EVALUATION REPORT

Achieving the Idaho Standards for Rangeland Health

Field Office: **Bruneau (ID 120)** Evaluation Date(s): **May 18, 2015**

Grazing Allotment Name/Number: **Big Springs 0803 - Dickshooter Use Area**

Name of Permittee(s): **Simplot Corporation – Dickshooter Cattle Company**

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 may not be 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.

Alternative management will be analyzed wherever it is determined that:

- specific grazing allotments are not meeting the Standards
- allotments are meeting the Standards but have site specific concerns
- there are other documented resource concerns or opportunities for improvement/restoration

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 Dickshooter Use Area (DCC) 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 8N and 8S

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 Pasture 8N. The Stony Clayey stand reevaluated in 2012 again showed little departure from reference condition. Trend data from 1983 through 2012 indicated a generally static trend in persistent litter, live vegetation basal cover, and basal cover of increaser and decreaser grasses at 11S01W02, a Stony Clayey stand. Trend data indicated a generally static trend in bare ground and basal cover of decreaser grasses at 11S01E08, another Stony Clayey stand. Overall, live vegetation, increaser grass basal cover and persistent litter were all static at that location between 1983 and 2012. A static trend in desirable components is acceptable in stands such as these that have reached their potential composition and cover, although temporal variability may still occur.

The 2004 data indicate none to a slight departure as a whole for site stability and watershed function-related Indicators within Pasture 8S. The Claypan stand revaluated in 2012 again showed little departure from reference condition. Trend data during 1983 to 2012 indicated a generally static trend in live vegetation basal cover, in basal cover of increaser and decreaser grasses and in biological soil crusts at 12S01W23. This study site has inherently low bare ground that biocrusts could potentially colonize. Trend data also indicated a static trend in persistent litter, bare ground, and basal cover of increaser and decreaser grasses at 12S01W32. Bare ground and biological soil crusts at that location showed a strongly complementary change between 2004 and 2012, possibly reflecting the influence of several normal or

wet years on this concave intermound Claypan stand. Interspersed convex intermound Claypan stands were also considered in this evaluation area and showed note to a slight departure from reference conditions. A static trend in desirable components is acceptable in stands such as these that have reached their potential composition and cover, although temporal variability may still occur.

Evaluation Finding – Pasture 8N and 8S is:

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

Rationale for Evaluation Finding

Standard 1 is Meeting the Standard for all pastures because conditions generally represent a watershed that is providing for the proper infiltration, retention, and release of water appropriate to desired conditions related to the watershed's inherent capacity. Indicators used to reach this conclusion included the amount and distribution of ground cover; the lack of erosional evidence and/or impacts to the soil characteristics usually illustrated by rills or gullies, pedestalling, physical soil crusts, and compaction layers.

Specifically, the data showed little departure from reference condition for indicators that contribute to watershed health such as basal cover of live vegetation, of perennial grasses that are the predominant components of live vegetation, and amount of bare ground. Flow patterns and pedestalled plants are historic, or if current, are rare at all but one evaluation.

Utilization influenced the amount of litter cover at the Clayey evaluation in 2004, which was the only location judged to have pronounced and well defined surface flow paths. However, seasonal ponding is the primary process on this ecological site, rather than overland flow across it.

Fewer decreaser grasses than expected were also a factor in the judgment that infiltration did not meet reference conditions at the Clayey evaluation in 2004. However, at other sites where reevaluation was done in 2012, and at a long-term photo trend plot, decreaser biomass was much higher than during earlier visits. 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.

This allotment falls within the Upper Owyhee Watershed which covers 1.37 million acres. The Big Springs Allotment comprises 15% of the watershed. Dickshooter pastures account for 60,174 acres or 32% of the allotment and 4% of the watershed area. Rangeland Health Assessments have been performed on all dominant ecological sites in all the pastures in the Dickshooter Use Area since 1995. An ID Team assessed rangeland health at 78 locations in the Big Springs Allotment during the 2004 field season. A new ID Team revisited eight of those locations, plus two new locations in 2012 to assess rangeland health. The data collected within the allotment adequately represents the entire area managed by Simplot and is represented by 2 field visits for RHA, at least 4 field tours with the permittee,

at least 3 different field visits per stream for PFC assessments, and other observations documented between 1995 and today.

Information Sources

Bruneau Management Framework Plan, 1983.
Bruneau Rangeland Program Summary, 1983.
Rangeland Health Assessments 1995-2012

Standard 2. Riparian Vegetation and Wetlands

Desired Conditions

Proper Functioning Condition (PFC) assessments, field notes, aerial imagery, photographs, and other observations gather between 1995 and 2014 were used to evaluate the riparian areas, wetlands and stream channel/floodplain standards. Indicators used for evaluation of Standard 2 for riparian systems within the Big Springs Allotment are riparian vegetative structure and function, age class and structural diversity of riparian vegetation, and if noxious weeds are present they are not increasing. 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 allotment size (187,825 acres) required that the interdisciplinary team utilize a representative sample of conditions to guide conclusions within this evaluation. PFC assessments were completed on at least 3 different occasions at most streams from 1998 to 2014 assessing a total of 41.8 miles.

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

All Pastures (8N and 8S)

Synopsis of Assessment Findings

Battle Creek forms the majority of the eastern boundary of the DCC Use Area. The majority of Battle Creek is unavailable for livestock use due to topography and was rated to be PFC during field visits. A small (0.3 mile) undocumented water gap is fully accessible to livestock for watering and is a crossing for cattle from the adjoining allotment. This segment of Battle Creek was rated in FAR condition and equates to less than one percent of the total stream length. All portions of Big Springs (5.6 miles) within the DCC Use Area were in FAR condition and are accessible to livestock. Dry Creek and Cottonwood Draw were both rated PFC and are not accessible to livestock due to their topography.

Table 1. Riparian areas and riparian-wetland functioning condition ratings for Standard 2 by Stream, DCC Use Area, Big Springs Allotment.

PFC Assessments	PFC (miles)	FAR (miles)	NF (miles)
Battle Creek	33.2	0.3	0
Big Springs	0	5.6	0
Dry Creek	1.8	0	0
Cottonwood Draw	0.9	0	0
Total Miles	**35.9**	**5.9**	
Percent of Use Area	**86 %**	**14 %**	

Eleven springs were assessed within the DCC Use Area with one additional spring being located primarily on private property not being assessed due to its location. Of the springs evaluated, seven were rated PFC and four rated FAR. All spring sites assessed are accessible by livestock.

Evaluation Finding – All Pastures (8N and 8S) are:

X Meeting the Standard
__ Not meeting the Standard, but making significant progress towards meeting
___ Not meeting the Standard

Rationale for Evaluation Finding

The evaluation of indicators for Standard 2 suggests that the majority (86 percent) of stream reaches were PFC, however, those stream reaches were inaccessible to livestock (Pasture 8S). Reaches rated PFC contained appropriate riparian vegetative structure and function, age class and structural diversity of riparian vegetation, and if noxious weeds are present they were not increasing. Riparian areas were in proper functioning condition appropriate to soil type, climate, geology, and landform and provided for proper nutrient cycling and energy flow. Stream reaches rated FAR (14%) were accessible to livestock and was rated as such due to the lack of stabilizing herbaceous and woody riparian vegetation. Riparian vegetation was limited to dispersed sedges and rushes that did not create a continuous, stabilizing mat. Additionally, woody vegetation was heavily browsed throughout the area.

Of the eleven springs evaluated, seven were rated in PFC and four were rated in FAR. Springs rated PFC had limited soil disturbance or compaction, diverse and healthy wetland plants, as well as maintenance or expansion of wetland characteristics. The FAR ratings were primarily due to soil disturbance, soil compaction, reduction in wetland area, and loss of wetland plant species. Hoof shearing, heavy woody browse and riparian vegetation use resulted in pedestalling, shrinking of the wetland area, and a reduction in spring flow and water duration. Density and vigor of wetland vegetation was low. Additionally, mechanical disturbance to wetland soils contributes to increased erosion and sedimentation.

The team evaluated streams both accessible and not accessible to livestock and concluded that those areas accessible to livestock were not meeting Standard 2. On the reaches rated FAR, vegetation cover and vigor was insufficient to stabilize stream banks or dissipate energy flow, as evident by head cutting identified in the Dickshooter Use Area Assessment and associated PFC Assessment forms. One 0.3-mile-long FAR segment of Battle Creek is fully accessible to livestock, as it serves as a livestock trailing route from Northwest Allotment, so it receives use in the spring grazing period. In addition, several headcuts are present on Big Springs Creek, both inside, and upstream of the Twin Bridges exclosure. Willow cover is sparse, and willows were not present in suitable sites where they would most likely occur.

Preliminary Causal Factors

There are three main factors that are contributing to the degradation of riparian and wetland/spring areas accessible to livestock. 1) Historic grazing practices which has altered stream flows and wetland/spring size and productivity; 2) current grazing utilization does not allow for regrowth of stabilizing riparian vegetation; and 3) the upstream diversion of Big Springs Creek has resulted in changes to the stream hydrology, reducing the late season stream flows and consequently reducing available water for riparian vegetation growth or regrowth. This constriction of water also has influenced the display of the stream with some segments becoming intermittent rather than maintaining a continued perennial flow cycle.

Information Sources

Lentic Proper Functioning Condition Assessments; 1995-2012.

Lotic Proper Functioning Condition Assessments; 1995-2012.

Standard 3. Stream Channels and Floodplains

Desired Conditions

Proper Functioning Condition (PFC) assessments, field notes, aerial imagery, photographs, and other observations gather between 1995 and 2014 were used to evaluate the riparian areas, wetlands and stream channel/floodplain standards. Indicators used for the evaluation of Standard 3 include evidence that a stream's floodplain can be accessed during high flow events, has the ability to dissipate energy during high flow events, expresses stream bank stability, that channel characteristics are in line with the surrounding landscape, and that the floodplain exhibits little evidence of excessive compaction. Stream channels and floodplains are properly functioning relative to the geomorphology (e.g. gradient, size, shape, roughness, confinement, and sinuosity) and climate when they are able provide for proper nutrient cycling, hydrologic cycling, and energy flow. The allotment size (187,825 acres) required that the interdisciplinary team utilize a representative sample of conditions to guide conclusions within this evaluation. PFC assessments were completed on at least 3 different occasions at most streams totaling approximately 41.8 miles within this use area.

All Pastures (8N and 8S)

Synopsis of Assessment Findings

The majority of Battle Creek was rated PFC with a small, undocumented water gap being rated as FAR, Livestock access to Battle Creek is limited to the water gap based on local topography. All portions of Big Springs Creek are readily accessible to livestock and were rated FAR due to excessive sediment deposition, the presence of multiple headcuts, historical incision of the channel, and channel characteristics not being in balance with the landscape (width to depth ratio, sinuosity, excessive lateral cutting). Livestock use of the herbaceous vegetation and woody browse in these FAR areas has reduced the establishment of late seral vegetation, reduced bank stability and limited the ability for the stream channel to stabilize.

Evaluation Finding – Pasture 8N is:

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

Rationale for Evaluation Finding

The evaluation of indicators suggests that the majority of streams are PFC (86 percent) and therefore the DCC Use Ares is meeting the standard overall. Further evaluation shows that these stretches of stream channel are restricted from livestock utilization due to the topography of the area. Streams that are accessible to livestock were all rated FAR. The IDT evaluated streams both accessible and not accessible to livestock and concluded that in riparian/wetland areas accessible to livestock, the stream channel was typically out of balance with the surrounding landscape. This included unstable banks, some areas that displayed active head cuts and reduced stabilizing vegetation that resulted in excessive erosion. Livestock use of riparian vegetation was consistently high for FAR reaches of the stream channels.

For the minority portion of reaches rated FAR (14%), reaches were not meeting desired condition as a result of stream bank erosion from bank shearing by livestock, reduced vegetation cover and vigor to stabilize banks, and excessive hoof action that has resulted in compaction along the stream corridor. Several active headcuts are present in Big Springs Creek. Stream banks along Big Springs Creek are not able to dissipate energy during high flow events and are unable to achieve the full site potential due to inadequate stream bank stabilizing vegetation cover.

Preliminary Causal Factors

For the 5.9 miles (14%) of reaches rated FAR, primary contributing factors that have resulted in the degradation of riparian areas within the DCC Use Area include stream channels being out of balance with the landscape (sinuosity, width to depth ratios), shearing and compaction along stream corridors that has destabilized banks or reduced the size of the riparian areas, and the heavy use of vegetation that has resulted in these systems inability to dissipate energy during high flow events. These factors reduce the ability of the streams to overcome stochastic events and maintain or recruit stabilizing riparian vegetation. In addition, the diversion of perennial spring flows in Big Springs Creek has altered the stream hydrology, and resulted in a considerable reduction of late season stream flows in the lower segments. This further compounds the inability of the streams to become in balance with the landscape and reduces bank stabilizing vegetation growth.

Information Sources

Lentic Proper Functioning Condition Assessments; 1995-2012.

Lotic Proper Functioning Condition Assessments; 1995-2012.

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 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 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 8N (Mid-Spring/Early Summer Use)

Synopsis of Assessment Findings

An ID team sampled 14 locations in this pasture in 2004 and revisited one of those in 2012 for re-sampling. The evaluation areas in this pasture displayed little departure for the native plant community indicators in 2004. Ten of the 15 (67 percent) assessments departed little, if at all from reference conditions. Churning Clay and Loamy ecological sites within proximity of water developments exhibited more departure from reference conditions. The remaining five sites exhibited slight, to moderate departure.

The most common indictor of reduced biotic integrity during the assessments was an under-representation of large perennial bunchgrass plants. ID Teams found the large bunchgrass group particularly depleted on Loamy sites on the pasture's southern end, where reproductive capability had been reduced. At that location, the sagebrush stand was both over-represented and decadent.

The trend in vegetation condition in the pasture has been static to slightly upward since the 1980s, when the initial inventory was completed. At that time, most of the pasture was in fair to good condition

and these conditions have essentially been maintained or improved. Idaho fescue frequency has increased slowly at one location, while sagebrush frequency declined.

Invasive plants were only observed at two assessment locations. Bulbous bluegrass was scattered in trace amounts at the Stony Clay (10S01W22) RHE in 2004 and 2012. In the northwest portion of the pasture bulbous bluegrass was typically associated with disturbed areas, such as burrows. Bulbous bluegrass was more abundant at Loamy sites at the pasture's southern end. In general, invasive plants are not a major driver of ecological function in this pasture.

Evaluation Finding – Pasture 8N is:

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

Rationale for Evaluation Finding

The majority of rangeland health assessments closely matched reference conditions for the ecological sites. Declines in plant community integrity are limited in both magnitude and area. The plant communities are functioning well, despite the under-representation of large native bunchgrasses in localized areas. Land use plan objectives for upland vegetation are being met.

Pasture 8S (Summer Use)

Synopsis of Assessment Findings

An ID team sampled indicators of native plant community health at ten locations in this pasture in 2004 and revisited one of those in 2012 for re-sampling. Most RHEs showed little departure for the native plant community indicators. The Frying Pan Basin area showed the most departure from reference conditions for the indicators, while RHEs in the southern portions of the pasture were generally at or near reference conditions.

Large bunchgrasses (Idaho fescue) are under-represented in the Frying Pan Basin area of this pasture. The 2004 ID Team noted reduced vegetative cover overall at these sites and substantial use by livestock. Grasses at this location exhibited pedestaling, moderately low vigor, and exposed roots. Grass species elsewhere in this pasture are vigorous, with adequate seed head production.

Trend in this pasture has been mixed since 1982 but no major changes have occurred. The initial inventory categorized fair range conditions throughout the majority of this pasture (USDI BLM 2014). The site east of the private ranch (12S01W23) could still be considered fair condition, though needlegrass frequency has declined there. Elsewhere, further south, needlegrass frequency has increased slightly, though Idaho fescue has declined. At both monitoring sites, sagebrush frequency has declined by more than half of initial measurements. Perennial forbs continue to be well represented at both sites

Noxious weeds were not observed. Invasive plants were noted in two locations. Bulbous bluegrass was scattered in the middle of this pasture on Claypan sites east of the private ranch (12S01W23), but was more common in northern areas of the pasture, near the Frying Pan Basin area (12S01W12).

Evaluation Finding – Pasture 8S is:

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

Rationale for Evaluation Finding

The condition of the native plant communities in the pasture is generally good with a couple exceptions. For the most part, the native plants in this pasture are functioning well to provide cover, cycle nutrients, water, and energy appropriately to their ecological sites. Noxious weeds have not been detected. Primary production has been within range of natural variation. Static to slightly downward trends indicate a slight shift away from large bunchgrass dominance in some areas. However, the magnitude of this shift has been only slight, having little, if any effect on the plant communities ability to meet the land health standard for native plants. Land use plan objectives are being met in the pasture.

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.

Upland Health assessments and trend studies.

Standard 7. Water Quality

Desired Conditions

Surface and groundwater on public lands comply with the Idaho Department of Environmental Quality's (IDEQ) Water Quality Standards.

Pastures 8N (Mid-Spring/Early Summer Use) & 8S (Summer Use)

Synopsis of Assessment Findings

The Idaho Department of Environmental Quality (IDEQ) evaluated the beneficial use support status of four assessment units within the Dickshooter Use Area. Three assessment units are not supporting the cold water aquatic life use (CWAL). IDEQ also conducted a Subbasin Assessment and Total Maximum Daily Load (TMDL) analysis for Battle Creek, which is the only 303(d) listed stream segment in the Upper Owyhee River watershed that is located in the DCC Use Area (IDEQ 2003). All portions of Battle Creek and its tributaries were listed for temperature exceedance and do not support CWAL as an identified beneficial use.

Stream shading was assessed at seven sites within the DCC use area by BLM. No locations assessed exceeded 16% shading which is far less than is considered necessary to reduce solar radiation input into stream channels and reduce temperature. The lack of shading features along stream channels (i.e. woody species of sufficient height and density) were noted during PFCs.

Evaluation Finding – Pasture 8N/8S is:

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

Rationale for Evaluation Finding

The Idaho Department of Environmental Quality (IDEQ) evaluated the beneficial use support status within the Dickshooter Use Area. Both Battle Creek and Big Springs Creek, as a tributary to Battle Creek, were determined to not support the "Cold Water Aquatic life "water temperature standards (DEQ Integrated Report 2012) and BLM water temperature data (1998-2000). BLM solar pathfinder data show IDEQ TMDL shade targets were not met on any stream portion measured. Standard 7 cannot be met until all beneficial uses are fully supported and are no longer part of the IDEQ Integrated Report.

Those indicators described in Standards 2 & 3 are integral to the support of beneficial uses, however, there are a few specific indicators that were directly affected by livestock management operations and should be the focus of improvements made within this use area. Specifically, it was noted during PFC assessments that woody riparian species were typically reduced in height and density along the majority of stream channels accessible to livestock. In some stream channels where woody riparian species would expect to be occurring, these species were lacking from the riparian vegetation community. Improvements to areas accessible to livestock may include increasing shade outside of confined canyons, reducing concentrations of livestock and associated fecal pollutants near water, and decreasing livestock-related bank erosion. It must be stated that the impacts to water quality are cumulative, both temporally and spatially and those impacts that were upstream from the use area were contributing, but outside of the control of livestock management within this allotment.

Preliminary Causal Factors

The limited data collected by BLM is inconclusive as to the primary causal agent. While upstream uses do cumulatively impact in-stream water quality at downstream locations, it is unlikely that these impacts extend to the banks and associated riparian vegetation. Current livestock grazing was identified as a primary factor impacting woody riparian vegetation cover along areas accessible to livestock.

Information Sources

Idaho Department of Environmental Quality. 2013. *Idaho's 2012 Integrated Report*. Boise, ID: Idaho Department of Environmental Quality. http://www.deq.idaho.gov/media/994278-2012_integrated_report_draft.pdf.

IDEQ. 2012. Owyhee River Watershed: Total Maximum Daily Load Temperature Addendum. pp.111. http://www.epa.gov/waters/tmdldocs/Owyhee%20River%20Watershed%20TMDL%20Addendum%20July%202012.pdf.

IDEQ. 2003 Upper Owyhee Watershed Subbasin Assessment and Total Maximum Daily Load, Owyhee County, Idaho. Pp. 109. http://www.deq.idaho.gov/media/455421-_water_data_reports_surface_water_tmdls_owyhee_watershed_upper_owyhee_watershed_upper_entire.pdf.

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 8N (Mid-Spring/Early Summer 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 Pasture 8N were characterized at 14 RHE sites (all in 2004 and one revisited in 2012) and with 12 sage-grouse nesting assessments. Riparian conditions were assessed with PFC ratings at streams and wetland sites.

Upland vegetation condition was used to characterize habitat for nesting sage-grouse, pygmy rabbits, and big game. Upland vegetation in Pasture 8N showed little departure from reference conditions in the majority of the sites sampled with RHEs. Likewise, all of the sites sampled for sage-grouse nesting rated as either suitable or marginal. The marginal sites were actually in good condition but the criteria for suitability are tiered to big sagebrush sites (Connelly et al. 2000) and those that ranked marginal were in

low sagebrush sites. Exceptions to healthy upland conditions existed at a few sites proximate to water developments in this pasture.

Riparian condition is used to characterize habitat for sage-grouse during late summer and spotted frogs. In Pasture 8N, roughly two-thirds of the streams assessed and one spring were rated as PFC, while the remaining segments of stream and the remaining few springs assessed rated as FAR (see Standard 2). All of the evaluated segments of Big Springs Creek upstream of the Twin Bridges Exclosure and a 0.3 mile section of Battle Creek where spotted frogs have been observed rated FAR. Big Springs Creek is very important for sage-grouse during the late brood-rearing period and these areas have the potential to provide a larger area of forb-rich habitat for a more dispersed and healthier population of sage-grouse. To a lesser degree (due to the relative size of the wetland vegetation), the few springs that rated FAR also lessen the quality of late brood-rearing habitat for sage-grouse.

Evaluation Finding – Pasture 8N is:

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

Rationale for Evaluation Finding

Although the upland habitat in Pasture 8N is in good condition and contributes positively to nesting sage-grouse, pygmy rabbits, and big game, riparian areas along the FAR-rated sections of Big Springs Creek and 0.3 miles of Battle Creek exhibit diminished suitability relative to site potential. Habitat for late brood-rearing sage-grouse and spotted frogs is in degraded condition with threats to long term maintenance of the habitat. Also, the goal of MFP 4.4 (1) states: "To improve the quality of sage-grouse nesting and brood rearing habitats, all poor and fair big sagebrush, meadow, and riparian ecological sites should be improved and managed for good ecological condition, based on the SCS ecological site classification system." Therefore, this pasture is not meeting the standard for wildlife.

Preliminary Causal Factors

Livestock and diversion of perennial spring flows in Big Springs Creek has contributed to the degraded conditions in the lower sections of the creek (see Standard 2 Evaluation). Livestock concentrations at the springs have resulted in modifications of the soil that has decreased the ability of the site to maintain water late into the summer and sustain wetland plant species.

Pasture 8S (Summer Use)

Synopsis of Assessment Findings

Upland conditions in Pasture 8S were characterized at 10 RHE sites (all in 2004 and one revisited in 2012) and with six sage-grouse nesting assessments. Riparian conditions were assessed with PFC ratings at streams and wetland sites and with 10 sage-grouse late brood-rearing assessments.

As with Pasture 8N, upland vegetation in Pasture 8S showed little departure from reference conditions at most of the sites sampled with RHEs, with one exception. Frying Pan Basin exhibited a detectable decrease in the amount of grass cover expected for the site. The sites sampled for sage-grouse nesting rated as either suitable or marginal. The marginal sites were actually in good condition but the criteria

for suitability are tiered to big sagebrush sites (Connelly et al. 2000) so most of those that ranked marginal consisted at least partially of low sagebrush habitat. One marginally rated site was proximate to a trailing area so was not a representative site.

All of the streams assessed in Pasture 8S (Battle Creek) and all but two of the springs assessed for PFC were rated as PFC. Two springs rated FAR. Of the 10 sage-grouse late brood-rearing assessments, all but one rated as suitable (seven) or marginal (two). Minor erosion and minimal forb abundance or diversity resulted in most of the areas with marginal or unsuitable ratings.

Evaluation Finding – Pasture 8S is:

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

Rationale for Evaluation Finding

All portions of Battle Creek and seven (of the nine) springs were in PFC and ranked suitable for sage-grouse late brood-rearing habitat. The propensity of good conditions at most of the late brood-rearing sites means that they would contribute to a viable sage-grouse population in the area, as well as benefit other wildlife in the pasture dependent on those riparian sites.

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

Water temperatures in Big Springs and Battle Creeks are too warm to maintain a viable population of redband trout.

Evaluation Finding – Pasture 8N/8S is:

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

Rationale for Evaluation Finding

The standard for fish was not met as a result of beneficial uses not being met in Standard 7. Specifically, water temperatures in Battle Creek, and all but the headwaters of Big Springs Creek on private lands, are too warm to maintain a viable population of redband trout. Inadequate stream shading contributes to these reaches not meeting stream temperature requirements.

Preliminary Causal Factors

To the extent that water quality impairment (temperature) is the result of historical livestock grazing, historical private land use practices, natural back-ground" heating, or combination of factors was not determined Current livestock grazing was identified as a primary factor impacting woody riparian vegetation cover along areas accessible to livestock. Big Springs Creek often goes dry in the summer, and does not support a cold water fishery in the BLM managed segments.

Information Sources

Idaho Department of Environmental Quality. 2010. Integrated Report: field inspections, water temperature dataloggers, thermograph data, solar pathfinder shade measurements and bacterial sampling

IDEQ. 2010. Upper Owyhee Subbasin Assessment and TMDL.

Plants

Pasture 8N (Mid-Spring/Early Summer Use)

Synopsis of Assessment Findings

There is one BLM special status plant known to occur in Pasture 8N of this Use Area. This species, Bach's downingia (*Downingia bacigalupii*), is listed as a Type 4 BLM Sensitive species. This annual species is found in drying mud of vernal pools, lakes, wet meadows, and stream banks. It has also been found in man-made structures such as reservoirs. In this use area it occurs in reservoirs that receive heavy use by livestock. The soils along the reservoirs are deeply pugged and plants trampled. This results in poor habitat conditions for this species.

Rangeland health assessments in the vicinity of the two populations showed slight to moderate departures from reference conditions for plant vigor. Reduced plant vigor in the adjacent uplands was attributed to active and historic pedestalling of plants which reduced vigor and reproductive capability.

Evaluation Finding – Pasture 8N is:

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

Rationale for Evaluation Finding

Pasture 8N was rated as not meeting the standard because of the low population counts, the trampled and pugged soils, and low overall plant vigor. It is unknown whether these plants were present prior to reservoir development. This species is not limited to reservoirs and often occurs in seasonally wet meadows and stream banks. Without knowing what occurred pre-reservoir, it is difficult to determine whether the reservoir created or degraded habitat for this species. Regardless, the habitat as it is now, does not meet the needs of the plant for long term persistence and vigor.

Preliminary Causal Factors

The reservoirs were created for livestock watering and have been functioning as water sources in 8N. Livestock induced damage to the soils and habitat for Bach's downingia is the cause for not meeting the standard.

Pasture 8S (Summer Use)

Synopsis of Assessment Findings

No SSP are known from Pasture 8S.

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.*

_X__ 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.***