

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 - Black Use Area**

Name of Permittee(s): **Joseph Black and Sons**

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 Black Use Area (JB&S) 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, 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.

Pasture 4, A Paddocks (Early-Mid Spring Use)

Synopsis of Assessment Findings

The 2004 data indicated none to a slight departure as a whole for site stability and watershed function-related indicators within the A paddocks. The concave intermound Claypan stand that was reevaluated in 2012 was found to be in reference condition. Trend data during 1983 to 2012 indicated a generally static trend in persistent and non-persistent litter, basal cover of decreaser grasses and of biological soil crusts at 13S2W02. Bare ground was greater in 2000 than in other years, and increaser grass and live vegetation basal cover increased, particularly after 2004. This study site is predominantly increaser grasses with high gravel surface cover, shallower soils, and lower potential for change in biotic cover than 13S02W16. A static trend in desirable components is acceptable in stands that have reached their potential composition and cover, although temporal variability may still occur. Trend data indicated a fluctuating but generally static trend in bare ground, live vegetation basal cover, and persistent litter at 13S02W16. It has slightly deeper soils, less surface gravel, and higher increaser and decreaser grass basal cover. Live vegetation reached its highest values in 1987 and 2012 after periods of above-normal crop year precipitation. Basal cover of increaser grasses was static between 1983 and 2012, but decreaser grass and biological soil crust basal cover increased after 2004.

Evaluation Finding – Pasture 4, A Paddocks are:

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

Rationale for Evaluation Finding

Standing biomass of bunchgrasses was much higher at the reevaluated concave intermound Claypan stand in 2012 after several normal or wet years than in 2004 after several successive dry years. The bluebunch wheatgrass component was more evident on portions of the evaluation area that it dominated, and evidence was lacking of active pedestalling or dead or decadent bunchgrasses that were noted in 2004. At trend studies where cover components have been measured, the amount of bare ground is low compared to reference values, and biotic cover has been stable or increasing.

A long-term photo point that has been monitored since 1987 (13S02W13B) reflected crown die-off of perennial grasses, reduced production, and declining non-persistent litter cover during the period of lower precipitation between 1987 and 1994 and documented subsequent fluctuation in cover categories. Change between the 2005 and 2012 photos shows expansion of some decreasers (Idaho fescue) and establishment of additional Sandberg bluegrass plants in response to recent relatively favorable growth years. Standing biomass was relatively high in all later photos, and no bunchgrass mortality was evident. While utilization in 2012 removed some standing biomass, change over time reflects primarily fluctuation in growth year precipitation and the resulting plant dieback and expansion

and litter accumulation or loss. The photo plot probably represents the potential for the low mound it is located on, which is preferred for grazing over surrounding stony intermound areas.

The permittee's photo points (reported in the 2011 Assessment, pages 216-218) reflected smaller areas of bare ground, fewer ponded areas and ongoing colonization by native perennial grasses even in high impact areas during 1993 through 2005.

Pasture 4, B Paddocks (Mid Spring Use)

Synopsis of Assessment Findings

The 2004 data indicated a slight to moderate departure as a whole for the site stability and watershed function-related Indicators within the B paddocks. The two silty-soiled low mound Claypan stands (12S02W26A and 26B) were judged to have minor active erosion in 2004, with bare and crusted areas interpreted as deposition ponding and pedestalling interpreted as evidence of slight active erosion. On other Claypan stands erosional processes were mostly historic in nature.

There are no BLM long-term rangeland trend sites located in these paddocks. During 1993 through 2005 the permittee's photo points reflected smaller areas of bare ground, fewer ponded areas, ongoing colonization by native perennial grasses, and some replacement of older plants in high impact areas (2011 Assessment, pages 218-219).

Evaluation Finding – Pasture 4, B Paddocks are:

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

Rationale for Evaluation Finding

Repeated photos during 2004 through 2006 illustrate the influence of precipitation fluctuation on temporal variability in soil and vegetation characteristics. Both typically grazed and ungrazed areas showed the same pattern throughout the JB&S Use Area. Additional photos of some of the same locations are also available from 2008, 2010, and 2012.

2004 was at the end of an extended period of below-normal precipitation, while 2005 and 2006 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. The 2004 worksheets noted bunchgrass mortality, particularly on low mound stands, but did not recognize that production and litter biomass were below normal even on less productive sites with no observable recent grazing or shift in functional groups.

The permittee's study on the Loamy inclusion (DS B.1-1) was revisited in July 2008. Replacement of bare ground by perennial grasses was continuing, all perennial grasses were vigorous, and none showed pedestalling. The approximate locations of two other Claypan studies were visited on the same day (DS B.4-1 & DS B.4-2) with similar results.

Pasture 4, C Paddocks (Late Spring Use)

Synopsis of Assessment Findings

The 2004 data indicated a slight to moderate departure as a whole for the site stability and watershed function-related Indicators within the C paddocks. Trend data during 1983 to 2012 indicated a generally static trend in persistent litter, basal cover of decreaser grasses, and biological soil crusts at 11S02W15.

Decreaser grass basal cover was very low and probably at potential on the sampled area. Bare ground continued a slow decline. Live vegetation and increaser grass basal cover showed some fluctuation and generally static trends, but were both higher in 2012 than in any previous year and may reflect favorable growth conditions in recent years. Although basal cover of increaser grasses is higher at 11S02W15 it appears to have less potential for change than 11S02W25 because of the very high stone cover that is typical of Stony Clayey 12-15 stands.

Trend data during 1983 to 2012 indicated a generally static trend in bare ground and basal cover of decreaser grasses at 11S02W25. Although increaser grasses predominate, basal cover of both increaser and decreaser grasses is relatively low. Increaser grass basal cover increased, particularly after 2004, and was reflected in greater live vegetation cover in 2012. Bare ground was low, reflecting inherently high levels of gravel and rock cover on many Shallow Claypan stands, while biological soil crust cover increased.

The permittee's photo points reflected smaller areas of bare ground, fewer ponded areas and ongoing colonization by native perennial grasses even in high impact areas during 1993 through 2005. The approximate location of the study located ¼ mile from School Section Reservoir (DS C.4-1) was revisited in July 2008. Replacement of bare ground by perennial grasses was continuing, all were vigorous, and bare areas were smaller and less continuous than in 1993. Idaho fescue was still somewhat shrubbed up in the general area but was localized near School Section Reservoir and was not typical of Clayey stands even in this drainage basin.

Evaluation Finding – Pasture 4, C Paddocks are:

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

Rationale for Evaluation Finding

Even the Churning Clay RHE, which exhibited more departure from reference condition than other evaluation areas; as well as the Clayey stands in D Bar Basin, the basin containing School Section Reservoir, and on inclusions on Big Springs Butte showed only a slight to moderate departure from reference in 2004. The remaining stands, many of which have stony to extremely stony surfaces which aid in protecting them from disturbance, showed little departure from reference condition. The Loamy stand in D Bar Basin and 3 other Clayey stands within preferred grazing areas showed little departure from reference condition. While the 2004 worksheets noted bunchgrass mortality on most evaluation areas based primarily upon Sandberg bluegrass pedestalling, they did not recognize that production and litter biomass were below normal.

At trend studies where cover components have been measured, the amount of bare ground is low compared to reference values, and biotic cover has been stable or increasing. A static trend in desirable components would also be acceptable in stands that have reached their potential composition and cover, although temporal variability may still occur.

Pasture 4, D & F Paddocks and Wagon Box Basin (Early Summer Use)

Synopsis of Assessment Findings

The 2004 data indicated that the Wagon Box Basin Pasture (4D3) showed the most departure for the site stability and watershed function-related Indicators within this portion of the JB&S Use Area. Two of three Shallow Claypan stands showed slight to moderate departure from reference condition overall. In 2012, the reevaluated convex intermound Claypan stand showed little departure from reference

condition for the watershed attributes. Standing biomass of bunchgrasses appeared similar to 2004. Some crown mortality on the larger Idaho fescue plants was observed in both years.

The remaining D and F paddocks showed none to a slight departure as a whole in 2004. A Stony Clayey ecological site was reevaluated in 2012, and showed little departure from reference condition. Biomass, particularly of perennial grasses, was much higher in 2012 after several normal or wet years than in 2004 after several successive dry years, with only slight mortality on bunchgrasses. None of the evaluation areas in the D and F paddocks had recognized that annual production was below 80% of normal in 2004.

In Wagon Box Basin, trend data during 1983 to 2012 indicated a generally static trend in persistent litter, biological soil crusts and basal cover of decreaser and increaser grasses at 10S2W34B. Live vegetation basal cover fluctuated but was generally static; and may reflect perennial grass dieback during the period of lower precipitation between 1987 and 1994 and subsequent expansion during the period of higher precipitation between 1995 and 1998. Overall, bare ground was static between 1983 and 2012.

In the remaining D and F paddocks, two studies (10S1W21 and 11S02W10) are located on very stony areas. Trend data during 1983 to 2012 indicated a generally static trend in non-persistent and persistent litter and in basal cover of decreaser grasses, while increaser grass basal cover increased at 10S1W21. Live vegetation basal cover fluctuated but was generally static after 1987; while bare ground cover showed some fluctuation, but declined overall between 1983 and 2012.

Trend data indicated generally static trends in persistent litter, biological soil crust, and in basal cover of decreaser and increaser grasses at 11S02W10. Increaser grasses predominate, and decreaser grass cover is consistently very low. Live vegetation basal cover has shown substantial fluctuation during 1983 to 2012, with marked declines during successive dry periods from 1987 through 1994 and from 1999 through 2004 (2011 Assessment, *Introduction* page 21), reaching its highest value ever in 2012 after a period of normal to above-normal crop-year precipitation. Increaser grasses have been the largest single component of live vegetation basal cover over the past 30 years.

Trend data during 1983 to 2009 indicated generally static trends in persistent litter, biological soil crust, and in basal cover of live vegetation, decreaser and increaser grasses at 10S2W14. Increaser grasses predominate, while decreaser grass cover has been almost nonexistent during the entire 30-year period of monitoring. Bare ground cover increased sharply between 1987 and 1995; and live vegetation basal cover declined; possibly reflecting plant dieback during the dry period between 1987 and 1994. This study is located in a fine-soiled bottom/drainage, where ponding and flow of water occur seasonally, and high disturbance has occurred in the past. As is typical in Clayey stands, the soil surface is silt loam, which forms physical crusts as it wets and dries. A static trend in desirable cover components is acceptable in stands that have reached their potential composition and cover, although temporal variability may still occur.

BLM established 4 photo plots earlier to monitor use on fine soils within the former Asa Black cattle allotment, which included Wagon Box Basin and essentially the same paddocks. BLM was successful in relocating the Clayey study in Wagon Box Basin (10S02W34A) in 2012. Photo trend based upon plant cover, composition of decreaser grasses, and amount of bare ground was strongly upward since 1976.

In the other D paddocks formerly within the Asa Black cattle allotment, one of the Churning Clay studies was revisited in June 2012 (10S02W10). While plot stakes were not found, the retaken view photos show the site with a higher Idaho fescue component, a lower forb component, and less bare ground

than in June 1976. The other Churning Clay study is an intergrade with Stony Clayey stands (10S02W25). The retaken photos show little change since 1981; the study is probably at its potential.

The permittee's photo points (reported in the 2011 Assessment, pages 221-223) again reflected smaller areas of bare ground, fewer ponded areas and ongoing colonization by native perennial grasses even in high impact areas during 1993 through 2005. One (DS D.3-1) is co-located with BLM's study (10S02W34B) which indicates a long-term upward trend based upon 2012 trend photos.

Evaluation Finding – Pasture 4, D & F Paddocks and Wagon Box Basin are:

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

Rationale for Evaluation Finding

Even in Wagon Box Basin, which showed the most departure from reference condition, the two Claypan stands that showed a slight to moderate departure from reference condition reflected erosional processes that were at most still slightly active. Pedestalling and crown mortality on bunchgrasses in 2004 were assumed to reflect exposure of roots by surface erosion on those stands. Deposition from active sheet erosion was assumed to be hidden by surface gravel on one (10S2W28B) so that part of the erosion and redeposition process was not documented there. Trend photos also suggest that trend in decreaser grasses is upward through 2012 at the other Claypan stand (10S02W34B). Non-persistent litter has also continued to accumulate after 1987 at that long-term study.

At trend studies where cover components have been measured or photographed, the amount of bare ground is low or comparable to reference values, and biotic cover has been stable or increasing. A static trend in desirable cover components is acceptable in stands that have reached their potential composition and cover, although temporal variability may still occur. While vegetative cover also shows some fluctuation among readings at trend studies, a significant change in vegetative cover or biocrust has longer lasting effects on site protection than short-term fluctuations in the amount of litter or bare ground.

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, Claypan 12-16 ARAR8/FEID, 2014
- Ecological Site Description, Stony Clayey 12-16 ARARL/FEID, 1981

Standard 2. Riparian Areas 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

Pasture 4, All Paddocks

Synopsis of Assessment Findings

Of 46.5 miles of stream in the JB&S use area, 40.3 miles (87%) were in PFC, 3.5 miles (7%) were FAR, and 2.7-miles (6%) were NF. Of 16 springs, three (19%) were in PFC, seven (44%) were FAR, and six (38%) were NF.

Evaluation Finding – Pasture 4 (all paddocks) are:

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

Rationale for Evaluation Finding

Although 40.3 miles of streams (87%) in the JB&S use area were in PFC, there were still 3.5 miles (7%) in FAR condition and 2.7-miles (6%) in non-functioning condition. In these segments, stream characteristics were not appropriate for soil type, climate, geology, and landform, to provide for proper nutrient cycling, hydrologic cycling, and energy flow. Of 16 springs, a large percentage was in the NF and FAR categories.

Preliminary Causal Factors

In general, the segments that allowed access to cattle were not meeting the Standard.

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 3. Stream Channel and Floodplain

Desired Conditions

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.

Pasture 4, All Paddocks

Synopsis of Assessment Findings

Of 46.5 miles of stream in the JB&S use area, 40.3 miles (87%) were in PFC, 3.5 miles (7%) were in FAR condition, and 2.7-miles (6%) were in NF condition. The Owyhee River was rated FAR for Standard 3 because of the disturbance to the floodplain from upstream sedimentation. This differs from the rating for Standard 2 where the Owyhee was in PFC for other portions of the evaluation. Because the Owyhee

River was rated FAR condition for Standard 3, the percentage numbers do not correspond to the numbers given in the Standard 2. It is important to note that the FAR rating for the Owyhee River was not the result of current livestock grazing in the Black Use Area.

Evaluation Finding – Pasture 4 (all paddocks) are:

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

Rationale for Evaluation Finding

Nearly half of the stream channels and floodplains were not meeting desired conditions. Conditions in the Owyhee River, Camas and Pole Creeks factored into this rating. These streams comprise a relatively large portion of the streams for the use area and require improvement to channel conditions in order to meet Standards 3.

Preliminary Causal Factors

Current and historic grazing practices in Pasture 4 streams are major factors contributing to ranking of riparian and wetland areas. The exception to this is the Owyhee River where livestock grazing within the use area is not the source of impacts.

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 microbotic 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.

Pasture 4, A Paddocks (Early-Mid Spring Use)

Synopsis of Assessment Findings

An ID team sampled indicators of rangeland health at ten locations in all. One of the 10 locations was sampled in 2004 and again in 2012. Two of the 10 assessment locations are paired with long-term monitoring data. The assessment data indicate a general slight to moderate departure for the native plant community indicators.

Although large perennial bunchgrasses were under-represented as a group at many of the assessment locations, they were always present. Annual production was within the natural range of variation at most locations, except two places along Dickshooter Ridge where production was 60-80 percent of potential. Most areas are co-dominated by large perennial bunchgrasses and this group dominates the plant community in some Shallow Claypan sites.

Pedestalled bunchgrass plants were common and active in most cases except three. Few large bunchgrasses exhibited recent crown die-off. Seed heads were seldom observed on interspatial decreaser grasses (except in the 4A4 paddock). Shrub decadence in the south / southwest portion of the pasture was common in 2004, particularly on the Loamy sites.

The trend for vegetation conditions has been static to upward. The original inventory rated most of this area in poor condition in 1982 (USDI 2014). Large perennial bunchgrass frequency has increased at two separate study locations and appears to have increased at a third, photograph monitoring plot. Meanwhile, sagebrush frequency has declined at two of the three monitoring locations. By 2012, much of the Dickshooter Ridge area was in fair to good range condition.

Noxious weeds were not observed. In general, invasive plants are scattered in low concentrations. Cheatgrass and rabbitbrush are common plant community associates on Loamy soils in the 4A3 area. Cheatgrass was also common on one of the concave intermound Claypan 11-13 (13S02W22) RHEs. In addition, soft brome was common on the convex intermound Claypan 11-13 (13S02W16) RHE. Three additional RHE sites throughout the area showed a slight to moderate departure from reference conditions for invasive plants, with scattered and isolated cheatgrass occurrences.

Evaluation Finding – Pasture 4, A Paddocks are:

- 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 the pasture. Large perennial bunchgrasses were often under-represented but are well represented in most instances. Although invasive vegetation has gained a foothold in some portions of this area the native plant communities will resist invasive plant dominance in the absence of repeated disturbance. Overall trend for vegetation condition has been upward in the pasture since the early 1980s.

Pasture 4, B Paddocks (Mid Spring Use)

Synopsis of Assessment Findings

Of the five locations sampled for rangeland health, four exhibited slight to moderate departure for biotic condition ratings. The common indicators for depressed native plant community conditions were attributed to the large bunchgrass group. Large bunchgrasses were under-represented at four of the five sample locations, but were still dominant at three locations.

The lowest vigor and poorest distribution of large bunchgrasses was documented in paddock B.1, known as The Flat, where crown-die out, moderate pedestalling, and plucking were noted at two locations and bunchgrass utilization appeared heavy in 2004. The majority of primary production was estimated to be from shallow rooted bunchgrasses, rather than Idaho fescue or needlegrass. This shift in structural groups was so pronounced in paddock B1 that annual production was estimated at 60 to 80 percent of potential at both sample locations. Some sagebrush stands were also decadent in this area. Elsewhere in the B paddocks, the condition of large bunchgrasses was better.

Large bunchgrasses at two of the three other assessment sites outside of paddock B.1, still exhibited low vigor but were still the dominant plant group, in terms of annual production. Large bunchgrass seed head production and reproductive capability were below expected on interspatial plants; however, vigor and seed head production were good on individuals beneath shrub canopies. The rubble land Shallow Claypan (12S02W33) RHE, which has an extremely stony surface, shows good plant vigor, seed head production and reproductive capability. Four of the assessment locations exhibited at least three different species of legumes. Noxious weeds were not detected. Cheatgrass and burr buttercup were scattered in disturbed areas, if present.

Trend since the initial inventory appears to be upward. The majority of this area was rated as poor in 1982 (USDI BLM 2004). By 2012, most could reasonably be classified as fair or good. Several long-term trend studies have been established in the area, all are long-term photograph plots. In all studies, the apparent trend has been either static or upward.

Evaluation Finding – Pasture 4, B Paddocks are:

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

Rationale for Evaluation Finding

Trend information suggests that the area is making progress towards meeting the standard but progress is too slow, or even limited in paddock B.1. Large bunchgrass plants in paddock B1, known as The Flat, are below potential, both in terms of production and reproductive capability. As a group, these plants are less abundant than the shallow rooted bunchgrasses, despite the fact that large statured bunchgrasses dominate these types of ecological sites in the reference condition plant community phase (USDA NRCS 2014). Although some variation between functional/ structural groups can be driven by natural disturbance factors, such as drought, insect outbreaks, or fire, these factors have been limited at this location.

Preliminary Causal Factors

Recent grazing use suggests that the plant community is responding to better management than in years past, except in paddock B.1, where repeated use during the critical growing season is inhibiting recovery. The location of paddock B.1 in relation to the overall livestock grazing operation lends to the suspicion that current livestock grazing is preventing an upward trend. It may be that trailing activities

on the way out, and on the way in are having a more pronounced effect on vegetation in this paddock than elsewhere, particularly if livestock linger there from early to late spring each season.

Pasture 4, C Paddocks (Late Spring Use)

Synopsis of Assessment Findings

Plant community integrity and native species diversity indicate little, if any departure from reference conditions and most areas support diverse native plant communities. The exception is Clayey ecological sites near water developments where plant communities' integrity was lower than in stony areas. Clayey sites located near the School Section Reservoir located in the southern end of paddock 4C4, is an example where perennial grass abundance is substantially reduced and annual forbs production is high, relative to the reference plant community phase. Annual production there was estimated at 60-80 percent of potential due to a decrease in interspatial grasses. Annual production elsewhere in the paddock was within the natural range of variation for good condition sites.

Noxious weeds were not detected. Bulbous bluegrass was scattered to common at two of the seven RHE sites. Cheatgrass was scattered at one site. Invasive plants were located at the Clayey RHEs located in the 4C4 area.

Trend in the area has been static, to slightly upward since the initial inventory categorized a mixture of good, fair, and poor condition in 1982 (USDI BLM 2014). Since then, several monitoring studies have documented mixed results. Trend in the paddock 4C4 appears to be static to slightly upward, depending on location. A slight upward trend has been detected in the south because Idaho fescue frequency has increased slowly but steadily, while sagebrush frequency has decreased. Further north, the trend has been static to slightly downward because Idaho fescue has been static and needlegrass has declined since 1987. Several long-term photograph monitoring studies in this group of pastures document similar trends. One difference is that photographs all depict upward trends for 'decreaser grasses', a group Idaho fescue would belong.

Evaluation Finding – Pasture 4, C Paddocks are:

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

Rationale for Evaluation Finding

The great majority of these areas support well-functioning native plant communities. Exceptions to this generalization do exist, primarily in the southern end of paddock 4C4, but these are localized to fine-soiled areas within 0.3 miles from water sources. The condition of native plant communities is functioning well enough to resist wide spread establishment of invasive plants, and resilient enough to withstand periodic natural disturbances without long-term loss of any primary components.

Pasture 4, D & F Paddocks and Wagon Box Basin (Early Summer Use)

Synopsis of Assessment Findings

An ID team sampled rangeland health attributes at 13 sites in 2004. Two of the 13 sites were sampled again in 2012. Of the two sites sampled in 2012, one site (11S01W09) was unchanged from 2004 conditions and the other exhibited a moderate decline in native plant community condition, due largely to decadent sagebrush. By the 2012 assessment, patches of low sagebrush in wagon box basin appeared to be decadent or dying. Juniper appears to be encroaching from shallow breaks along the ridges, into the Claypan sites of Wagon Box Basin.

Nine of the 13 sites assessed in 2004 data exhibited little, if any departure for the biotic integrity indicators. Of the remaining four sites, large bunchgrasses were slightly, to moderately under-represented and exhibited low vigor. Annual production at the great majority of sites was within natural ranges of variation. The exception was at the wagon box basin RHE site 10S02W34, where annual production was 60-80 percent of potential in 2004. Annual production at all but one RHE site was within the natural range of variation for reference conditions. Legumes were reported at six of the 13 RHE sites in 2004.

Trend in these areas has been mixed. Range condition ratings in 1982 ranged from poor to good, depending on location. The majority of paddock 4D3 (Wagon Box Basin), for example was rated in poor condition in 1982, while most of 4D5 (Yellowhouse Flat) was rated fair, and most of 4D2 (Oasis) and 4D4 (Camas Ck.) was rated in good condition (USDI BLM 2014). Trend measurements in 4D4 since the initial inventory have been static, while those in 4D2 and 4D5 have been static to downward. Trend data indicate that current management may be slightly detrimental to the Clayey soils while benefitting Claypan sites. Several repeated photograph monitoring locations document static to upward apparent upward trends in these areas.

Noxious weeds were not observed in 2004 or 2012. Invasive plants at the Clayey RHEs show none to a slight degree of departure, except at one Churning Clay site (10S02W11) where bulbous bluegrass was common in areas. Bulbous bluegrass is common in paddock 4D5. Invasive plants were also noted Wagon Box Basin, where cheatgrass was scattered and juniper appears to be encroaching from rims into low sagebrush Claypan sites. Autumn willowweed (a weedy annual species) was encroaching on shrub interspaces at RHE 10S02W34B. No invasive plants were observed at RHE 10S02W28A in 2004. Bur buttercup and bulbous bluegrass were also noted in scattered areas along roads in these paddocks.

The D paddocks outside Wagon Box Basin are exceptionally stony. The stony areas generally received little or no use by livestock in 2000, while utilization was heavy or severe in localized areas where fine, non-stony soils predominated, particularly if water was available. Within Wagon Box, 2004 photos suggest that utilization was heavy at trend site 10S2W34B in 2003, with little regrowth following use. Heavier use of this area occurs about once every third year, with stocking rates up to 12.9 acres/AUM. Precipitation in this area was 11 percent above average in the 2004 calendar year and 16 percent below average in the 2012 calendar year (USDI BLM 2014).

Evaluation Finding – Pasture 4, D & F Paddocks and Wagon Box Basin are:

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

Rationale for Evaluation Finding

Standard 4 is being met in these paddocks, particularly on the tables and benches. The RHE sites in the south (A paddocks) and south central (B paddocks) showed the most departure from reference conditions. In the C paddocks, most areas displayed good diversity and high grass vigor and reproductive capability. The large bunchgrasses are slightly below potential in some areas but remain dominant or capable of becoming the dominant grass component overall. Vegetation vigor has been fair, despite recent declines in some sagebrush stands of Wagon Box Basin. Although Standard 4 is also being met in Wagon Box Basin, juniper encroachment may be problematic over the long-term. Juniper do not appear to substantially affect functionality of the native plant communities.

Wagon Box Basin area exhibited some indicators of plant community stress in 2012. Low vigor in the native plant community is likely tied to a combination of below average precipitation and aroga moth defoliation. Juniper will likely continue to encroach into the sagebrush stands of Wagon Box Basin. Although juniper are not major drivers plant community ecological processes at this time, native plant community condition could degrade over the long-term without some intervention (Miller 2005).

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.

USDA NRCS 2014. Ecological Site Description, Claypan 12-16 (RO25XY010ID), MLRA 025-Owyhee High Plateau.

Standard 7. Water Quality

Desired Conditions

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

Pasture 4, All Paddocks

Synopsis of Assessment Findings

Owyhee River, and Deep, Pole, creeks are listed as not meeting water quality standards. Targets for water temperature, sediment, fecal coliform, water chemistry and stream shading were not sufficient to meet this standard. Increased water temperature measurements and stream shading were factors that influenced this rating. IDEQ is the final authority on determining water quality in the state.

Evaluation Finding – Pasture 4 (all paddocks) are:

- 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 within the JB & S Use Area. The Owyhee River and Deep and Pole creeks do not support the Idaho water quality standards (IDEQ Integrated Report 2010).

Preliminary Causal Factors

The limited data collected by BLM is inconclusive as to the primary causal agent. Current livestock grazing may, or may not be the reason standards are not met, as all of Deep Creek, and most of Pole Creek were in rated in PFC. In addition, sediment elevations in Deep Creek may originate from upstream sources on private land.

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’s Upper Owyhee Subbasin Assessment and TMDL (2010).

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

Pasture 4, A Paddocks (Early-Mid Spring Use)

Synopsis of Assessment Findings

Upland and riparian conditions were assessed for how the use area provided for special status wildlife species. Upland conditions in the A Paddocks were characterized at 10 RHE sites (all in 2004 and one revisited in 2012) and with one sage-grouse nesting assessment. Riparian conditions were assessed with PFC ratings at streams and wetland sites.

Upland vegetation condition is used to characterize habitat for nesting sage-grouse, pygmy rabbits, and big game. Although decreaser grasses were slightly less than expected at sites sampled with RHEs, upland vegetation in the A Paddocks was in good condition and the understory was dominated by these grasses. The one sage-grouse nesting assessment rated suitable with excellent forb and bluebunch wheatgrass cover.

Riparian condition is used to characterize habitat for sage-grouse during late summer and spotted frogs. The one spring in this paddock group rated FAR due to headcuts and livestock impacts and suitable for sage-grouse late brood-rearing activities. Stream segments in this paddock group were comprised of portions of Deep Creek and the Owyhee River. Although these segments were rated as FAR and PFC, sage-grouse would not use them due to the deep canyons in which they flow. These segments are in good vegetative condition (Owyhee River rated FAR due to some sediment deposition) and provide good habitat for other wildlife species (e.g. bighorn sheep) using these areas.

Evaluation Finding – Pasture 4, A Paddocks are:

- 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 paddock group. Also, riparian conditions were mostly good where segments of Deep Creek rated PFC and the Owyhee River rated FAR due to the regular scouring nature of the river and sediment deposits in some areas. The one spring in the paddock group ranked suitable for sage-grouse late brood-rearing habitat. Overall, upland and riparian conditions for this paddock group contribute to healthy wildlife populations in the area.

Pasture 4, B Paddocks (Mid Spring Use)

Synopsis of Assessment Findings

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

As in the A Paddocks, decreaser grasses in the B Paddocks were slightly less than expected but were dominated by these grasses. All of the sage-grouse nesting assessments rated marginal but were all in low 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 the B Paddocks was in good condition and contributes toward healthy wildlife populations.

Four lentic sites rated suitable (2), marginal (1), and unsuitable (1) for sage-grouse late brood-rearing habitat, where the marginal and unsuitable sites were associated with nearby, downstream reservoirs. Stream segments in this paddock group were comprised of portions of Deep and Dickshooter Creeks. Segments of both of these creeks in the B Paddocks that rated as PFC (see Fig. 15 in Assessment) were in deep canyons so sage-grouse would not use them but other wildlife species (e.g. bighorn sheep) would benefit from the conditions in these riparian areas.

Evaluation Finding – Pasture 4, B Paddocks are:

- 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 paddock group. Riparian conditions were also mostly in good condition with the exception of two lentic sites associated with reservoirs. Although springs at these sites could be improved, the livestock emphasis of the associated developments likely make meeting PFC more difficult. Even with the lowered quality of these sites relative to sage-grouse and other wildlife, enough high quality riparian habitat exist in the paddock group to sustain healthy wildlife populations in the area.

Pasture 4, C Paddocks (Late Spring Use)

Synopsis of Assessment Findings

There were seven sites assessed with RHEs and five sage-grouse nesting assessments used to ascertain upland conditions in the C Paddocks. Riparian conditions were assessed with four sage-grouse late brood-rearing assessments and there are no stream segments with hydric vegetation found in this paddock group.

Upland vegetation in the C Paddocks was in very good condition with biotic community conditions close to reference condition. All of the sage-grouse nesting assessments in low sagebrush (4 of 5) rated marginal but the short stature of the sagebrush lowers the rating of these site for nesting. There was a high abundance and diversity of forbs at all of these low sagebrush sites. The one qualitative nesting assessment conducted in this paddock group in big sagebrush rated suitable. Overall, upland vegetation in the C Paddocks was in good condition and contributes toward healthy wildlife populations.

The four lentic sites rated marginal for sage-grouse late brood-rearing habitat in this paddock group. Three of the four exhibited signs of heavy livestock use but were partially protected with rock armoring at the sites. The remaining site did not exhibit heavy livestock use but rated marginal due to a lack of forb abundance and diversity.

Evaluation Finding – Pasture 4, C Paddocks are:

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

Rationale for Evaluation Finding

The upland habitat in the C Paddocks is in good condition and contributes positively to nesting sage-grouse, pygmy rabbits, and big game. However, even though the lentic sites are partially protected with rock armoring and consequently, somewhat resilient to disturbance, the lowered forb abundance and diversity at these sites (on which sage-grouse especially rely during late summer) lessens the ability of the habitat to fully provide for healthy wildlife populations in the area. Degraded conditions at these sites could also jeopardize long term maintenance of late brood rearing habitat for sage-grouse in the C Paddocks.

Preliminary Causal Factors

Livestock impacts have degraded conditions at three of the four springs in this paddock group. Livestock concentration at the springs has resulted in modifications of the plant composition that has decreased the ability of the site to maintain water late into the summer and sustain an abundance and diversity of forbs desirable to sage-grouse and other wildlife species.

Pasture 4, D & F Paddocks and Wagon Box Basin (Early Summer Use)

Synopsis of Assessment Findings

There were 13 sites assessed with RHEs and 10 sage-grouse nesting assessments used to ascertain upland conditions in the D and F Paddocks. Riparian conditions were assessed with seven sage-grouse late brood-rearing assessments and with PFC ratings at streams and wetland sites.

Upland vegetation in the D and F Paddocks was in good condition with biotic integrity conditions at or close to reference conditions. All of the sage-grouse nesting assessments in low sagebrush (7 of 10) rated marginal but the short stature of the sagebrush lowers the rating of these site for nesting. There was a high abundance and diversity of forbs at all of these low sagebrush sites. Of the remaining sites, the two nesting assessment conducted in this paddock group in big sagebrush rated suitable, whereas the one in silver sagebrush rated marginal. These remaining big and silver sagebrush sites were in good condition. Overall, upland vegetation in the D and F Paddocks was in good condition and contributes toward healthy wildlife populations.

Five of the seven sage-grouse late brood-rearing sites were assessed during 2004 and 2012. Three of these repeated sites showed a drop in rating from 2004 to 2012. The most recent assessments (most in 2012) were comprised of one suitable, three marginal, and three unsuitable. Stream conditions were in good shape with the exception of some segments of Pole and Camas Creeks, which especially lowers the quality of habitat for sage-grouse and spotted frogs.

Evaluation Finding – Pasture 4, D & F Paddocks and Wagon Box Basin are:

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

Rationale for Evaluation Finding

The upland habitat in the D and F Paddocks is in good condition and contributes positively to nesting sage-grouse, pygmy rabbits, and big game. However, lotic and lentic sites assessed for sage-grouse late brood-rearing conditions showed a lowered ability to provide for healthy wildlife populations in the area. Ratings for PFC in sections of Pole and Camas Creeks also exhibited degraded conditions. Consequently, riparian conditions at some of the sites in this paddock group could jeopardize long term maintenance of late brood rearing habitat for sage-grouse, as well as habitat for spotted frogs.

Preliminary Causal Factors

Livestock impacts have degraded conditions at many of the lentic and some of the lotic sites in this paddock group. 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, as well as provide shade and persistent water for spotted frogs.

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

Fish

Synopsis of Assessment Findings

Water temperatures in Deep Creek and Pole Creek are too warm to maintain a viable population of redband trout.

Evaluation Finding – Pasture 4 (all paddocks) is:

- 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, Pole, or Camas creeks do not provided the cooler water temperature regime needed to support a viable redband trout fishery.

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.

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's Upper Owyhee Subbasin Assessment and TMDL (2010).

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

Plants

Pasture 4, A Paddocks (Early – Mid Spring Use)

Synopsis of Assessment Findings

One population each of Owyhee River forget-me-not (*Hackelia ophiobia*) and Simpson's hedgehog cactus (*Pediocactus simpsonii*) are found in the 4A paddocks. Both are well protected 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.

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

Pasture 4, A Paddocks are meeting the standard because of the habitat is intact and not impacted by grazing or other factors.

Pasture 4, B Paddocks (Mid Spring Use)

Synopsis of Assessment Findings

Two populations of Bach’s downingia (*Downingia bacigalupii*) are located in these paddocks. One population is located along Dickshooter Creek where water is not impounded and cattle do not typically congregate. As a result, there were high concentrations of downingia, particularly in the canyon portion of the creek. The second population of downingia is located at Dickshooter Reservoir and receives greater livestock impacts such as trampling of vegetation and pugging of soils. This population has fluctuated over the years between 50 to 300 individuals. Habitat condition declined between 2005 and 2009 and a rangeland health assessment in nearby uplands showed increases in annual forbs and decreased perennial grass production.

There is also one known population of Owyhee River forget-me-not located in these paddocks. As stated above, grazing impacts are not a threat to this species due to its remote and inaccessible habitat.

Evaluation Finding – Pasture 4, B Paddocks is:

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

Rationale for Evaluation Finding

The pasture is meeting the standard because of the high proportion of the population in Dickshooter Creek that is in good condition and has an armored and rocky habitat. Dickshooter Reservoir may always receive relatively high levels of livestock use but the Dickshooter Creek population can allow for long term vigor of the species if proper management continues.

Pasture 4, C Paddocks (Late Spring Use)

Two populations of Bach’s downingia are located in these paddocks. Both populations are at reservoirs and receive impacts to habitat such as trampling and mechanical damage to soils. Despite these impacts, the plant populations have managed to maintain population numbers of at least 500 individuals. Impacts to soils may be moderate enough that establishment sites are still available for Bach’s downingia.

Evaluation Finding – Pasture 4, C Paddocks is:

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

Rationale for Evaluation Finding

This pasture is meeting the standard because the populations have been able to sustain relatively high numbers despite the concentrated use at the reservoir habitat.

Pasture 4, D and F1 Paddocks (Early Summer Use)

Three populations of Bach’s downingia and one population of thinleaf goldenhead (*Pyrrcoma linearis*) are located in these pastures. The Bach’s downingia populations exhibit a range of conditions from heavily disturbed reservoir habitat to moderately disturbed intact habitat. Habitat not associated with a

reservoir showed heavy levels of use and an increase in bulbous bluegrass. Rangeland health assessments located nearby show that overall plant vigor has decreased.

There is also one population of thinleaf goldenhead located within the Wagon Box Basin Pasture 4D3. During an initial site visit conducted in 1995, several hundred plants were located and the population vigor was assessed as good. In 2012 the population was assessed as having good vigor but low population numbers with less than 50 individuals. The rangeland health assessment for the Wagon Box Basin shows a slight to moderate departure from expected conditions. Pedestalling of grasses, plant mortality, and bunchgrass crown die-out were higher than expected. This suggests less than optimal habitat conditions for thinleaf goldenhead.

Evaluation Finding – Pasture 4, D and F1 Paddocks is:

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

Rationale for Evaluation Finding

These pastures do not meet the standard because habitat quality for these two species is less than desired for long term persistence of the species. Heavy mechanical disturbance of soils not only limits the amount of germination sites but also allows for increase spread of invasive species such as bulbous bluegrass.

Preliminary Causal Factor

Populations near Yellow House Reservoir showed signs of heavy grazing such as abundant bare ground, short stubble heights, and invasive plants.

Information Sources

Species specific site-visits to known populations of special status plants (SSP) and historic population information are on file at the BLM. Locations of known populations of SSP were identified using the Idaho Fish & Game Conservation Data Center (CDC) database and BLM field office maps. Data for species listed on the 2004 BLM sensitive species list were collected. Only known populations of BLM SSP occurring in the Big Springs Allotment were analyzed. Inventory work for SSP in this area has been limited. However, known populations in the Big Springs allotment were revisited during the spring and summer of 2004, 2005, and 2009. A new one was located in this Use Area in 2009.

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.***