

# EVALUATION REPORT

## Achieving the Idaho Standards for Rangeland Health

Field Office: **Bruneau (ID 120)**

Evaluation Date(s): **September 12, 2014**

Grazing Allotment Name/Number: **Big Springs 0803 – Sierra Del Rio Use Area**

Name of Permittee(s): **Sierra Del Rio**

### **Introduction**

The Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (Standards and Guidelines) is a suite of management goals used to maintain or improve resources, protect cultural resources and sensitive habitat, and sustain productivity of rangelands. This document provides the evaluation of information presented in the rangeland health assessment (i.e., resource conditions and trends) and indicates whether or not Standards are being achieved. This document also provides a rationale for each evaluation outcome and preliminary finding of causal factors affecting conditions where Standards are not being met.

If one or more Standards are not being met, the BLM will prepare a Determination. Once signed, the Determination is the official document identifying the causal factors for not meeting Standards. The Determination also identifies where there is non-conformance with the Guidelines, if any. The Determination will be prepared concurrently with (or may precede) the grazing permit renewal environmental assessment; which is valuable in the development of grazing management strategies to meet or make progress toward meeting Standards and conform to Guidelines.

### **Applicable Standards**

Standards 1 (Watersheds), 2 (Riparian Areas and Wetlands), 3 (Stream Channel and Floodplain), 4 (Native Plant Communities), 7 (Water Quality), and 8 (Threatened and Endangered Plants and Animals) are applicable to the Sierra Del Rio Use Area (SDR) of the Big Springs Allotment.

### **Standard 1: Watersheds**

#### **Desired Conditions**

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:

- The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.
- 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 management objectives identified in the Bruneau MFP identify the need to maintain stability of 660,000 acres of moderate, high, and critical erosion hazard classes by reducing or minimizing wind and water erosion. The moderate erosion class includes all of the Big Springs Allotment. The MFP states that erosion will be minimized by maintaining good perennial vegetation cover where it exists and by establishing perennial vegetation cover where feasible and economical. If establishment is not feasible/economical, [then] manage to achieve stable watershed conditions. To achieve these decisions, livestock management would maintain or improve existing perennial forage plants by not allocating more than 50% of vegetation to consumptive use, adjusting season of use, implementing grazing systems and associated projects, and providing for proper timing with regard to soil moisture content.

## **Pastures 7N and 7NC (Summer Use)**

### ***Synopsis of Assessment Findings***

The 2004 data indicated none to a slight departure as a whole for the site stability and watershed function-related Indicators within Pasture 7N. On Slack Mountain, Claypan ecological sites intermingled with Loamy inclusions that support big sagebrush communities predominate and were sampled. Shallow Breaks 14-18" ecological sites that normally support scattered juniper are also present. Two re-evaluated stands (Claypan 10S03W24, Loamy 10S03W12A) showed little departure from reference condition in 2012. On Avery Table, Stony Clayey and Clayey ecological sites predominate, while Churning Clay ecological sites occur as inclusions in basin bottoms and along drainages where water accumulates in spring, and were sampled in 2004 but not in 2012.

Trend data from 1983 through 2012 indicated a fluctuating but generally static trend in live vegetation basal cover at both study sites. Both reached their lowest values in 1995 and in 2000 after periods of below-normal crop year precipitation during 1987 through 1994 and again in 1999 and 2000. The Stony Clayey stand (10S02W07) had high rock cover, low (<2%) basal cover of increaser grasses, and no decreaser grasses. A static trend in desirable components is acceptable in stands such as this that have reached their potential composition and cover, although temporal variability may still occur. At 10S02W29A, live vegetation reached its highest values in 1987 and 2012 after periods of above normal crop year precipitation. Non-persistent litter was static at both but showed fluctuations at site 10S02W07, which had the lowest vegetative basal cover. Bare ground was lowest and biological soil crusts were highest at both in 2012, reflecting in part favorable growth conditions during recent years.

A Claypan stand in Pasture 7NC showed slight to moderate departure from reference condition in 2012.

### ***Evaluation Finding – Pastures 7N and 7NC are:***

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

### ***Rationale for Evaluation Finding***

Nearly all of the 2004 evaluations showed little departure from reference condition even if not stated to be in reference condition on the worksheets. Biomass on both reevaluated stands within Pasture 7N was much higher in 2012 after several normal or wet years than in 2004 after several successive dry years, with little evidence of mortality on bunchgrasses that was noted on the Claypan stand in 2004. In addition, basal cover of decreaser and increaser bunchgrasses was adequate in 2012 and reflected alternating dominance of both groups on portions of the stand. Bare ground was low compared to reference values. On a similar stand (10S02W29A) where basal cover was monitored, a strong upward trend in increaser grasses, non-persistent litter and biological soil crust and a decline in bare ground

were evident during 2004 through 2012. Evaluations are a one-point-in-time judgment, which influences some indicators at the time of evaluation more than others.

The new evaluation area in Pasture 7NC also showed only slight active pedestalling in the portion of the Claypan stand dominated by increaser grasses.

## **Pasture 7 (Late Spring/Early Summer Use)**

### ***Synopsis of Assessment Findings***

The 2004 data indicated an overall slight to moderate departure as a whole for the site stability and watershed function-related Indicators within Pasture 7. 2004 was at the end of an extended period of below-normal precipitation, while 2005 and 2006 and 2009 through 2011 had favorable precipitation during the spring and summer months. Consequently, bunchgrass vigor, mortality (crown die-out), available biomass, amount of bare ground, and other characteristics differed greatly from 2004, when the RHE and trend data were collected for the original Assessment. Both typically grazed and ungrazed areas showed the same pattern throughout the SDR Use Area and in other Use Areas.

### ***Evaluation Finding – Pasture 7 is:***

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

### ***Rationale for Evaluation Finding***

The plant community indicator showed at most slight to moderate departure from reference condition in 2004, with minor imbalance between decreaser and increaser bunchgrasses, and current plant vigor and reproductive capability appeared lower than expected. The 2004 worksheets noted bunchgrass mortality, but did not indicate that production and litter biomass were below normal; except on the Loamy inclusion which was influenced by the amount of grazing (reported as heavily grazed) observed.

The Churning Clay evaluation area was reevaluated in 2012 and given a moderate departure rating. However, hummocking is a part of the natural site processes because of the clay mineral soils, which is relevant to the minority of pedestalled plants that were observed. Nevada bluegrass is also still dominant as expected from the Ecological Site Description. Utilization was much lower and standing biomass of bunchgrasses was much higher at the time of the 2012 reevaluation than in 2004.

## **Pasture 7S (Mid-Spring Use)**

### ***Synopsis of Assessment Findings***

The 2004 data indicated slight to moderate departure as a whole for site stability and watershed function-related Indicators within Pasture 7S. The Loamy and one of two low mound Claypan (12S02W05) stands exhibited greater departure from reference condition than others. The Loamy stand was reevaluated in 2012 and showed less (slight to moderate) departure from reference condition. While not formally re-evaluated, the low mound inclusions between Blue Creek Reservoir and the Indian Crossing base property showed lower composition of decreaser grasses in 2012.

Trend data indicated a fluctuating but generally declining trend in bare ground and generally static trend in non-persistent litter from 1983 through 2012. Biological soil crusts increased markedly. Growth conditions in several previous years were good, but lack of snowpack and spring and summer precipitation in 2012 strongly reduced regrowth after grazing in that year.

### ***Evaluation Finding – Pasture 7S is:***

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

### ***Rationale for Evaluation Finding***

While live vegetation basal cover and basal cover of decreaser grasses and increaser grasses, the major components, increased during 1983 through 2012 at the trend study; the low mound inclusions between Blue Creek Reservoir and the Indian Crossing base property still appear to have fewer and smaller decreaser grasses than the area around the low mound trend study based upon visual inspections in 2010 and 2012. This area and the area represented by the Loamy stand were the basis for the judgment in the 2011 Evaluation that Standard 1 was not met on 20% of Pasture 7S.

In 2012, pedestalled increaser grasses were common on the Loamy stand, as they often are, but active pedestalling was rare. A step-point transect revealed 16% bare ground, which was well within draft Ecological Site Description reference values. Utilization was none to slight on the predominant increaser grasses.

### **Information Sources**

Bruneau Management Framework Plan, 1983  
Bruneau Rangeland Program Summary, 1983  
Ecological Site Description and Reference Sheet, Clayey 12-16 ARARL/FEID, 2014  
Ecological Site Description and Reference Sheet, Churning Clay 12-16 ARCA13/POA, 2014  
Ecological Site Description, Stony Clayey 12-16 ARARL/FEID, 1981  
Ecological Site Description and Reference Sheet, Claypan 12-16 ARAR8/FEID, 2014  
Ecological Site Description and Reference Sheet, Loamy 11-13 ARTRT/PSSPS, 2006

## **Standard 2. Riparian Vegetation and Wetlands**

### **Desired Conditions**

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

The Bruneau MFP established the following objectives for native plant communities:

- WL 6: Manage all meadows and riparian habitat ... to obtain a maximum diversity of vegetative species in order to provide for a maximum diversity and optimum abundance of wildlife species.
- WL 4.3: Manage springs, seeps, and meadows and adjacent upland areas as key wildlife habitats for upland game. Specifically: Control livestock grazing on these habitats by the implementation of grazing systems, season of use and other management practices.
- WL 6.1: ... riparian and meadow habitats will be managed to attain and/or maintain a good ecological condition class....or reasonable equivalent. Specifically: Employ livestock management systems/practices/improvements including exclusion of grazing where necessary

## **Pastures 7N & 7NC (Summer Use)**

### ***Synopsis of Assessment Findings***

One-half (3.2 miles) of Deep Creek was in proper functioning condition (PFC); however, the other half (3.2 miles) was functioning at risk (FAR). In Camel Creek, 0.8 miles were in PFC, 3.6 miles were FAR. All segments (0.9 miles) of Camel Falls Creek were in PFC.

Of 12 springs, six were in PFC, and four were FAR. One was not rated at the spring source and one is not functioning (NF).

### ***Evaluation Finding – Pastures 7N and 7NC are:***

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

### ***Rationale for Evaluation Finding***

The 3.2-miles of Deep Creek which are accessible to livestock were FAR with a static trend, due to both poor riparian plant composition and vigor due to livestock use, and impacts from excessive sediment levels originating mostly from upstream private lands. The FAR and NF segments of Camel Creek are affected by livestock grazing which has suppressed willow and sedge/rush growth.

Twelve springs are located in Pasture 7N, all of which support areas of riparian/wetland vegetation. Three springs have been developed to provide water for livestock. The spring origin and the spring collection boxes were not fenced, and did not exclude the wetland areas from livestock use. One developed spring was rated NF due to drying of the spring source. One was not rated at the spring location and another was rated FAR due to impacts of spring development and continuing disturbance to wetland soils and plants.

Six of the undeveloped springs are in PFC. Three of the undeveloped springs are FAR. Wetland vegetation at those springs receives high levels of cattle utilization. Density and vigor of wetland vegetation is low. Additionally, mechanical disturbance to wetland soils is contributing to increased erosion and sedimentation.

### ***Preliminary Causal Factors***

Current grazing utilization levels in these riparian areas, along with historic grazing practices are major factors affecting riparian condition. Low mean stubble heights and relatively high shrub utilization are indicators of livestock impacts to these reaches. At the springs, livestock concentration at these watering sites has resulted in soil disturbance, soil compaction, reduction in wetland area, and loss of wetland plant species.

## **Pasture 7 (Late Spring/Early summer Use) & 7S (Mid-Spring Use)**

### ***Synopsis of Assessment Findings***

Of 28.3 miles of stream in these pastures, 22.6 miles (80%) were in PFC, and 5.6 miles (20%) were in FAR condition. One 0.1 mile segment located in a water-gap was in NF condition.

Two springs were in FAR condition. At these sites vegetation received high levels of utilization, and plant density and vigor were low. Additionally, wetland soils were mechanically disturbed by compaction, trampling and pugging.

***Evaluation Finding – Pasture 7 and 7S are:***

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

***Rationale for Evaluation Finding***

The 5.6 miles FAR stream segments of Deep, Pole, Camel, and Nickel Creeks plus three springs are not meeting Standard 2, as vegetation characteristics and densities are not appropriate for soil type, climate, geology, and landform to provide for proper for nutrient cycling, hydrologic cycling, energy flow, and streambank stability. Use of riparian vegetation was consistently high for reaches of Camel, Deep, Nickel, and Pole Creeks. Assessments also indicate that these stream reaches are grazed during the hot season, lack bank stabilizing species and the vegetation is low in vigor.

***Preliminary Causal Factors***

There are two main factors that contribute to degradation of riparian-wetland areas in these pastures: 1) annual hot season grazing use and 2) sedimentation and channel alteration from upstream reaches. These two factors reduce the ability of streams to successfully recruit and maintain willows and other stabilizing riparian vegetation. In springs, excessive use of wetland vegetation by livestock and hoof impacts were noted as factors leading to not meeting the standard.

**Information Sources**

USDI BLM 2014. United States Department of the Interior, Bureau of Land Management. Big Springs Allotment Upland Vegetation Specialist Report. Bruneau Field Office. May.

**Standard 3. Stream Channels and Floodplains**

**Pasture 7N and 7NC (Summer Use)**

***Synopsis of Assessment Findings***

The 3.2 miles of Deep Creek which are accessible to livestock are FAR with a static trend, due to both poor riparian plant composition and vigor and impacts from excessive sediment levels. The FAR and NF segments of Camel Creek exhibit suppressed willow and sedge/rush growth needed for bank stability.

***Evaluation Finding – Pastures 7N and 7NC are:***

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

***Rationale for Evaluation Finding***

Over half of the stream channels (7.8 of 12.9 miles) in Pastures 7N and 7NC are FAR and are not in balance with the landscape setting. Many channels are dependent on riparian vegetation for stability since they contain relatively small amounts of rock. Riparian plant communities lack the vegetative cover and deep-rooted bank-stabilizing species necessary to maintain stable channels and floodplains. The FAR and NF segments of Camel Creek are affected by heavy livestock use which has suppressed willow and sedge/rush growth needed for bank stability. Stream segments that are properly functioning are located in rocky canyons that restrict livestock access; these stream channel segments are in balance with the landscape setting.

### ***Preliminary Causal Factors***

Current grazing use levels in these riparian areas, along with historic grazing practices, are major factors. Stream channels are not able to heal and attain proper width/depth ratios due to current upstream sediment loads and current grazing practices along streams in the Use Area.

## **Pastures 7 (Late Spring/Early Summer Use) and 7S (Mid-Spring Use)**

### ***Synopsis of Assessment Findings***

Ninety-one percent of Deep Creek is in PFC and nine percent was FAR. Eighty-one percent of Pole Creek is in PFC and 19 percent is FAR. All 2.3 miles of Nickel Creek (100%) are FAR. A 0.2-mile FAR segment of Camel Creek serves as a water-gap in pasture 7S.

### ***Evaluation Finding – Pasture 7/7S is:***

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

### ***Rationale for Evaluation Finding***

Segments that are properly functioning are located in rocky canyons that greatly restrict livestock access to and use of riparian plants. Segments of Deep, Nickel, and Pole creeks that are FAR are fully accessible to livestock, and have inadequate vegetative cover and lack the dense deep-rooted plants necessary for maintenance of stable channels and floodplains. Those stream channels and floodplains are not currently in balance with the landscape setting.

### ***Preliminary Causal Factors***

Similar to Standard 2, there are two main factors that contribute to degradation of riparian-wetland areas in these pastures: 1. annual hot season grazing use and 2. sedimentation and channel alteration from upstream reaches. These two factors reduce the ability of streams to successfully recruit and maintain willows which would positively affect stream channel stability.

## **Information Sources**

USDI BLM 2014. United States Department of the Interior, Bureau of Land Management Big Springs Allotment Fish Biologist report. USDI BLM 2014. United States Department of the Interior, Bureau of Land Management Big Springs Allotment Natural Resources Specialist report, June 2014.

## **Standard 4: Native Plant Communities**

### **Desired Conditions**

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:

- Native plant communities (flora and microbiotic soil 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 species is maintained
- 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.

- Noxious weeds are not increasing.
- Adequate litter and standing dead plant material are present for site protection and for decomposition to replenish soil nutrients relative to site potential.

The Bruneau MFP also established the following objectives for native plant communities:

- RM 1 - Develop range programs and management techniques to:
  - Increase 333,552 acres currently in poor range condition to fair condition in 20 years.
  - Increase 343,522 acres currently in fair condition to good condition in 20 years.
  - Maintain the condition class of 283,849 acres currently in good and excellent condition.
- RM 1.5 - Adjust Livestock season of use and/or implement grazing systems on spring and summer ranges to meet minimum growth needs of preferred plant species.
- RM-3: Allocate livestock forage in each allotment in the Bruneau Planning Unit so as to maintain or enhance the range and soil resources.

## **Pastures 7N and 7NC (Summer Use)**

### ***Synopsis of Assessment Findings***

The biotic integrity of the plant community at 8 of the 16 (50%) rangeland health evaluation sites indicated only a slight departure from reference conditions. Biotic integrity of the remaining eight sites ranged from slight to moderate departure. The three most common indications contributing to departure of the native plant community conditions were reduced vigor, invasive plants, and under-representation of the large-statured bunchgrass group. These conditions were not always coincident.

Plant community trends have been mixed, depending on location. Inventories documented poor to fair range conditions throughout this pasture in 1982 (USDI BLM 2014). Since then, repeated samples document a static or slightly downward trend on Avery Table because, except for oatgrass, perennial grass frequencies have declined. Meanwhile, trend at the Spencer Butte area has been slightly upward because, except for squirreltail, perennial grass frequencies have increased and sagebrush frequency has declined substantially. The Clayey 12-16 ecological sites on Avery Table have greater potential production than the Shallow Claypan sites around Spencer Butte. In summary, clayey ecological sites on Avery Table appear to be in a static to downward trend, while Claypan sites near Spencer Butte appear to be on an upward trend. Utilization pattern mapping indicates no livestock use on Avery Table in 2005. Utilization around the Spencer Butte Area has ranged from slight in 2000 to none in 2005.

Western juniper, bulbous bluegrass, and cheatgrass are scattered in these pastures. In terms of invasive vegetation, western juniper encroachment poses the greatest threat to long-term functionality of the sagebrush steppe. The old growth western juniper in pasture 7N & 7NC appears to be thriving but encroachment by young trees into adjacent sagebrush stands has the potential to degrade ecosystem function (Miller et. al. 2005). Bulbous bluegrass and cheatgrass, while still a concern, have less potential to substantially degrade native plant community function in these pastures for three reasons. First, the plant communities are functioning well enough to resist invasive grasses; a trend that will likely continue absent a major disturbance. Second, fire as a disturbance factor has not been a major driver of system change. Third, cheatgrass is less competitive with native vegetation at these elevations.

Natural disturbance factors have influenced vegetation conditions. Aroga moth larvae were documented in areas of the Owyhee Uplands during the 2012 grazing season. The ID Team noted larvae castings and webbing in these pastures and noted several areas where these insect larvae appear to have defoliated

native vegetation, particularly sagebrush in 2012. Precipitation was 10 to 16 percent below average for this area in 2012 (USDI BLM 2014).

***Evaluation Finding – Pastures 7N and 7NC***

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

***Rationale for Evaluation Finding***

Native plant communities closely resembled reference conditions in half of the assessment locations and were only a slight-to-moderate departure in the other half. Plant community trend has been mixed. Trend has been upward in the more common, but less productive, Shallow Claypan sites, while trend has been static to slightly downward in the potentially more productive Clayey ecological sites. Invasive vegetation is a concern but, with the exception of slow juniper encroachment, the plant communities in this pasture appear to be resisting invasive grass reasonably well. Throughout the pastures all functional/structural groups are represented, despite the occasional under-representation of desirable forage plants. Upland vegetation in these pastures appears to meet the land use plan objectives. Overall, vegetation condition has either remained static or improved. Livestock grazing management is meeting the minimum growth needs of upland plants.

**Pasture 7 (Late Spring/Early Summer Use)**

***Synopsis of Assessment Findings***

An ID team sampled rangeland health attributes in pasture 7 at three locations in 2004 and revisited one of those locations in 2012. Native plant communities were well established but some indicators of native plant community showed moderate to extreme departure from reference conditions. Plant vigor was slightly, to moderately departed at all sample areas, with some variation between sites.

Structurally, bunchgrasses at loamy sites exhibited low vigor and were under-represented as a group. Production on these sites was only 60-80% of reference conditions due to the under-representation of bunchgrass plants. Sagebrush made up the majority of the primary production on these sites but it was frequently decadent, exhibiting broken limbs. Sagebrush at the churning clay site also displayed decadence and low vigor. Although sagebrush was in better condition at the Claypan site, bunchgrasses there demonstrated crown-die out, pedestaling, and root exposure; a condition also documented at the churning clay site in 2012. Reduced seed head production and decreased vigor on grasses were observed at all three RHEs.

The Loamy sites appear to receive substantially more use than the stonier Claypan sites. Utilization studies in showed many of the Claypan sites as having only slight use (2000, 2005, 2006 ) while the Loamy RHE site exhibited light (2005) to heavy use (2000, 2004). Large woody debris and livestock manure made up a disproportionately high amount of litter in Loamy ecological sites near Indian Crossing. These conditions were characteristic of the Loamy inclusions in this pasture in 2004.

***Evaluation Finding – Pasture 7 is: check one***

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

### ***Rationale for Evaluation Finding***

Although they make up only five to ten percent of this pasture, the loamy ecological sites receive a disproportionately high amount of livestock use. Large bunchgrass plants in loamy areas exhibit low vigor and are generally under represented as a group in the loamy ecological sites. Root exposure and crown mortality on bluegrass and Idaho fescue plants at Shallow Claypan and Churning Clay sites has reduced plant health and inhibited those plant's reproductive capabilities on another five to 10 percent of the pasture. Bunchgrass crown-die out, pedestaling, and root exposure were documented in sagebrush interspaces, indicating use by animals who favor grazing exposed plants, rather than those beneath shrub canopies. In all, the native plant land health standard and land use plan objectives are not being met on 10-20 percent of the pasture.

### ***Preliminary Causal Factors***

Early use on Little Point while soils are still saturated is a likely contributing factor. Livestock trampling is affecting the health of big sagebrush on Loamy inclusions while wood and manure are providing a disproportionate level of soil surface litter relative to the high potential (45-55%) production by grasses. Livestock grazing is also adversely affecting bunchgrasses. As desirable forage, these plants are conspicuously under represented. Remaining forage species exhibit low vigor and low reproductive capability likely due to repeated use by livestock during the critical growing season or over utilization, overall.

## **Pasture 7S (Mid-Spring Use)**

### ***Synopsis of Assessment Findings***

An ID Team assessed rangeland health at seven locations in this pasture in 2004. Conditions were highly variable. The biotic integrity ratings at two of those sites closely matched reference conditions. The ratings at four other sites were slight to moderate departure. Biotic integrity at the Loamy departed moderately from reference conditions due to a general under-representation of large-statured bunchgrasses in the shrub understory and low vigor on the remaining individuals. Sagebrush canopies on the Loamy site usually harbored remaining bunchgrasses, but even those plants demonstrated relatively low reproductive capability. An ID Team revisited the loamy site on Big Point in 2012. Although utilization levels on large-statured bunchgrasses had decreased since the 2004 assessment, estimated production from large-statured bunchgrass plants was still depressed compared with reference conditions for the site.

The under-representation of bunchgrasses was also common on some the Claypan sites in the north and central portion of this pasture. Dead grass crowns, poor regrowth, reduced vigor, reduced reproductive capability and shrub decadence were all slightly, to moderately departed at these sites. Elsewhere in the pasture, further south on Big Point, Claypan sites supported good stands of Idaho fescue.

Plant community trend appears to be upward. Inventories documented poor to fair range conditions throughout this pasture in 1982 (USDI BLM 2014). Trend samples at the Claypan site on Big Point indicate a static to slightly upward trend because native bunchgrass frequency has remained relatively static, while sagebrush frequency has declined since the 1980s. Precipitation was approximately ten percent below average for this area in 2012 (USDI BLM 2014). Aroga moth appeared to be less of a factor in this pasture than areas further north.

Utilization pattern mapping indicates variation with the breaks of Deep Creek receiving heavy use in 2000 and moderate use in 2005. Areas of the pasture south of the Brace Ranch crossing on Deep Creek

routinely receive little or no use. The 2004 ID Team estimated heavy utilization at three of the seven assessment locations in 2004, including the Loamy site on Deep Creek.

***Evaluation Finding – Pasture 7S is:***

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

***Rationale for Evaluation Finding***

Native plant communities dominate this pasture. Plant community conditions are variable but Loamy 10-13 sites above the Deep Creek crossing to Brace Ranch are not functioning well because large statured bunchgrasses are under-represented and the remaining bunchgrasses are in danger of further decline. At potential, large bunchgrasses dominate these sites and play a major role in plant community function. This condition represents a small minority of the pasture, perhaps five to 10 percent. Utilization at these sites appeared slight in 2012 and the remaining large bunchgrasses produced some seed. Large bunchgrass recruitment could still occur at these sites in the future, given the right conditions. In all, land health Standard 4 and land use plan objectives are not being met on five to 10 percent of the pasture. The remainder of the pasture (90-95 percent) appears to meet Standard 4 and land use plant objectives.

**Information Sources**

Miller R.M., J.D. Bates, T.J. Svejcar, F.B. Pierson, L.E. Eddleman 2005. Biology, Ecology, and Management of Western Juniper. Technical Bulletin 152, June. Oregon State University, Agricultural Experiment Station.

USDI BLM 2014. United States Department of the Interior, Bureau of Land Management. Big Springs Allotment Upland Vegetation Specialist Report. Bruneau Field Office. May.

**Standard 7. Water Quality**

**Synopsis of Assessment Findings:**

Deep, Pole, and Nickel creeks do not support the “Cold Water Aquatic life” water temperature standards (IDEQ Integrated Report 2010).

***Evaluation Finding – Pasture 7N, 7NC, 7, and 7S is:***

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

***Rationale for Evaluation Finding***

The Idaho Department of Environmental Quality (IDEQ) evaluated the beneficial use support status of streams within the SDR Use Area. Both Deep, Pole, and Nickel creeks do not support the “Cold Water Aquatic life” water temperature standards (IDEQ Integrated Report 2010).

***Preliminary Causal Factors***

At this time, there is insufficient information to identify suspected causal factors. Both Deep and Pole creeks are mostly inaccessible to livestock. However, current grazing and heavy historic grazing in Nickel Creek may have suppressed or removed shade-producing willow growth needed to stabilize shores.

## **Information Sources**

BLM reviewed the State of Idaho's Beneficial Use Reconnaissance Protocol (BURP) database (IDEQ 2004b). Idaho Department of Environmental Qualities 2010 Integrated Report for HUC #17050104, Upper Owyhee, PFC field inspections, water temperature dataloggers, thermograph data, solar pathfinder data, and bacterial sampling results.

## **Standard 8. Threatened and Endangered Plants and Animals**

### **Desired Conditions**

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:

- 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 riparian/wetland vegetation 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 species is 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.

Additionally, the following Bruneau Management Framework Plan (1983) objectives and decisions apply to achieving the desired conditions for this use area:

- RM 5: Provide for protection and conservation of rare and endangered plants...
- WL 2: Manage sensitive species habitats...to maintain or increase existing and potential populations.
- RM 1.1 (1): Implement intensive management (AMPs) on 14 allotments [including Big Springs]. Specifically: Livestock rest or deferment systems would be established on critical sage grouse brood rearing areas.
- WL 2.1: Manage 93,500 acres of bighorn habitat to provide adequate food, cover, water, and space for 420 bighorns by 1990...including 220 for the Owyhee River area:
- WL 4.4: Manage 520,000 acres of sage grouse range...to improve nesting, brood rearing and winter habitats. Specifically: ...all poor and fair big sagebrush, meadow and riparian ecological sites should be improved and managed for good ecological condition.

The WL-AQ 2 Objectives and Decisions listed under Standard 2 are also relevant for Special Status Fish under Standard 8.

## Wildlife

### Pastures 7N and 7NC (Summer Use)

#### *Synopsis of Assessment Findings*

Upland and riparian habitat conditions were assessed for special status wildlife species. Upland conditions in Pasture 7 and 7NC (henceforth known as 7N) were characterized at 17 RHE sites (all in 2004 and two revisited in 2012) and with four sage-grouse nesting assessments. Riparian conditions were assessed with two sage-grouse late brood-rearing assessments and PFC ratings at streams and wetland sites. There were originally 11 late brood-rearing assessments conducted in this pasture but nine were excluded from consideration because they were deemed to be within areas characterized with juniper stands that were too dense for sage-grouse use during the late summer.

Upland vegetation condition is used to characterize habitat for nesting sage-grouse, pygmy rabbits, and big game. Even though Pasture 7N includes scattered areas of encroaching juniper, bulbous bluegrass, and cheatgrass, upland conditions in Pasture 7N are generally in good condition with high forb diversity and good native plant components. All of the sage-grouse nesting assessments rated marginal but were all in low (3) or silver (1) sagebrush sites where the short stature of the sagebrush lowers the rating of the site for nesting. There was a high abundance and diversity of forbs at all of the nesting assessment sites. Overall, upland vegetation in Pasture 7N was in good condition and contributes toward healthy wildlife populations.

Riparian condition is used to characterize habitat for sage-grouse during late summer and spotted frogs. The two springs retained in this pasture for assessing sage-grouse late brood rearing habitat rated suitable. Ratings for the 11 springs assessed for proper functioning condition (see Standard 2), many of which overlapped with the original late brood-rearing assessment sites, included NF (1), FAR (4), and PFC (6). The developed springs rated NF and FAR and roughly half of the undeveloped springs rated FAR. Although roughly half of the assessed springs are partially degraded, the ones suitable for sage-grouse use are in good condition. The remaining sites are not suitable for spotted frog use but would be used by other non-special status species. However, relative to special status wildlife species, riparian conditions in this pasture are adequate to sustain good habitat for healthy populations.

#### *Evaluation Finding – Pasture 7N*

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

#### *Rationale for Evaluation Finding*

The upland vegetation was in good condition in this pasture. Also, riparian conditions were mostly good for areas used by special status wildlife species. Overall, upland and riparian conditions for this pasture contribute to healthy wildlife populations, especially for those that are special status species.

### Pasture 7 (Late Spring/Early Summer Use)

#### *Synopsis of Assessment Findings*

There were three RHE sites that were used to ascertain upland conditions in Pasture 7, along with four sage-grouse nesting assessments. Riparian conditions were assessed with four sage-grouse late brood-rearing assessments and PFC ratings at streams and wetland sites.

Upland habitat in Pasture 7 is in generally good condition with good forb abundance and diversity. Plant vigor was less than expected at all of the sites and the most departure from reference conditions was observed at loamy sites where livestock spend a disproportionate amount of time. However, loamy sites represent a small portion of the pasture (5-10%). All of the sage-grouse nesting assessments rated marginal but were all in low (3) or low/big (1) sagebrush sites where the short stature of the sagebrush lowers the rating of the site for nesting. There was a high abundance and diversity of forbs at all of the nesting assessment sites. Overall, upland vegetation in Pasture 7 was in good condition and contributes toward healthy wildlife populations.

Four lentic sites rated marginal (3) and unsuitable (1) for sage-grouse late brood-rearing habitat. Sage-grouse use was present at most of the sites but all were degraded. Stream segments in this pasture were comprised of portions of Pole, Deep, and Nickel Creeks. Most of the segments of these creeks in this pasture rated as FAR and PFC and were in deep canyons so sage-grouse would not use the majority of them. However, other wildlife species (e.g. bighorn sheep, songbirds) would benefit from the existing conditions in the PFC segments and with the improvement in those segments that rated FAR.

#### ***Evaluation Finding – Pasture 7***

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

#### ***Rationale for Evaluation Finding***

The upland vegetation was in good condition in this pasture. However, conditions at springs were unsuitable and marginal with hummocking, erosion, and low forb diversity. Although sage-grouse sign was present at most of the sites, continued impacts at these sites could jeopardize long term maintenance of late brood rearing habitat for sage-grouse, as well as high quality lentic and lotic conditions for other wildlife species.

#### ***Preliminary Causal Factors***

Livestock impacts have degraded conditions at many of the lentic and some of the lotic sites in this pasture. Livestock concentration at the springs and along some segments of stream has resulted in modifications of the plant composition that has decreased the ability of these sites to maintain water late into the summer and sustain an abundance and diversity of forbs desirable to sage-grouse and other wildlife species.

### **Pasture 7S (Mid-Spring Use)**

#### ***Synopsis of Assessment Findings***

There were seven sites assessed with RHEs and four sage-grouse nesting assessments used to ascertain upland conditions in Pasture 7S. Riparian conditions were assessed with one sage-grouse late brood-rearing assessment and PFC ratings at streams and wetland sites.

Rangeland Health Evaluations revealed that upland vegetation in Pasture 7S varied in condition. Native plant communities dominated the pasture but bunchgrasses were underrepresented at Big Point east of the Brace Ranch Crossing at Deep Creek (aka Wiseman Crossing). This area is some of the least rocky in the pasture and is characterized with big sagebrush communities. Sage-grouse nesting assessments were conducted in this same area at Big Point during 2004 and 2012 and rated marginal during both assessments. Other nesting assessments in Pasture 7S were conducted at sites that were either naturally unsuitable (dominated by rock and grass) or at low sagebrush sites where the short stature of

the sagebrush lowers the rating of these site for nesting. There was a healthy forb component at most of these remaining nesting assessment sites. Overall, upland vegetation in Pasture 7S was in good condition with the exception of the area of Big Point east of the Brace Ranch Crossing at Deep Creek.

The one lentic site evaluated in this pasture (Albert Spring) rated suitable for sage-grouse late brood-rearing habitat during 2004 and marginal in 2012. The site is very small and does not exhibit signs of disturbance but slight xeric vegetation encroachment was identified during 2012. Stream segments bordering this pasture were comprised of portions of Deep and Dickshooter Creeks. Most of the segments of these creeks in this pasture rated as PFC with a segment of Deep Creek that rated FAR but with an upward trend.

***Evaluation Finding – Pasture 7S are:***

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

***Rationale for Evaluation Finding***

Most of the low sagebrush upland habitat in Pasture 7S is in good condition and contributes positively to nesting sage-grouse, big game, and other wildlife species. Likewise, the lentic and lotic habitat in this pasture is in good condition or on an upward trend. However, bunchgrasses were underrepresented in the big sagebrush upland habitat in the area of Big Point, which lessens the quality of this area for nesting sage-grouse and other wildlife species.

***Preliminary Causal Factors***

Livestock impacts have degraded conditions in the area of big sagebrush at Big Point east of the Brace Ranch Crossing. This area is one of the least rocky in this pasture and has suffered repeated concentrated livestock use during the critical growing season.

**Information Sources**

- Stream and spring functioning condition assessments for Standard 2
- Upland Health assessments and trend studies for Standard 4
- Sage grouse lek (mating ground) surveys by helicopter during April-May 2004-2013
- IDFG sage grouse historical lek database, 2003
- IDFG and BLM telemetry studies of sage grouse, 2002-2013
- Sage grouse habitat assessments in 2004, 2005, and 2012
- Idaho Fish and Wildlife Information System database
- General wildlife field observations in 2004, 2005, and 2012

**Fish**

***Synopsis of Assessment Findings***

Stream temperatures in Deep, Pole, and Nickel creeks do not support a viable redband trout fishery.

***Evaluation Finding – Pasture 7N/7/7S is: check one***

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

***Rationale for Evaluation Finding***

Water temperatures in Deep Creek, are too warm to maintain a viable population of redband trout. However, aquatic habitat was in good to excellent condition in most all segments of Deep Creek. Pole Creek is limited by intermittent stream flows. No fisheries data are available for Nickel Creek, although it is more likely than not this stream does not host redband trout due to high water temperatures.

***Preliminary Causal Factors***

To the extent that water quality impairment (temperature) is the result of current and/or historical livestock grazing, historical private land use practices, natural back-ground heating, or a combination of factors is difficult to determine. Both Deep and Pole creeks are mostly inaccessible to livestock; however, current grazing and heavy historic grazing in Nickel Creek may have suppressed or removed shade-producing willow growth.

**Information Sources**

Idaho Department of Environmental Quality data (2010 Integrated Report), field inspections, water temperature dataloggers, thermograph data, solar pathfinder shade measurements and bacterial sampling. BLM electro-fishing data 2012), IDEQ Upper Owyhee Subbasin Assessment and TMDL (2003).

USDI BLM 2014. United States Department of the Interior, Bureau of Land Management Big Springs Allotment Fish Biologist report. USDI BLM 2014. United States Department of the Interior, Bureau of Land Management Big Springs Allotment Natural Resources Specialist report, June 2014.

**Plants**

**Pastures 7N and 7NC (Summer Use)**

No special status plants occur in Pastures 7N or 7NC.

**Pasture 7 (Late Spring/Early Summer Use)**

No special status plants occur in Pasture 7.

**Pasture 7S (Mid-Spring Use)**

***Synopsis of Assessment Findings***

There are two special status plant known to occur in Pasture 7S of the Sierra Del Rio Use Area (Table ). These include the Owyhee River forget-me-not (*Hackelia ophiobia*), Type 3 BLM Sensitive species, and Simpson’s hedgehog cactus (*Pediocactus simpsonii*), a Type 4 species. One population each of Owyhee River forget-me-not and Simpson’s hedgehog cactus is found in the 7S pasture.

***Evaluation Finding – Pasture 4, A Paddocks is:***

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

***Rationale for Evaluation Finding***

Both populations are well protected from disturbance by inaccessible habitat. The Owyhee River forget-me-not is located in talus slopes of the Owyhee River Canyon where cattle do not graze. The Simpson's hedgehog cactus grows on rocky soils distant from water and is therefore protected from most cattle use.

**IS A DETERMINATION REQUIRED?**

All Standards are met or making significant progress towards meeting and there is conformance with the guidelines. *No Determination is required, review is complete.*

One or more Standards is not being met or there is non-conformance with the guidelines. ***An Authorized Officer's Determination of causal factors is required.***