the channel and the banks had been impacted and were unstable, and there was inadequate vegetation remaining to protect the stream banks.

### Pasture 5

Pasture 5 is entirely private land; thus, BLM does not manage any of the riparian/ water resources that occur within the pasture.

**Table RIPN-1: Feltwell allotment riparian summary (Map RNGE-1)**

Stream Name	Allotment and Pasture Name and Miles Assessed				Assessment Issues/ Impacts Identified	Total Miles
	Feltwell - 01	Feltwell- 02	Feltwell- 03	Feltwell - 04		
Minear Creek	0.2 water gap FAR-2000				areas of insufficient soil moisture/ hydric species and age distribution/ unstable banks/ erosion occurring	0.2
Owl Creek		0.2 water gap FAR-	0.2 (FARS-2000		incised channel/ ~70% of stream accessed by livestock/ unstable beaver dam/ overwide channel/ inadequate age class of	0.4

		Allotment and Pasture Name and Miles Assessed					
Stream Name	Feltwell - 01	Feltwell- 02	Feltwell- 03	Feltwell - 04	Assessment Issues/ Impacts Identified	Total Miles	
		2000			riparian veg/ inadequate veg to protect stream banks/ areas of vertical and lateral instability		
Owl Creek Tributary			0.7 (FARS-2000)	0.2 water gap FAR-2000	disturbed and unstable channel and banks/ inadequate plants to bind banks/ sedimentation/ sinuosity and w/d ratios out of balance	0.9	

### Evaluation Findings and Determination

#### 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.

#### Standard

- Standard does not apply
- Meeting the Standard
- Not meeting the Standard, Current livestock grazing management practices are significant factors
- Not Meeting the Standard; Making significant progress toward
- Not Meeting the Standard; Current livestock grazing management practices are not significant factors

#### Guidelines

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 5

#### Rationale for Evaluation Finding and Determination

Standard 2 is not being met in pastures 1-4 of the Feltwell allotment. However, pastures 1, 2, and 4 contain short reaches of stream that are currently used as water gaps.

Within pastures 1, 2, and 4, approximately 0.2 mile of Minear, Owl, and a tributary of Owl Creeks were rated FAR because there were unstable banks, the channel was incised, and sedimentation was occurring. Approximately 0.2 mile of Owl Creek and 0.7 mile of a tributary to Owl Creek that occur in pasture 3 were also assessed FAR because there was inadequate riparian vegetation present to stabilize and protect the stream banks and channels.

Current livestock grazing management practices are significant causal factors for not meeting

Standard 2. Residual vegetation has not been sufficient to maintain or improve riparian-wetland function, and the recent grazing schedule has not allowed for rest years. Therefore, current livestock grazing management practices do not conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 2.

### **Standard 3 Stream Channel/Floodplain**

#### **Evaluation Findings and Determination**

##### **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.

##### **Standard**

- Standard does not apply
- Meeting the Standard
- Not meeting the Standard, Current livestock grazing management practices are significant factors
- Not Meeting the Standard; Making significant progress toward
- Not Meeting the Standard; Current livestock grazing management practices are not significant factors

##### **Guidelines**

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 7

##### **Rationale for Evaluation Finding and Determination**

Standard 2 is not being met in pastures 1-4 of the Feltwell allotment. However, pastures 1, 2, and 4 contain short reaches of stream that are currently used as water gaps.

Approximately 0.2 mile of Owl Creek and 0.7 mile of a tributary to Owl Creek were assessed FAR because there was inadequate riparian vegetation present to stabilize and protect the stream banks and channels (Table RIPN-1 and Map RNGE-1).

Current livestock grazing management practices are significant causal factors for not meeting Standard 3. Residual vegetation has not been sufficient to maintain or improve riparian-wetland function, the recent grazing schedule has not allowed for rest years, and the management has not allowed progress toward appropriate stream channel and stream bank morphology and function. Therefore, current livestock grazing management practices do not conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 3.

## Standard 4 Native Plant Communities

### Rangeland Health Evaluation

Two Rangeland Health Evaluation Worksheets were completed in pasture 3 of this allotment in 2003; in 2013, two more evaluations were completed for pastures 1 and 4. The following table (VEG-1) contains a summary of indicator ratings by degree of departure from ecological site descriptions or reference sites. Feltwell map shows the location of the field assessments and Appendix C contains individual indicator ratings by site.

**Table VEG-1:** Rangeland Health Evaluation Worksheet Summary

^Standard 4-Native Plant Communities	Degree of Departure				
	None to Slight	Slight to Moderate	Moderate	Moderate to Extreme	Extreme
Pasture 1	5	2	2	0	0
Pasture 3	7	2	0	0	0
Pasture 3	7	0	1	1	0
Pasture 4	3	5	1	0	0

^ See Appendix B for individual evaluations and indicators.

\*3 Summarizes: 1 Loamy 13-16" and 1 Shallow Claypan 12-16" ecological sites

### Pasture 1

In 2013, a RH1B (07S06W13) was completed in the southern portion of the pasture in a Loamy 13-16" ecological site. The indicators relating to biotic integrity rated in the none-to-slight or slight-to-moderate ranges of departure, with the exception of the indicator for invasive plants. Functional/structural groups are all presently altered at slight-to-moderate levels from scattered invasive annuals. Invasive annuals are localized in the congregation area but are not affecting the overall site potential. Overall, the plant community is diverse, both in structure and function, and vigor is good, with adequate reproductive capabilities of the perennial grasses (bluebunch wheatgrass and Idaho fescue) and other perennial plants.

Overall interpretations of biotic integrity suggest that vegetation conditions are providing proper nutrient and hydrologic cycling and energy flow for site potential with scattered invasive annuals in the interspaces.

### Pasture 3

RH1A represents a Shallow Claypan 12-16" ecological site in the central portion of the pasture. There is slight to moderate departure in soil surface loss and plant mortality and decadence due to pedestalling and some crown die out. All other indicators relating to biotic integrity rated in acceptable range of departure relative to this ecological site. The reproductive capability of perennial plants was good; seedheads were present on all grasses (bluebunch wheatgrass and Idaho fescue), and vigor was high on perennial grasses and shrubs. Invasive species present were soft brome and cheatgrass, although they do not pose a risk to the diversity and vigor of the plant community. The composition of the structure and function of the plant community are appropriate and providing proper nutrient and energy cycling.

RH1B in the southern portion of the pasture represents the Loamy 13-16” ecological site. The indicators relating to biotic integrity were rated in the none-to-slight or slight-to-moderate ranges of departure, with the exception of the indicator for invasive plants. Invasive species present were western juniper and cheatgrass posing a risk to the diversity and vigor of the plant community. Overall, the plant community is diverse, both in structure and function, and vigor is good, with adequate reproductive capabilities of the perennial grasses (bluebunch wheatgrass and Idaho fescue) and other perennial plants.

Overall interpretations of biotic integrity suggest that vegetation conditions are providing proper nutrient and hydrologic cycling and energy flow for site potential, with scattered invasive annuals in the interspaces.

#### **Pasture 4**

In 2013, an RHA (07S06W23) in pasture 4 was completed in a Shallow Claypan 12-16” ecological site in the south portion of the pasture. This pasture has large- to medium-sized basalt boulders. Indicators relating to biotic integrity rated as slight to moderate departures relative to this ecological site. The reproductive capability of perennial plants was good; seedheads were present on all grasses (bluebunch wheatgrass, Sandberg bluegrass, and Idaho fescue), and vigor was good on perennial grasses; however, some decadent shrubs and some crown die out were present at this sight. Invasive species present were bald brome, bulbous bluegrass, and cheatgrass. The composition of the structure and function of the plant community are shifting to more shallow-rooted bunchgrasses with cheatgrass increasing in the interspaces.

Overall interpretations of biotic integrity suggest that vegetation conditions are shifting to a dominating shallow-rooted bunchgrass site with invasive annuals in the interspaces.

#### **Utilization**

In 1988, utilization was recorded at one site in pasture 1 on bluebunch wheatgrass at 59 percent utilization. In 2011, utilization was recorded in pasture 2 on bluebunch wheatgrass at 17 percent, pasture 3 on Sandberg bluegrass at 37 percent, on Idaho fescue at 50 percent, and pasture 4 on bluebunch wheatgrass at 18 percent. In 2012, utilization data were collected in pasture 3 on bluebunch wheatgrass at 24 percent utilization.

### **Evaluation Findings and Determination**

#### **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.

#### **Standard**

- Standard does not apply
- Meeting the Standard
- Not meeting the Standard, Current livestock grazing management practices are significant factors

- Not Meeting the Standard; Making significant progress toward
- Not Meeting the Standard; Current livestock grazing management practices are not significant factors

**Guidelines**

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). \_\_

**Rationale for Evaluation Finding and Determination**

Rangeland health Standard 4 is not met in pasture 4 of the Feltwell allotment; that Standard is met in pastures 1 and 3. Pastures 2 and 5 are private. Although evidence of historic grazing impacts are present throughout the allotment with the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) away from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail), historic grazing and invasive annuals are the causal factors in not meeting Standard 4.

Qualitative rangeland health assessment data indicate that Standard 4 in pasture 4 is not met due to departure of functional-structural groups in three RHAs dominated by shallow-rooted bunchgrass and invasive annuals (rather than the ecological reference site conditions dominated by deep-rooted species (bluebunch wheatgrass and Idaho fescue)). This conclusion is supported by current ecological site descriptions and correlation to vegetation inventories.

The Owyhee Resource Management Plan management objective to improve unsatisfactory and maintain satisfactory vegetation health/condition on all areas is also not met within pasture 4. Vegetation communities dominated by shallow-rooted bunchgrasses in pasture 4, with the expansion of annual invasive grasses lead to a conclusion that the vegetation management objective is not met.

**Standard 5 Rangeland Seeding**

This standard does not apply.

**Standard 6 Exotic Plant Communities**

This standard does not apply.

**Standard 7 Surface and Ground Water Quality**

Idaho Department of Environmental Quality (IDEQ) designates basins, sub-basins, and assessment units in order to manage the state’s waterways. The 2010 Integrated Report (303(d)/305(b)) uses assessment units within the sub-basin. Assessment units are groups of similar streams within a sub-basin that have similar land use practices, ownership, or land

management. Assessment units are assessed for pollutants and assigned beneficial uses with associated Water Quality Standards. The Beneficial Use Reconnaissance Program (BURP) is a field assessment of stream segments (all IDEQ data and standards mentioned here are available on the IDEQ web site <http://www.deq.idaho.gov>).

Current IDEQ information identifies that the BLM portions of the five pastures within the Feltwell allotment contain approximately 1.6 miles of stream that are not supporting the watershed’s beneficial uses. The allotment contains a portion of AU #ID17050108SW002\_02 (Table RIPN-2) with associated beneficial uses and pollutants. The AU is currently not supporting the beneficial uses, and all of the streams that occur within the allotment are on the 303(d) list of impaired waters.

**Table RIPN-2: DEQ water quality summary for the Feltwell allotment**

AU #	AU Name	Beneficial Use Not Meeting	Pollutant/ Pollution	TMDL
ID17050108SW002_02	Lone Tree Creek and tributaries - 1st and 2nd order	CWAL <sup>1</sup> SS <sup>2</sup> SCR <sup>3</sup>	combined biota/habitat bioassessments E. Coli	No

<sup>1</sup>CWAL = cold water aquatic life

<sup>2</sup>SS = salmonid spawning

<sup>3</sup>SCR = secondary contact recreation

**Evaluation Findings and Determination**

**Standard 7 (Water Quality)**

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

**Standard**

- Standard does not apply
- Meeting the Standard
- Not meeting the Standard, Current Livestock grazing management practices are significant factors
- Not Meeting the Standard; Making significant progress toward
- Not Meeting the Standard; Current livestock grazing management practices are not significant factors

**Guidelines**

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 10

**Rationale for Evaluation Finding and Determination**

Current IDEQ information identifies that the BLM portions of the five pastures within the Feltwell allotment contain approximately 1.6 miles of stream that are not supporting the watershed’s beneficial uses. The allotment contains a portion of AU

#ID17050108SW002\_02 (Table RIPN-2) with associated beneficial uses and pollutants. The AU is currently not supporting the beneficial uses, and all of the streams that occur within the allotment are on the 303(d) list of impaired waters.

Standard 7 is not being met in pastures 1 through 4 of the Feltwell allotment and the allotment is not in conformance with the Guidelines for Livestock Grazing Management because livestock contribute to the pollutants identified.

## **Standard 8 Threatened and Endangered, Special Status, Sensitive Species**

### **Special Status Plants**

No populations of special status plant species are known to occur in this allotment. There is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that may occur in this allotment. Records show no reported special status plants in this allotment, so this standard is not applicable.

#### *Information sources*

Elemental Occurrences (EOs) for special status plant (SSP) populations is recorded in the Idaho Fish and Wildlife Information System (IFWIS) Species Diversity database (IDFG, 2011). EOs are derived by completion and review of Idaho rare plant observation reports through the Idaho Natural Heritage Program. Other sources that were used to assess and evaluate the composition and condition of SSP habitats within the Jim's Peak FFR allotment include RHAs, photographs, field notes, Plants database (USDA NRCS, 2013), literature search, and information summarized above in Standards in this document. Records show no reported special status plants in this allotment.

### **Special Status Wildlife**

#### *Upland Habitat*

##### *Pastures 1 and 3*

Pastures 1 and 2 are managed as native plant communities. Plant community information in Standard 4 identified this pasture is meeting Rangeland Health Standards and Guides (see Standard 4). Sage-grouse habitat assessment data collected in 2012 supports the evaluation of Standard 4. Therefore, the plant community composition and structure are providing adequate upland habitat condition for sagebrush steppe dependent species.

##### *Pasture 4*

Pasture 4 is managed as a native plant community. Plant community information in Standard 4 identified the reduced composition of deep-rooted native perennial bunchgrasses (e.g., bluebunch wheatgrass and Idaho fescue) from reference site conditions and a greater dominance by increaser species (e.g., Sandberg bluegrass and squirreltail). These conditions signal a shift in plant community composition and structure that is not favorable for sagebrush steppe dependent species. No 2012 sage-grouse habitat assessment information is available for this pasture.

## Riparian Habitats

### *Pastures 1, 2, and 4*

Evaluation of Standards 2 and 3 identified 0.4 miles of Minear Creek is used as livestock water access (i.e., water gap) in these pastures. Locations where livestock are intended to be watered and routinely access reaches of streams can be expected to have riparian problems. Evaluation of Standards 2 and 3 identified areas of insufficient soil moisture, reduced hydric species and age distribution, unstable banks and active erosion occurring in the water gaps (see Standards 2 and 3).

### *Pasture 3*

Evaluation of Standards 2 and 3 identified that reaches of Owl Creek and a tributary were functioning-at-risk. Issues identified included inadequate riparian vegetation present to stabilize and protect the stream banks and channels (see Standards 2 and 3).

### *Pastures 1 through 4*

Evaluation of Standard 7 identified streams on the IDEQ's 303(d) list of impaired streams and that water quality parameters are not being met for the watershed's beneficial uses. The list of beneficial uses includes water quality standards for cold-water aquatic life (see Standard 7).

## Focal Species

### *Sage Grouse*

On March 5, 2010, the USFWS (USDI USFWS, 2010) published a finding in the Federal Register that found listing the greater sage-grouse was warranted but precluded by the need to take action on other species facing more immediate and severe extinction threats. The finding has changed the status of sage-grouse from a BLM Type 2 sensitive species to a candidate species under the ESA.

This allotment lies within the regional Snake River Plain Management Zone for sage-grouse. In 2012, preliminary priority habitat (PPH) and general priority habitat (GPH) were modeled to identify lands in Idaho important to sage-grouse sustainability. PPH includes breeding, late brood-rearing and winter concentration areas. General priority habitat are lands that may serve as important corridors between PPH and habitat islands within corridors, or occupied habitats characterized by low lek densities (Makela & Major, 2012). The BLM collaborated with respective state wildlife agencies to identify these areas. Modeling results indicate that all (100 percent) of the Feltwell allotment lies within PPH (Table WDLF-1, Map WDLF-1). No active leks are known to occur within this allotment. This allotment provides seasonal breeding, upland summer, riparian, and winter habitat for sage-grouse.

**Table WDLF-1:** Acres<sup>1</sup> and portions of preliminary priority and general priority habitat within the Feltwell allotment (Map WDLF-1)

Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment <sup>2</sup>	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
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Allotment/Pasture Name	Acres of PPH Sagebrush Habitat in Allotment <sup>2</sup>	Acres of PPH Perennial Grassland in Allotment	Acres of PPH Juniper Encroachment in Allotment	Acres of PGH in Allotment	Portion of Allotment in PPH/PGH
Pasture 1	153 (100%)	0	0	0	153 (100%)
Pasture 2	209 (100%)	0	0	0	209 (100%)
Pasture 3	548 (72%)	0	216 (28%)	0	764 (100%)
Pasture 4	529 (100%)	0	0	0	529 (100%)
Pasture 5	137 (100%)	0	0	0	137 (100%)
Pastures 6	29 (100%)	0	0	0	29 (100%)
Allotment Total	1,604 (88%)	0	216 (12%)	0	1,820 (100%)

<sup>1</sup>PPH/PGH habitat acreage totals include public lands, state lands, and private property.

<sup>2</sup>PPH sagebrush can also include small amounts of perennial grasslands, conifer encroachment, and non-habitat.

### ***Pasture 1***

Two sage-grouse upland summer habitat assessments were collected on two different reference sites in this pasture. Both assessment locations were located in Loamy 12-16" Wyoming big sagebrush / bluebunch wheatgrass ecological sites. The pasture is managed as a native plant community (Standard 4).

### ***Breeding Habitat Assessment***

This information was collected as part of an upland summer habitat assessment conducted on August 16, 2012. Because the sagebrush community is not expected to change substantially over the course of a few months and the data collection protocols are the same, this information can provide insight into breeding habitat conditions earlier in the spring, although the forb information is not used because of the time year the data was collected would influence their numbers and abundance.

The sagebrush overstory is characterized by a marginal canopy cover (42 percent) and marginal height (122.9 cm) with a marginal mixed (spreading/columnar) shape. The understory is characterized by a marginal canopy cover of perennial grasses (11 percent) (Table WDLF-2). Overall, because of the less-than-desirable sagebrush occurrence and physical shape in the overstory combined with reduced perennial grass occurrence in the understory, this site is providing less-than-adequate (marginal) conditions for nesting and hiding cover values for sage-grouse.

### ***Upland Summer Habitat Assessment***

The sagebrush overstory is characterized by a marginal canopy cover (42 percent) and suitable height (122.9 cm). The understory is characterized by a marginal combined canopy cover of perennial grasses and forbs (12 percent) (Table WDLF-2). The number of preferred forb species (6) recorded is marginal; however, the canopy cover (1 percent) along the transect line is unsuitable. Overall, marginal occurrence and height of the sagebrush overstory and marginal understory perennial grass/forb canopy cover indicates that this site is providing less than

adequate (marginal) structure and composition for hiding/escape cover for late brood-rearing sage-grouse.

*Winter Habitat Assessment*

This information was collected as part of a breeding habitat assessment conducted on August 16, 2012. Because the sagebrush community is not expected to change substantially over the course of a few months, this information can provide insight into winter habitat conditions later in the year. The sagebrush overstory is characterized by a suitable canopy cover (42 percent) and suitable height (122.9 cm). Overall, sagebrush occurrence and height are providing suitable winter cover and forage conditions for sage-grouse and is not a limiting factor in this pasture (Table WDLF-2).

**Table WDLF-2:** Sage-grouse habitat indicators and pasture ratings (Refer to Appendix B for full assessment summaries and habitat indicator value ranges)

Habitat Indicator	Data	<sup>1</sup> Breeding	Upland Summer	<sup>1</sup> Winter
Sagebrush Canopy Cover (%)	42.0	marginal	marginal	suitable
Sagebrush Height (cm)	122.9	marginal	marginal	suitable
Sagebrush Form	mixed	marginal		
<sup>2</sup> Perennial Grass Canopy Cover (%)	11.0	marginal		
Combined Grass/Forb Canopy Cover (%)	12.0		marginal	
Preferred Forb Availability (#)	6		suitable	
<b>Overall Pasture Evaluation Rating</b>		<b>marginal</b>	<b>marginal</b>	<b>suitable</b>

<sup>1</sup>Breeding and winter habitat ratings extrapolated from upland habitat assessment information collected on 8/16/2012.

<sup>2</sup>Perennial grass canopy cover does not include Poa species.

**Pasture 3**

One sage-grouse upland summer habitat assessments was collected in Loamy 12-16” Wyoming big sagebrush / bluebunch wheatgrass ecological site. The pasture is managed as a native plant community (Standard 4).

*Breeding Habitat Assessment*

This information was collected as part of an upland summer habitat assessment conducted on August 15, 2012. Because the sagebrush community is not expected to change substantially over the course of a few months and the data collection protocols are the same, this information can provide insight into breeding habitat conditions earlier in the spring, although the forb information is not used because of the time year the data was collected would influence their numbers and abundance.

The sagebrush overstory is characterized by a marginal canopy cover (42 percent) and marginal height (106.9 cm) with an unsuitable columnar shape. The site is also heavily stocked with an

equal canopy cover (42 percent) of other shrubs such as snowberry, green rabbitbrush, and bitterbrush. The understory is characterized by a suitable canopy cover of perennial grasses (16 percent) (Table WDLF-3). Overall, although a columnar shape of the sagebrush tends to expose the understory, the site is well stocked with a diversity of other shrubs that create favorable overstory conditions and when combined with the suitable canopy cover of perennial grasses in the understory, this site is providing adequate (suitable) nesting and early brood-rearing cover values for sage-grouse.

*Upland Summer Habitat Assessment*

The sagebrush overstory is characterized by a marginal canopy cover (42 percent) and marginal height (106.9 cm). The site is also heavily stocked with an equal canopy cover (42 percent) of other shrubs such as snowberry, green rabbitbrush, and bitterbrush. The understory is characterized by a suitable combined canopy cover of perennial grasses and forbs (32 percent) (Table WDLF-3). The number of preferred forb species recorded (11) is suitable and their canopy cover (16 percent) along the transect line is suitable. Overall, the site is well stocked with a diversity of shrubs that create favorable overstory conditions and when combined with the suitable canopy cover of perennial grasses/forbs in the understory, this site is providing adequate (suitable) security cover and forage for late brood-rearing sage-grouse.

*Winter Habitat Assessment*

This information was collected as part of a breeding habitat assessment conducted on August 15, 2012. Because the sagebrush community is not expected to change substantially over the course of a few months, this information can provide insight into winter habitat conditions later in the year. The sagebrush overstory is characterized by a marginal canopy cover (34 percent) and marginal height (69.5 cm). Overall, sagebrush occurrence and height are providing suitable winter cover and forage conditions for sage-grouse and is not a limiting factor in this pasture (Table WDLF-3).

**Table WDLF-3:** Sage-grouse habitat indicators and pasture ratings (Refer to Appendix B for full assessment summaries and habitat indicator value ranges)

Habitat Indicator	Data	<sup>1</sup> Breeding	Upland Summer	<sup>1</sup> Winter
Sagebrush Canopy Cover (%)	42.0	marginal	marginal	suitable
Sagebrush Height (cm)	106.9	marginal	marginal	suitable
Sagebrush Form	columnar	unsuitable		
<sup>2</sup> Perennial Grass Canopy Cover (%)	16.0	suitable		
Combined Grass/Forb Canopy Cover (%)	32.0		suitable	
Preferred Forb Availability (#)	11		suitable	
<b>Overall Pasture Evaluation Rating</b>		<b>suitable</b>	<b>suitable</b>	<b>suitable</b>

<sup>1</sup>Breeding and winter habitat ratings extrapolated from upland habitat assessment information collected on 8/15/2012.

<sup>2</sup>Perennial grass canopy cover does not include Poa species.

## Evaluation Findings and Determination

### 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.

#### Standard

- Standard does not apply
- Meeting the Standard
- Not meeting the Standard, Current livestock grazing management practices are significant factors
- Not Meeting the Standard; Making significant progress toward
- Not Meeting the Standard; Current livestock grazing management practices are not significant factors

#### Guidelines

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 5, 7, 8, 10, 11, and 12

## Rationale for Evaluation Finding and Determination

### Plants

Standard 8 for botany is met in the Feltwell FFR allotment. There are no federally listed plant species and there is insufficient information to determine site-specific impacts of livestock grazing on any special status plants that occur in this allotment.

### Wildlife

#### *Upland Habitat*

Pasture 4 in the Feltwell FFR allotment is managed as a native plant community and is determined to be not meeting Standard 4 (see Standard 4). Evaluation of Standard 4 noted an increase in annual invasive grass species, showing a transition in the plant community composition from native bunchgrasses to more grazing-tolerant exotic species. Annual species do not have the robust growth form or stature such as bluebunch wheatgrass and do not provide the plant community composition, structure, and function for sagebrush steppe-dependent species. Because of the undesirable transition in plant community composition identified by Standard 4 and the absence of any other vegetation information (e.g., sage-grouse habitat assessment data), this allotment therefore is not providing adequate upland habitat conditions for sagebrush steppe species and is not meeting Standard 8 due to historic livestock practices and increased dominance of invasive annuals.

#### *Riparian Habitat*

Evaluation of Standards 2, 3, and 7 determined that streams within this allotment are not properly functioning and not meeting water quality parameters due to historic and current

livestock grazing. Streams, springs, and wetlands that are functioning-at-risk are lacking adequate riparian vegetation composition and distribution to provide the structure and function to support a productive riparian environment. Because Standards 2, 3, and 7 are not being met, this allotment is failing to provide adequate riparian habitat conditions to support viable aquatic and terrestrial species populations, and therefore is not meeting Standard 8 due to historic and current grazing practices.

**Field Manager's Determination**

I have determined that Standards 1, 2, 3, 4, 7, and 8 of the applicable Standards for Rangeland Health are not being met in the Feltwell allotment, whereas Standards 5 and 6 are not applicable to resources present within the allotment. Current livestock grazing management practices are significant factors in not meeting Standards 1, 2, 3, 7, and 8; and is not a significant casual factor for not meeting Standard 4. Livestock management practices do not conform with the applicable Livestock Grazing Management Guidelines 1, 3, 5, 7, 8, 10, 11, and 12.

  
\_\_\_\_\_  
**Field Manager**  
**Owyhee Field Office**

8/22/13  
**Date**

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## V. Appendices and Maps

### APPENDIX A – IDAHO STANDARDS FOR RANGELAND HEALTH AND GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

#### Idaho Standards for Rangeland Health

##### 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.

Indicators may include, but are not limited to, the following:

1. The amount and distribution of ground cover, including litter, for identified ecological site or soil-plant associations are appropriate for site stability.
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.

##### Standard 2 (Riparian Areas and Wetlands)

Riparian-wetland areas are in proper functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Indicators may include, but are not limited to, the following:

1. The riparian/wetland vegetation is controlling erosion, stabilizing streambanks, shading water areas to reduce water temperature, stabilizing shorelines, filtering sediment, aiding in floodplain development, dissipating energy, delaying floodwater, and increasing recharge of groundwater appropriate to site potential.
2. 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.
3. Age class and structural diversity of riparian/wetland vegetation is appropriate for the site.
4. Noxious weeds are not increasing.

**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.

Indicators may include, but are not limited to, the following:

1. Stream channels and floodplains dissipate energy of high water flows and transport sediment. Soils support appropriate riparian-wetland species, allowing water movement, sediment filtration, and water storage. Stream channels are not entrenching.
2. Stream width/depth ratio, gradient, sinuosity, and pool, riffle and run frequency are appropriate for the valley bottom type, geology, hydrology, and soils.
3. Streams have access to their floodplains and sediment deposition is evident.
4. There is little evidence of excessive soil compaction on the floodplain due to human activities.
5. Streambanks are within an appropriate range of stability according to site potential.
6. Noxious weeds are not increasing.

**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.

Indicators may include, but are not limited to, the following:

1. 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.
2. The diversity of native species is maintained.
3. Plant vigor (total plant production, seed and seedstalk production, cover, etc.) is adequate to enable reproduction and recruitment of plants when favorable climatic events occur.
4. Noxious weeds are not increasing.
5. Adequate plant litter and standing dead plant material are present for site protection and for decomposition to replenish soil nutrients relative to site potential.

**Standard 5 (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.

Indicators may include, but are not limited to, the following:

1. In established seedings, the diversity of perennial species is not diminishing over time.
2. Plant production, seed production, and cover are adequate to enable recruitment when favorable climatic events occur.
3. Noxious weeds are not increasing.
4. Adequate litter and standing dead plant material are present for site protection and for decomposition to replenish soil nutrients relative to site potential.

**Standard 6 (Exotic Plant Communities)**

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.

Indicators may include, but are not limited to, the following:

1. Noxious weeds are not increasing.
2. Perennial species numbers are being maintained.
3. Native and introduced perennial species are vigorous enough to reproduce when climatic and other environmental conditions are favorable.
4. Litter and standing dead plant material is adequate to replenish soil nutrients relative to site potential.

**Standard 7 (Water Quality)**

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

Indicators may include, but are not limited to, the following:

1. Physical, chemical, and biologic parameters described in the Idaho Water Quality Standards.

### **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.

Indicators may include, but are not limited to, the following:

1. Parameters described in the Idaho Water Quality Standards.
2. 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.
3. Age class structure diversity or riparian/wetland vegetation is appropriate for the site.
4. 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.
5. The diversity of native species is maintained.
6. The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
7. Noxious weeds are not increasing.

### **Guidelines for Livestock Grazing Management**

1. Use grazing management practices and/or facilities to maintain or promote significant progress toward adequate amounts of ground cover to support infiltration, maintain soil moisture storage and stabilize soils.
2. Locate livestock management facilities away from riparian areas wherever they conflict with achieving or maintaining riparian-wetland functions.
3. Use grazing management practices and/or facilities to maintain or promote soil conditions that support water infiltration, plant vigor, and permeability rates and minimize soil compaction appropriate to site potential.
4. Implement grazing management practices that 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 to site potential.
5. Maintain or promote 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.
6. The development of springs, seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions, wildlife habitat, and

significant cultural and historical/ archaeological/ paleontological values associated with the water source.

7. Apply grazing management practices to maintain, promote, or progress toward appropriate stream channel and streambank morphology and functions. Adverse impacts due to livestock grazing will be addressed.
8. Apply grazing management practices that 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.
9. Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate and landform.
10. Implement grazing management practices and/or facilities that provide for complying with the Idaho Water Quality Standards.
11. Use grazing management practices developed in recovery plans, conservation agreements, and Endangered Species Act, Section 7 consultations to maintain or improve habitat for federally listed threatened, endangered, and sensitive plants and animals.
12. Apply grazing management practices and/or facilities that maintain or promote the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.
13. On areas seeded predominantly with non-native plants, use grazing management practices to maintain or promote the physical and biological conditions to achieve healthy rangelands.
14. Where native communities exist, the conversion to exotic communities after disturbance will be minimized.
15. Use non-native plant species for rehabilitation only in those situations where:
  - a. native species are not readily available in sufficient quantities;
  - b. native plant species cannot maintain or achieve the standards; or
  - c. non-native plant species provide for management and protection of native rangelands
  - d. Include a diversity of appropriate grasses, forbs, and shrubs in rehabilitation efforts.
16. On burned areas, allow natural regeneration when it is determined that populations of native perennial shrubs, grasses, and forbs are sufficient to revegetated the site. Rest burned or rehabilitated areas to allow recovery or establishment of perennial plant species.
17. Carefully consider the effects of new management facilities (e.g., water developments, fences) on healthy and properly functioning rangelands prior to implementation.
18. Use grazing management practices, where feasible, for wildfire control and to reduce the spread of targeted undesirable plants (e.g., cheatgrass, medusahead wildrye, and noxious weeds while enhancing vigor and abundance of desirable native or seeded species.

19. Employ grazing management practices that promote natural forest regeneration and protect reforestation projects until the Idaho Forest Practices Act requirements for timber stand replacement are met.
20. Design management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native plants and animals.

## **APPENDIX B – METHODS OF USE TO EVALUATE RANGELAND HEALTH UPLANDS**

### **Rangeland Health Evaluations**

Rangeland Health Evaluations as outlined in *BLM technical reference 1734-6 Interpreting Indicators of Rangeland Health* (versions 3 and 4) and other available qualitative and quantitative data are used to assess rangeland health.

The rangeland health evaluation summary worksheet consists of 17 indicators, which are rated on the degree of departure from expected conditions based on the appropriate ecological site description and/or reference area. The 17 indicators are separated into three attributes; soil site stability, hydrologic functioning and biotic integrity, and are used for Standards 1, 4, and 5. The preponderance of evidence from the indicators is used to assess the status of the site.

### **Utilization**

Utilization data is used in evaluating the effects of grazing and browsing on specific species and areas within a pasture. Utilization refers to the percentage of annual production of forage that has been removed by animals during the grazing season. It is expressed as a percentage and is used to characterize the total use of vegetation in an area or of individual plant species.

Generally, utilization transects are located at pre-determined key use areas (permanent NPFT locations), however utilization information may be collected anywhere throughout a pasture or allotment.

Numerous methods are available for measuring utilization, some of which include: the Landscape Appearance Method, Key Species Method, Grazed Class Method, Cole Browse Method or Extensive Browse Method (*Interagency Technical Reference 1996 BLM/RS/ST-96/004+1730*). In general, the utilization data used in this assessment were collected using the Key Species Method and the Cole Browse Method.

### **Riparian/Wetland**

A Standard Checklist, outlined in the 1998 BLM *Technical Reference 1737-15, A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas* (flowing water), and other available qualitative and quantitative data are used to assess riparian and wetland health. The standard checklist consists of 17 indicators that are used to assess the functioning condition of riparian areas. The indicators are compiled into three interlocking attribute categories representing erosion/deposition, hydrologic function, and vegetative status. Status of noxious weeds is also considered when evaluating riparian health.

Spring wetland areas were assessed for proper functioning condition as outlined in *Technical Reference 1737-11, "Process for assessing proper functioning condition for lentic riparian-wetland areas"* (USDI 1994). Lentic areas are defined as wetland-riparian areas adjacent to standing water habitats such as lakes, ponds, seeps, and meadows.

## Special Status Animals

**Riparian Habitat** - Riparian special status species' habitats were assessed primarily using information obtained from the riparian/wetland methods described in the above section. While there is no direct correlation between stream functioning condition and special status species habitat, many of the indicators of riparian functionality are also crucial components of habitat for many of the special status and other wildlife species dependent on this habitat type, especially redband trout and neotropical migratory birds and amphibians. The indicators that assess structure, composition, and vigor of hydric (riparian) vegetation are especially important because they also assess the quality and quantity of shade, nesting/breeding habitat, forage, and escape cover.

**Sage Grouse Habitat** - Sage grouse habitat was evaluated using "A Framework to Assist in Making Sensitive Species Habitat Assessments for BLM-Administered Public Lands in Idaho – Sage Grouse" (USDI 2001). Nesting, brood-rearing, and winter habitat are each evaluated using different criteria. Although this methodology was developed for sage grouse, the criteria are useful for assessing the general health of sagebrush ecosystems and their suitability for other sagebrush obligate species. In general, if the landscape-scale needs of sage grouse are met, then other sagebrush-obligates probably have adequate cover, food, and sagebrush distribution.

### *2013 Supplement to the Rangeland Health Standards and Guidelines Assessment*

Sage-grouse breeding and upland summer habitat assessments were conducted using the BLM Sage-grouse Habitat Assessment Framework, Multi-scale Habitat Assessment Tool, August 2010 (Stiver, Rinkes, & Naugle, 2010). This assessment tool has been going through slight modifications since 2001 to present as information and findings come forward to better capture and characterize sage-grouse habitat indicators.

The sage-grouse assessment information collected in 2012 can be reviewed below. Assessment teams collected breeding habitat and upland summer habitat assessment information during the spring and summer of 2012.

In interpreting the breeding and upland summer habitat information, where it is applicable, because the composition and structure of the sagebrush-steppe community is not expected to change significantly over the course of a few weeks to a couple of months, except in situations affected by wildfire or mechanical manipulation, the information can provide insight into habitat conditions during other times of the year.

For example, the breeding habitat assessment can provide sagebrush canopy cover and height to assess winter habitat potential and conditions. However, an assessment of upland summer habitat conditions could not be clearly made because the forb information was not representative of the time of year the data was collected and removing the forb information eliminated two critical habitat indicators in making a clear assessment of potential habitat conditions later in the year. Therefore, upland summer habitat was not evaluated using breeding habitat assessment information.

However, because the data collection methods are the same, upland summer habitat assessment

information could provide insight into breeding habitat conditions earlier in the year. Largely due to the collection of information specific to sagebrush physical shape and perennial grass canopy cover. Consistent with the discussion above, forb information was not used because it did not represent any other assessment except for the time of year it was collected. Upland summer habitat conditions also provided insight into winter habitat conditions. Therefore, upland summer habitat assessment and supplemental information collected in the summer season were used to assess and evaluate breeding and winter conditions earlier and later in the year.

*2013 Supplement to the Feltwell Allotment Rangeland Health Standards and Guidelines Assessment*

Form H-4		Sage-grouse Habitat Suitability Worksheet –		UPLAND SUMMER	R025XY003ID		
<b>Allotment-Pasture Names</b> Feltwell		<b>Allotment-Pasture Number:</b> 0544-01		<b>Number of Transects:</b> 2		<b>Subpopulation:</b> NC NV/ SE OR/ SW ID	
<b>Ecological Site ID:</b> R025XY003ID		<b>Ecological Site Name:</b> Loamy 12-16" ARTRW8/PSSPS				<b>Home Range Name:</b> Pleasant Valley	
<b>Site IDs:</b>		<b>Land Cover Type/s:</b>		<b>Area Sampled (ha):</b>		<b>Date:</b>	
0544-01-07506W13A-2012		ARTRW8-CHVI/POSE-BRTE		0.6		8/16/2012	
0544-01-07506W13B-2012		ARTRW8-SYAL/BRTE-SYHI-POSE		1		8/16/2012	
						<b>Associated Leaks:</b> 20577	
						<b>Site Info:</b> Mesic	
<b>Habitat Indicator Suitability Range (Primary)</b>							
<b>Habitat Indicator</b>	<b>χ</b>	<b>Suitable</b>	<b>✓</b>	<b>Marginal</b>	<b>✓</b>	<b>Unsuitable</b>	<b>✓</b>
Sagebrush Canopy Cover (mean)	42.0	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	122.9	40-80 cm		20-<40 cm or >80 cm	X	<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	12.0	≥15%		5-15%	X	<5%	
Preferred Forb Availability (relative to site potential)	Common	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (mean)	6.0						
<b>Habitat Indicator Suitability Range (Supplemental)</b>							
<b>Habitat Indicator</b>	<b>χ</b>	<b>Suitability</b>	<b>Rationale</b>				
Predominant Sagebrush Shape (mode)	Mixed	Marginal	A mixed spreading/columnar sagebrush shape tends to open up the canopy and expose the understory.				
Perennial Grass and Forb Height (mean)	26.2	Suitable	Perennial grass/forb height is >18cm. Primarily generated by only one site -0544-01-07506W13B-2012.				
Perennial Grass Canopy Cover (mean)	11.0	Marginal	Perennial grass canopy cover is between 5-15%. Primarily generated by only one site -0544-01-07506W13B-2012.				
Perennial Forb Canopy Cover (mean)	1.0	Unsuitable	Canopy cover of perennial forbs <3%.				
Other Shrub Canopy Cover (mean)	31.0	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.				
Other Shrub Height (mean)	72.4	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.				
Sagebrush and Other Shrub Canopy Cover (mean)	73.0	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.				
Sagebrush and Other Shrub Height (mean)	102.8	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.				
Perennial Grass Height (excluding Poa spp.) (mean)	26.4	Suitable	Perennial grass height is >18cm. Primarily generated by site 0544-01-07506W13B-2012.				
Poa Spp. Canopy Cover (mean)	12.0	Suitable	Poa spp. is a sub-dominant on the reference site.				
Annual Grass Canopy Cover (mean)	35.0	Unsuitable	BRTE and BRJA are co-dominants on this reference site.				
Annual Forb Canopy Cover (mean)	1.0	Suitable	Appropriate for this reference site.				
Bare Ground Canopy Cover (relative to site potential) (mean)	8.0	Unsuitable	Bareground for this reference site ranges from 20-40%. Low bareground indicative of smaller grazing tolerant plants or annual grasses occupying the inner spaces.				
<b>Does ecological site potential limit suitability potential?</b>				<b>YES</b>	<b>NO</b>		
					X		
<b>Drought Condition:</b>	<b>Extreme Drought</b>	<b>Severe Drought</b>	<b>Moderate Drought</b>	<b>Mid-Range</b>	<b>Moderately Moist</b>	<b>Very Moist</b>	<b>Extremely Moist</b>
			X				
<b>Evidence of sage-grouse use?</b>	None noted						
<b>Evidence of recent livestock use?</b>	None noted						
<b>Rationale for Overall Suitability Rating:</b>	The overstory is characterized by a marginal canopy cover (42%), and height (122.9cm) of sagebrush. The understory is characterized by marginal canopy cover of perennial grasses/forbs (12.0%). Forbs are common within the area but showed unsuitable along the transect line. Notable is the suitable height of perennial grasses and forbs which is generated primarily by one transect location (0544-01-07506W13B-2012). Overall, the overstory shrub component is well stocked with a diversity of species and the herbaceous understory is providing less than desirable occurrence of perennial grasses although the preferred forbs appear available, therefore this pasture is providing less than adequate (marginal) summer upland habitat conditions for late brood-rearing sage-grouse.						
<b>Site-Scale Suitability</b>	<b>Suitable</b>		<b>Marginal</b>			<b>Unsuitable</b>	
			X				

Form H-6		Sage-grouse Habitat Suitability Worksheet –		WINTER	R025XY003ID				
Allotment-Pasture Names:		Feltwell	Allotment-Pasture Number:		0544-01	Number of Transects:	2	Subpopulation:	NC NV/ SE OR/ SW ID
Ecological Site ID:		R025XY003ID	Ecological Site Name:		Loamy 12-16" ARTRW8/PSSPS	Home Range Name:		Pleasant Valley	
Site IDs:		Land Cover Type/s:		Area Sampled (ha):	Date:	Associated Leks:		20577	
0544-01-07S06W13A-2012		ARTRW8-CHVI/POSE-BRTE		0.6	8/16/2012	Site Info:		Mesic	
0544-01-07S06W13B-2012		ARTRW8-SYAL/BRTE-SYHI-POSE		1	8/16/2012				
<b>Habitat Indicator Suitability Range (Primary)</b>									
Habitat Indicator	x	Suitable	✓	Marginal	✓	Unsuitable	✓		
Sagebrush Canopy Cover (mean)	42.0	>10%	X	5-10%		<5%			
Sagebrush Height above Snow		>25 cm		10-25 cm		<10 cm			
0 cm snow (annual mean)	122.9	>40 cm	X	25-40 cm		<25 cm			
15 cm snow (annual mean)		>55 cm		40-55 cm		<40 cm			
30 cm snow (annual mean)									
<b>Habitat Indicator Suitability Range (Supplemental)</b>									
Habitat Indicator	x	Suitability	Rationale						
Predominant Sagebrush Shape (mode)	Mixed								
Other Shrub Canopy Cover (mean)	31.0								
Other Shrub Height (mean)	72.4								
Sagebrush and Other Shrub Canopy Cover (mean)	73.0								
Sagebrush and Other Shrub Height (mean)	102.8								
Does ecological site potential limit suitability potential?				YES	NO				
Drought Condition:				Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist
Evidence of sage-grouse use?									
Evidence of recent livestock use?									
Rationale for Overall Suitability Rating:				The original data was collected as part of a summer upland habitat assessment on 8/16/2012. Because the shrub steppe community is not expected to change significantly over the course of a few months, this information can provide insight to winter habitat conditions over the winter. The overstory is characterized by a suitable canopy cover (42%) and height (122.9cm) of sagebrush and is overall providing adequate (suitable) hiding and thermal cover and forage for wintering sage-grouse.					
Site-Scale Suitability				Suitable	Marginal	Unsuitable			
				X					

Form H-3	Sage-grouse Habitat Suitability Worksheet –		BREEDING	0544-3-07S06W24a-2 ARTRW8-SYMP/BRJA-POSE-SIHY-FEID				
Date:	8/15/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID	
Evaluators:	Harmon, Schroeder, Ferguson			Home Range Name:	Pleasant Valley			
Legal Description:	T 07SR 06WS 24QSWQQSE		Allotment-Pasture Names:	Feltwell			Associated Leks:	None identified within vicinity
Land Cover Type:	W8-SYMP/BRJA-POSE-SIHY-FEID			Ecological Site:	Jamy 12-16" ARTRW8/PSSF			
Number of Transects:	1	Area Sampled (ha):	1.7	Site Info:	Mesic			
List UTM Coordinates:								
Starting (NAD83)	500493E	4737738N						
Ending (NAD 83)	4737740N	500540E						
<b>Habitat Indicator Suitability Range (Primary)</b>								
Habitat Indicator	$\bar{x}$	Suitable	✓	Marginal	✓	Unsuitable	✓	
Sagebrush Canopy Cover (mean)	42.0	15-25%		5-<15% or >25%	X	<5%		
Sagebrush Height Mesic Site (mean)	106.9	40-80 cm		20-<40 cm or >80 cm	X	<20 cm		
Arid Site (mean)		30-80 cm		20-<30 cm or >80 cm		<20 cm		
Predominant Sagebrush Shape (mode)	Columnar	Spreading		Mix of Spreading and Columnar		Columnar	X	
Perennial Grass and Forb Height (mean)		≥18 cm		10-18 cm		<10 cm		
Perennial Grass Canopy Cover Mesic Site (mean)	16.0	≥15%	X	5-<15%		<5%		
Arid Site (mean)		≥10%		5-<10%		<5%		
Perennial Forb Canopy Cover Mesic Site (mean)		≥10%		5-<10%		<5%		
Arid Site (mean)		≥5%		3-<5%		<3%		
Preferred Forb Availability (relative to site potential)		Preferred forbs are common with several species present		Preferred forbs are common but only a few species are present		Preferred forbs are rare		
Number of Preferred Forb Species (n)								
<b>Habitat Indicator Suitability Range (Supplemental)</b>								
Habitat Indicator	$\bar{x}$	Suitability	Rationale					
Other Shrub Canopy Cover (mean)	42.0	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.					
Other Shrub Height (mean)	0.0	Suitable	Appropriate for reference site description.					
Sagebrush and Other Shrub Canopy Cover (mean)	84.0	Marginal	Site is a fairly dense stand of multiple shrubs on a northerly aspect. Appropriate for reference site description.					
Sagebrush and Other Shrub Height (mean)	85.9	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.					
Perennial Grass Height (excluding Poa spp.) (mean)	20.0	Suitable	Perennial grass height is >18cm.					
Poa Spp. Canopy Cover (mean)	14.0	Suitable	Poa species are a sub-dominant species on this site.					
Annual Grass Canopy Cover (mean)	22.0	Unsuitable	Annual grasses are a co-dominant species on this site.					
Annual Forb Canopy Cover (mean)								
Bare Ground Canopy Cover (relative to site potential) (mean)	22.0	Suitable	Bareground for this ESD is ranges from 20-40%.					
Does ecological site potential limit suitability potential?								
				YES	NO			
					X			
Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist	
			X					
Evidence of sage-grouse use?	None noted							
Evidence of recent livestock use?	Moderate livestock near transect line							
Rationale for Overall Suitability Rating:	The original data was collected as part of a summer upland habitat assessment on 8/15/2012. Because the data collection protocols are the same and the shrub steppe community is not expected to change significantly over the course of a few months, this information can provide insight to breeding habitat conditions earlier in the spring; however, forb information was not used due to the time of year the assessment was collected which would influence the occurrence and distribution of forbs. The overstory is characterized by a marginal canopy cover (42%) and height (106cm) of sagebrush with a predominately columnar (unsuitable) shape. The understorey is characterized by suitable canopy cover of perennial grasses (16%) and perennial forbs (16%) with a marginal combined height of 16.3cm. Notable is the suitable height of perennial grasses (20.0cm). The site is a steeper slope on a northerly aspect. Overall, the site overstorey shrub component is well stocked with a diversity of species as well as the forbs and perennial grasses are well represented with favorable height. Therefore the overstorey/understorey composition and structure are adequately providing suitable breeding habitat conditions for sage-grouse.							
Site-Scale Suitability	Suitable		Marginal		Unsuitable			
	X							

Form H-4	Sage-grouse Habitat Suitability Worksheet –		UPLAND SUMMER	0544-3-07S06W24a-2 ARTRW8-SYMP/BRJA-POSE-SIHY-FEID			
Date:	8/15/2012	County:	Owyhee	State:	Idaho	Subpopulation:	NC NV/ SE OR/ SW ID
Evaluators:	armon, Schroeder, Ferguson					Home Range Name:	Pleasant Valley
Legal Description:	T 07SR 06WS 24QS WQ05E		Allotment-Pasture Names:	Feltwell		Associated Leks:	none identified within vicinity
Land Cover Type:	W8-SYMP/BRJA-POSE-SIHY-FEID					Ecological Site:	Jamy 12-16" ARTRW8/PSSF
Number of Transects:	1	Area Sampled (ha):	1.7			Site Info:	Mesic
List UTM Coordinates:							
Starting (NAD83)	500493E	4737738N					
Ending (NAD 83)	4737740N	500540E					
<b>Habitat Indicator Suitability Range (Primary)</b>							
Habitat Indicator	$\bar{x}$	Suitability	✓	Marginal	✓	Unsuitable	✓
Sagebrush Canopy Cover (mean)	42.0	10-25%		5-<10% or >25%	X	<5%	
Sagebrush Height (mean)	106.9	40-80 cm		20-<40 cm or >80 cm	X	<20 cm	
Perennial Grass and Forb Canopy Cover (mean)	32.0	≥15%	X	5-15%		<5%	
Preferred Forb Availability (relative to site potential)	Common	Preferred forbs are common with several species present	X	Preferred forbs are common but only a few species are present		Preferred forbs are rare	
Number of Preferred Forb Species (n)	11.0						
<b>Habitat Indicator Suitability Range (Supplemental)</b>							
Habitat Indicator	$\bar{x}$	Suitability	Rationale				
Predominant Sagebrush Shape (mode)	Columnar	Unsuitable	A columnar shape tends to open the overstory and expose the understory. The site is well stocked with a diversity of shrubs that would off-set this habitat indicator and maintain cover.				
Perennial Grass and Forb Height (mean)	16.3	Marginal	Perennial grass and forb height is between 10-18cm .				
Perennial Grass Canopy Cover (mean)	16.0	Suitable	Perennial grass canopy cover is >15%.				
Perennial Forb Canopy Cover (mean)	16.0	Suitable	Perennial forb canopy cover is >15%.				
Other Shrub Canopy Cover (mean)	42.0	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.				
Other Shrub Height (mean)	0.0	Suitable	Appropriate for reference site description.				
Sagebrush and Other Shrub Canopy Cover (mean)	84.0	Marginal	Site is a fairly dense stand of multiple shrubs on a northerly aspect. Appropriate for reference site description.				
Sagebrush and Other Shrub Height (mean)	85.9	Marginal	Site is a fairly dense stand of multiple shrubs. Appropriate for reference site description.				
Perennial Grass Height (excluding Poa spp.) (mean)	20.0	Suitable	Perennial grass height is >18cm.				
Poa Spp. Canopy Cover (mean)	14.0	Suitable	Poa species are a sub-dominant species on this site.				
Annual Grass Canopy Cover (mean)	22.0	Unsuitable	Annual grasses are a co-dominant species on this site.				
Annual Forb Canopy Cover (mean)	0.0	Suitable	Appropriate for reference site description.				
Bare Ground Canopy Cover (relative to site potential) (mean)	22.0	Suitable	Bareground for this ESD is ranges from 20-40%.				
Does ecological site potential limit suitability potential?				YES	NO		
					X		
Drought Condition:	Extreme Drought	Severe Drought	Moderate Drought	Mid-Range	Moderately Moist	Very Moist	Extremely Moist
			X				
Evidence of sage-grouse use?	None noted						
Evidence of recent livestock use?	Moderate livestock near transect line						
Rationale for Overall Suitability Rating:	The overstory is characterized by a marginal canopy cover (42%) and height (106cm) of sagebrush with the occurrence of a diversity of shrubs on a steeper northerly aspect. The understory is characterized by suitable canopy cover of perennial grasses/forbs (32%) and are common with several preferred species identified. Overall, the site is well stocked with a diversity of shrubs due to the northerly aspect and the understory grasses and forbs are well represented, therefore overstory/understory conditions are providing suitable hiding and escape cover as well as suitable forage availability for late brood-rearing sage-grouse.						
Site-Scale Suitability	Suitable	Marginal	Unsuitable				
	X						

## **General Upland Habitat**

The assessment of upland habitats for other special status animal species were conducted primarily using the same data that was obtained from the upland methods described above, which includes Rangeland Health Evaluation Worksheets, trend data (ground cover, species diversity, noxious and invasive plants) and utilization (vigor, production) data.

**Population Surveys and Other Monitoring** - Inventory and monitoring data are limited or absent for many of these species, therefore little is known about their distribution, population status, or trend within the allotment. Their occurrence within the allotments has been verified through field observation or assumed likely because the allotment falls within the species' known range and contains habitat types potentially capable of supporting viable populations of the species. The following is a brief description of surveys and/or monitoring efforts that have been conducted for special status animal species within these allotments.

For pygmy rabbits, survey routes were walked in appropriate tall, thick big sagebrush habitat, looking for burrows and pellets. Thick sagebrush and deep soils appear to be the major habitat necessities for these rabbits; the effect of the condition of grasses and forbs is not clear. Around the western United States, pygmy rabbits have been found in high densities in sagebrush habitats where the grass and forbs were in both poor and good condition.

For other sensitive species, no specific methods are established to evaluate habitat. We make the assumption that the general health of upland and riparian communities is important for the broad diversity of wildlife, including sensitive species. Therefore, habitat was evaluated using either riparian information (Standard 2) or native upland plant community information (Standard 4), combined with the sage-grouse habitat evaluations and knowledge of wildlife for the area. These assessments used information on abundance, diversity, vigor, cover of plants, structure and trend of plant communities, grazing utilization, and weed presence.

Sources for wildlife information for these allotments used in this assessment include:

- Sage-grouse lek (breeding ground) surveys by helicopter 1994 and 2001
- IDFG sage-grouse historical lek database, 2003
- Sage-grouse habitat assessments in 2003,
- Fish and Game sage-grouse telemetry study in Cow Cr, 1999-2003,
- Pygmy rabbit surveys in 2003,
- Columbia spotted frog survey in 1995 (Munger et al 1996)
- General wildlife field observations in 2003 and 2004

## **Special Status Plants**

Systematic inventories are conducted by BLM botanical staff for site specific projects. Additionally databases maintained by the Conservation Data Center (CDC) are consulted for populations of special status plants

## APPENDIX C – 2000 AND 2013 RANGELAND HEALTH EVALUATIONS

### Rangeland Health Evaluation Summary Worksheets for Feltwell Allotment (0544)

Attributes**			Indicators for Rangeland Health*	Pasture 1	Pasture 3		Pasture 4
				060613 07S06W23	RH1A 102400 07S06W25	RH2A 102400 07S06W25	060613 07S06W13
S	H		1-Rills	n-s	n-s	n-s	n-s
S	H		2-Water Flow Pattern	s-m	s-m	n-s	s-m
S	H		3-Pedestals / Terracettes	m	s-m	n-s	m-e
S	H		4-Bare Ground	s-m	s-m	s-m	s-m
S	H		5-Gullies	n-s	n-s	n-s	n-s
S			6-Wind-scoured, blowouts/deposition	n-s	n-s	n-s	n-s
	H		7-Litter Movement	n-s	n-s	n-s	n-s
S	H	B	8-Soil Surface Resistance to Erosion	s-m	n-s	n-s	s-m
S	H	B	9-Soil Surface Loss or Degradation	m	s-m	n-s	m
	H		10-Plant Community Composition / Distribution Relative to infiltration and	n-s	n-s	n-s	n-s
S	H	B	11-Compaction Layer	n-s	n-s	n-s	n-s
		B	12-Functional / Structural Groups	s-m	n-s	m	s-m
		B	13-Plant Mortality / Decadence	n-s	s-m	n-s	s-m
	H	B	14-Litter Amount	n-s	n-s	n-s	n-s
		B	15-Annual Production	n-s	n-s	n-s	n-s
		B	16-Invasive Plants	m	n-s	m-e	s-m
		B	17-Reproductive Capability of Perennial Plants	n-s	n-s	n-s	s-m

\*Indicators for Rangeland Health are rated based on their departure from ecological site guide descriptions and/or reference areas. **1** = None-Slight, **2** = Slight-Moderate, **3** = Moderate, **4** = Moderate-Extreme, and **5** = Extreme departure.

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

## APPENDIX D – SPECIAL STATUS ANIMAL SPECIES

### Summary of Special Status Plant and Animal Species

#### Wildlife

A number of species classified as BLM Sensitive Species and/or State of Idaho Species of Special Concern are known or likely to occur within these allotments. The following table lists these species, their legal status, and their key habitat associations.

Species	Status	Key Habitat Associations
Prairie Falcon ( <i>Falco mexicanus</i> )	S	Cliff/canyon, big sagebrush, low sagebrush
Ferruginous Hawk ( <i>Buteo regalis</i> )	S	Cliff, rock outcrop, open juniper, big sagebrush, low sagebrush
Sage Grouse ( <i>Centrocercus urophasianus</i> )	S	Big sagebrush, low sagebrush, meadow, riparian
<i>2013 Supplement to the West Maher FFR Allotment Rangeland Health Standards and Guidelines Assessment</i>		
Sage Grouse ( <i>Centrocercus urophasianus</i> )	C	Broad sagebrush valleys and foothills interspersed with wet meadows
Calliope Hummingbird ( <i>Stellula calliope</i> )	S	Woody riparian, big sagebrush, mountain shrub
Willow Flycatcher ( <i>Empidonax trailii</i> )	S	Woody riparian, mountain shrub, juniper, big sagebrush
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	S, SC	Big sagebrush, open juniper
Brewer's Sparrow ( <i>Spizella breweri</i> )	S	Big sagebrush
Sage Sparrow ( <i>Amphispiza belli</i> )	S	Big sagebrush
Spotted Bat ( <i>Euderma maculatum</i> )	S, SC	Roosting/hibernation: Cliffs, canyons, rock outcrops Foraging: Juniper, sagebrush
Fringed Myotis ( <i>Myotis thysanodes</i> )	S, SC	Roosting/hibernation: Caves, rock outcrops Foraging: Juniper, sagebrush, meadow
Townsend's Big-eared Bat ( <i>Plecotus townsendii</i> )	S, SC	Roosting/hibernation: Caves, trees. Foraging: Juniper, sagebrush, canyon.
Western Pipetrelle ( <i>Pipistrellus hesperus</i> )	SC	Roosting/hibernation: Caves, rock outcrops, burrows near water Foraging: Juniper, sagebrush, canyon

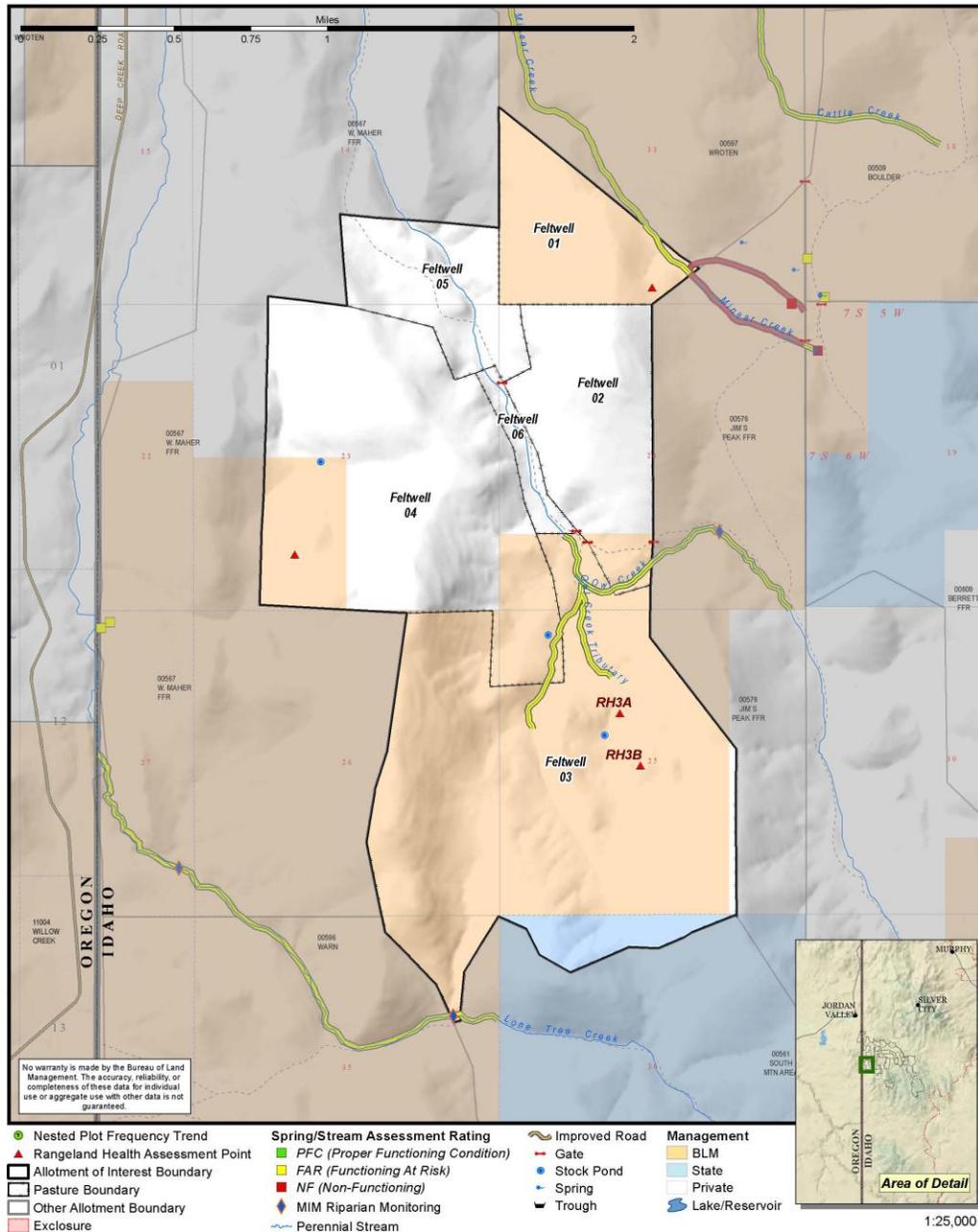
<b>Species</b>	<b>Status</b>	<b>Key Habitat Associations</b>
Pygmy Rabbit ( <i>Brachylagus idahoensis</i> )	S, SC	Big sagebrush.
Common Garter Snake ( <i>Thamnophis sirtalis</i> )	S	Aquatic/riparian
Western Toad ( <i>Bufo boreas</i> )	S, SSC	Wetland/riparian, all upland habitats

SC = State of Idaho Species of Special Concern, S = BLM Sensitive Species

# APPENDIX E – MAPS



## RNGE-1: Feltwell (00544) Range and Riparian Overview





# WDLF-1: Feltwell (00544) Sage-grouse Habitat and Leks

