

DETERMINATION

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

Resource Area: Owyhee Field Office

Watershed Name/Number: Upper Owyhee (17050104)
South Fork Owyhee (170505)

Grazing Allotment Name/Number: Garat (0584)

Public Land (acres): 202,618

Streams on Public Land (miles): 0 miles perennial; 651.65 miles intermittent and ephemeral; 4.0 miles of stream assessed for condition

Date(s) of Rangeland Health Assessment and Evaluation Report: July 2014

Name of Permittee(s): Petan Company of Nevada, Inc. / 1101449

Assessment Participants (Name & Discipline or Interest):

Jake Vialpando – Project Manager
Carmela Leavitt – Rangeland Management Specialist
Steve Christensen-Rangeland Management Specialist
Susan Filkins – Natural Resource Specialist
Jason Sutter – Wildlife Biologist
Jim Priest - Wildlife Biologist
Ammon Wilhelm – Wildlife Biologist
Gina Rone - Soils
Bonnie Claridge - Fisheries Biologist
Jessica Gottlieb – Writer/Editor

Overview

The BLM developed a Rangeland Health Assessment and Evaluation Report for the Garat allotment, dated January 2012. In addition, the Field Office Manager signed the Determination for Achieving Standards for Rangeland Health and Conforming with Guidelines for Livestock Grazing Management for the Garat allotment on August 28, 2012. The determination was made available to the public for comment, along with the preliminary Environmental Assessment for the Owyhee River Group 1 allotments, in September 2012. In March 2013, the BLM issued a Final Decision to renew the permit for livestock grazing in the Garat allotment. The Office of Hearings and Appeals remanded that decision and associated supporting documentation in February 2014, to allow the BLM to supplement the Environmental Assessment and issue a new decision. Subsequently, the BLM decided to use the opportunity to revisit and supplement information related to riparian areas and the assessment of Standard 2. Thus, the BLM interdisciplinary team updated the riparian information and modified the Rangeland Health Assessment and Evaluation Report that required direct adjustments to this document under Standard 2 and indirect adjustments under other related standards. This 2014 Determination for Achieving Standards for Rangeland Health and Conforming with Guidelines for Livestock Grazing Management for the Garat allotment supersedes and replaces the one signed August 28, 2012.

Standard 1 (Watersheds)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling and energy flow.

Standard

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

Guidelines

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

Rationale:

Assessments of rangeland health completed in the January 2012 Rangeland Health Assessment and Evaluation Report (USDI BLM 2012) reveal that watershed standards are not being met in pastures 1, 3, and 6, as well as in other localized areas of the Garat allotment. Impacts from absence or presence of fire and historic grazing management are the main causes and have resulted in departures from expected conditions in the plant community, which adversely affects soil and hydrologic function.

The 2012 Garat evaluation report identifies that the sagebrush steppe vegetation communities currently present vary from reference site potential, as sagebrush dominates and deep-rooted bunchgrass species are underrepresented. With a decrease in vegetative cover, runoff and erosion become more common and adversely impact watershed function and nutrient cycling. The plant community composition and distribution may remain static or move further away from reference conditions. These conclusions of a departure from ecological site potential (USDA NRCS 2010) were reached through the RHA and Evaluation (USDI BLM 2012) and suggest little current improvement from static or declining conditions, resulting in a moderate rating of soil/site stability and hydrologic function in pasture 3 and, to a lesser extent, in pasture 1. This decrease in watershed function contributed to a finding that Standard 1 was not being met in pastures 1 and 3.

Degraded watershed function from changes in biotic integrity is especially apparent in water flow patterns, pedestals, and bare ground that show departures from reference conditions when associated with Loamy 10-13" sites. Since the majority (52 percent) of

monitoring in the Garat allotment occurred on loamy sites, the increased presence of degraded soils found at many locations could be more prevalent.

Sediment movement may be relatively short to non-existent on flat terrain but is of greater significance where slopes promote transport over longer distances that are not disrupted by vegetation, gravel, litter, or biotic crusts. Despite the presence of large and relatively flat plateaus in the Garat allotment, steep slopes can be found where abrupt rims give way to below-lying basins, such as in the northeast portions of Forty-five Field, the northern part of Kimball, the eastern half of Big Horse Basin, and through the central part of Juniper Basin. Slopes average 0 to 15+ percent across the plateaus and intermediate slopes but can be 20 to 50+ percent on the breaklands below the rim.

Ground cover data exhibits a downward or static trend in basal vegetation, total vegetation, and biological crusts, along with static or increasing canopy cover-representing shrubs, increased litter, and a reduction in bare ground. When litter is increasing, as can be expected with the abundant presence of mature sagebrush, bare soils often decline and are masked by abundant material. However, bare ground may increase again over time with plant mortality and decadence, especially in mature sagebrush communities, which is the case in pasture 3 and, at a more reduced rate, in pasture 1. With decreased litter and increased bare ground, the potential detachment of soil particles due to a lack of protective cover can contribute to increased erosion. This was noted as being observed at the 2003 RHFA sites (USDI BLM 2012).

Where fire occurred in the last 30 years and subsequent livestock grazing management did not provide opportunity for recovery of vegetation immediately following the fires (see maps in USDI BLM 2012), localized areas are degraded and many sites that burned in the mid-1980s have not recovered. This is apparent in pastures 4 and 6, where soil and hydrologic function are compromised due to a lack of plant diversity, a reduced shrub component, and a departure from ecological potential in the structural functional groups, along with dominance of annual and small perennial grasses.

In pasture 6, the most notable departure from reference conditions is due to invasive plants. Five of the eight sites that did not meet the standard for exotic plant communities are dominated by annual species and occur within the old fire perimeters. Three ground cover trend sites show predominantly static or decreasing conditions for basal vegetation, microbiotic crusts, non-persistent litter, total vegetation, and canopy cover. Although annuals provide spring forage for livestock and cover for watershed protection by effectively reducing raindrop energy, the presence of annuals affect the biological, chemical, and physical aspects of soils and long-term (more than 30 years) rangeland health.

Invasive annuals modify the ecosystem attributes of soil temperature and soil water distribution, provide less root mass and soil stability than perennial bunchgrasses, reduce the diversity and cover of microbiotic crusts over time, promote loss of native plants, and adversely alter fire intervals and impacts (Pellant 1996). The extremely

flammable conditions associated with standing dead cheatgrass have the potential to worsen watershed conditions if vegetation is removed by wildfire. The resulting combination of water erosion on unprotected steeper ground and deflating wind erosion could promote soil surface loss and degradation and reduce soil productivity that would add to the already deteriorated conditions. This dominance of annuals and its adverse effects on watershed function contributed to a finding of not meeting the Standard in pasture 6.

Alterations of soils occur due to livestock trampling and hoof action when soils are wet in the spring, particularly in pastures 1, 2, 3, and 4. In addition, heavy livestock use surrounding reservoirs such as Juniper Reservoir and Piute Reservoir, water developments, and salting areas, results in localized compaction, increased bare ground, and removal of vegetation. On the Garat allotment, these developed areas make up less than 2 percent of the allotment and effects of livestock trampling and hoof action on watershed functionality generally decline with distance away from water developments.

Vegetation is the primary factor that influences the spatial and temporal variability of soil and watershed processes in the Garat allotment. Departures from ecological site potential result from historic grazing and fire history and influence proper nutrient cycling, hydrologic cycling, and energy flow at various levels. As vegetative conditions change, so do infiltration, runoff, and erosion. An improvement in biotic integrity (Standard 4) is therefore a major factor that contributes to the satisfactory maintenance of watershed condition over the long term.

Information Sources:

Blaisdell, J.P., R.B. Murray, and E.D. McArthur. 1982. Managing inter-mountain rangelands-sagebrush-grass ranges. Gen. Tech. Rep. USDA FS, INT-134, 46 p.

Daddy, F., M.J. Trlica, and C.D. Bonham. 2006. Vegetation and soil water differences among big sagebrush communities with different grazing histories. *Southwestern Naturalist*, 33(4):413-424.

Pellant, M. 1996. Cheatgrass: the invader that won the West. Interior Columbia Basin Ecosystem Management Project, BLM ID State Office, white paper. 23 p.

USDI BLM. 2012. Rangeland Health Assessment and Evaluation Report; Achieving the Idaho Standards for Rangeland Health; Garat allotment (0584). BLM Idaho State Office. Boise, Idaho. 90p.

USDA NRCS. 2010. Ecological Site Descriptions (Draft). Available from the Idaho State Office of BLM, Boise ID or the Idaho State Office of NRCS, Boise ID.

Standard 2 (Riparian Areas and Wetlands)

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

Standard

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

Guidelines

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 4, 5

Rationale:

Standard 2 is not being met in pastures 2-4 in the Garat allotment. The most recent PFC assessments (2014) identify that the riparian reaches of Piute Creek that occur within pastures 2-4 are functional-at risk (FAR). A stock reservoir at the headwaters, a well, and prolonged drought have influenced the system, and impacts to the hydric segments of stream from the mechanical damage from livestock have compounded these effects. The water table is being lowered, which affects the presence and composition of riparian plant species. The system has transitioned to species that are more tolerant of drier conditions, and the reach primarily contains one hydric species of *Juncus*, with upland species occurring in the riparian zone. The creek occurs in a low-gradient valley bottom, and over the long term, the extent of the wetland area is diminishing. In the short term, the wet meadow areas appear stable, but they are not at their full potential. Scouring, bare ground, and erosion are occurring as a result of discontinuous cover of essential deep-rooted riparian plants which would dissipate energy and protect against vulnerabilities.

Current livestock grazing management practices are significant causal factors for not meeting Standard 2. Residual vegetation has not been sufficient to maintain or improve riparian-wetland function, and the recent grazing schedule has not allowed for rest or deferment years. Recent actual use data indicate that pastures 2-4 have been used primarily during the spring and summer months, with sporadic rest occurring in pastures 2 and 3 since 2005. Many of the short- and long-term impacts identified in the PFC assessments are attributable to livestock. In particular, mechanical damage and removal of hydric vegetation are directly linked to current livestock use. Therefore,

current livestock grazing management practices do not conform with the Idaho Guidelines for Livestock Grazing Management applicable to Standard 2.

Information Sources:

USDA Farm Services Agency. 2011. NAIP Aerial Imagery:
<http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=prog&topic=nai>

USDI Bureau of Land Management, 1999. Owyhee Resource Management Plan. Available at the Owyhee Field Office, Marsing, ID.

USDI Bureau of Land Management. 2007. Technical Bulletin 2007-2 BLM/ID/GI-07+1150 – Lentic Riparian-Wetland Area Prioritization Guide: A Process for Evaluating Management & Restoration Priorities for Non-Riverine Systems.

USDI Bureau of Land Management. 1998. Technical Reference 1737-15 - A user guide to assess proper functioning condition and support science for lotic areas:
<ftp://ftp.blm.gov/pub/nstc/techrefs/Final%20TR%201737-15.pdf>

USDI Bureau of Land Management. 1998. Technical Reference 1737-11 - Process for assessing proper functioning condition for lentic riparian-wetland areas: <ftp://ftp.blm.gov/pub/nstc/techrefs/Final%20TR%201737-11.pdf>

USDI U.S. Geological Survey. National Hydrologic Dataset (NHD), Earth Science Information Center: <http://nhd.usgs.gov/data.html>

Standard 3 (Stream Channel/Floodplain)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

- Standard does not apply
- Meeting the Standard
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- Not meeting the Standard; Making significant progress toward meeting
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Guidelines

- Conforms with Guidelines for Livestock Grazing Management
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Rationale:

Standard 3 does not apply in this allotment. Although Piute Creek has depositional features indicative of past surface water and flow, the system's water currently is being supplied by the water table and subsurface seasonal springs. Surface flow is limited to annual run-off and precipitation events that are not intercepted and/or moderated by Piute Basin Reservoir. There is a lack of a stream channel with a discernable bed and bank morphology. Thus, three reaches of Piute Creek were assessed with BLM's Technical Reference 1737-16 *A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lentic Areas*. Piute Creek traverses a low-gradient valley bottom and was classified as a subsurface low-gradient meadow (Weixelman et al., 2011).

Standard 4 (Native Plant Communities)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Standard

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

Guidelines

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 4

Guideline 4: Implement grazing management practices that provide periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate to site potential.

Rationale:

The Rangeland Health Assessment and Evaluation Report completed in January 2012 (USDI BLM, 2012) for the Garat allotment concluded that the standard for Native Plant Communities is not being met. Rangeland health assessments at a majority of sites identified a slight-to-moderate or less departure from healthy biotic integrity. However, in many areas, the plant communities have shifted due to historic livestock grazing

practices and altered fire return intervals from what is expected at site potential. A summary of rangeland health field assessment data for pastures 3 (Forty-five Field), 5 (Big Horse), and 6 (Juniper Basin) identifies that this vegetation shift away from a co-dominance of deep-rooted perennial bunchgrasses to a greater dominance of sagebrush species or shallow-rooted bunchgrasses, resulted in a moderate departure from healthy biotic integrity and contributed to a finding of not meeting the rangeland health standard for Native Plant Communities in these pastures. Rangeland health field assessments for pastures 1 (Dry Lake), 2 (Piute), and 4 (Kimball) identify less departure (none to slight; slight to moderate) from the site potential biotic integrity.

Rangeland health field assessments completed in the easternmost portion of pasture 5 and the northern portion of Pasture 6 identify that exotic annual grass species are present in higher-than-expected amounts. This dominance of annual grasses contributed to an additional conclusion of not meeting Standard 4 within those portions of pastures 5 and 6. The cause for not meeting Standard 4 at locations dominated by annual species is past fire and historic grazing treatments implemented within a few years following historic fires.

Trend monitoring data for the majority of the allotment (pastures 1, 2, 3, 5 and 6) show no apparent or static trend. However, data from the two trend plots in pasture 4 identify a consistent downward trend in the frequency of bluebunch wheatgrass and Idaho fescue between 2003 and 2009. Both species are identified as dominant bunchgrass species at ecological site potential. This decrease in desirable perennial bunchgrass species contributes to a finding that Standard 4 is not met in pasture 4. Consistent livestock grazing in this pasture during the active growing season for native perennial grasses¹ has occurred in recent years. Resting this pasture from grazing for an entire year has only occurred in 2 years (2004 and 1995) during the past two decades, and deferment of grazing until after the active growing season has not occurred during that same period, resulting in little opportunity for recovery of perennial herbaceous species vigor from repeated growing-season use. Therefore, current livestock grazing management practices (lack of periodic rest and/or deferment from livestock grazing) is identified as a significant causal factor for not meeting Standard 4 within pasture 4.

State-and-transition models have been defined within ecological site descriptions for a number of low sagebrush/bunchgrass and big sagebrush/bunchgrass vegetation communities (USDA NRCS 2010). These models identify a reference plant community with a co-dominance by deep-rooted perennial grasses (e.g., bluebunch wheatgrass, Idaho fescue, and Thurber's needlegrass) and sagebrush. These models also identify possible vegetation change from reference site potential to a greater dominance by sagebrush and shallow-rooted bunchgrasses (e.g., Sandberg bluegrass and squirreltail) or annual herbaceous species. Factors that can lead to this shift include fire history, improper grazing management, or a combination of both. In addition, the state-and-

¹ The active growing season for bluebunch wheatgrass and Idaho fescue within vegetation communities of Garat allotment is May to mid-July, a period when decreasing soil moisture does not provide opportunity for regrowth before the dormant period.

transition models for a number of low sagebrush/bunchgrass and big sagebrush/bunchgrass vegetation communities identify that dominance by deep-rooted perennial bunchgrasses can be enhanced and maintained with proper grazing management. The presence of sagebrush in the shrub layer of the reference state vegetation community is dependent on the time since the most recent fire and the individual sagebrush species present. As a result, a number of phases of the reference state for low sagebrush or big sagebrush vegetation communities can be expressed through the vegetation composition. The expressed vegetation composition is an indicator of past disturbances, including fire and grazing practices, and is in a dynamic equilibrium. Additionally, the current phases of the potential reference community have potential to change as a result of future disturbances or removal of disturbances. The state-and-transition models further identify that following frequent or combined disturbances, a transition to a different vegetation community can be crossed, resulting in a new state. Return to the reference state, once the new state is created, requires large inputs, such as mechanical vegetation manipulation. Return to the reference vegetation community requires more than passive removal of the disturbance that led to the new state or restoration of natural disturbance regimes which have been absent.

Ecological site descriptions and associated state-and-transition models for low sagebrush and big sagebrush ecological sites present in Garat allotment are consistent with those identified in the preceding paragraph. The 2012 Rangeland Health Assessment and Evaluation Report for the Garat allotment identifies that in many areas dominated by native plant communities, the sagebrush component is greater than expected in terms of cover, while relative abundance of deep-rooted bunchgrasses has decreased correspondingly. Shrub mortality and decadence are common at sites throughout the allotment that have not burned within the last several decades. This shift from the reference vegetation composition contributed to the recorded departure from the functional-structural groups and reduced plant vigor, which are the dominant factors contributing to departure of biotic integrity of these sites from potential or desired conditions.

In addition, the 2012 evaluation report for the Garat allotment identifies that many of the sagebrush steppe vegetation communities present are in a phase of the reference conditions exhibited by the herbaceous components of vegetation functional-structural groups that vary from the reference site potential. Vegetation communities include an underrepresentation of dominant deep-rooted bunchgrass species for the sites. At the same time, the representation of Sandberg bluegrass in vegetation communities is higher than the minor component described in the reference site potential of the ecological site descriptions.

Herbaceous and shrub species departures from ecological site potential are a result of historic livestock grazing and fire history. A review of state-and-transition models presented in applicable ecological site descriptions for the Garat allotment do not indicate that the transition to a state other than the dynamic reference communities has been crossed in most of the allotment that currently supports native perennial species.

Those portions of pastures 5 and 6 dominated by non-native annual species have transitioned to a state that will require vegetation manipulation to control annual species and establish perennial species.

Recorded livestock utilization levels, averaged within each of the pastures from 1979 to 2011, have been light on key forage plant species (22 to 31 percent). These utilization levels are appropriate to allow for maintenance of perennial plant communities capable of facilitating proper nutrient cycling, hydrologic cycling, and energy flow (Holochek, et al. 1999). Light utilization levels also allow trend toward desired vegetation conditions. Reported livestock distribution does include grazing intensity concentrated adjacent to water troughs, dirt tanks, salting sites, Piute Creek and Juniper Reservoir. Utilization is higher in these areas and decreases farther away from areas of livestock concentration. Recent recorded livestock utilization does not appear to be a significant factor in failure to meet the standard for Native Plant Communities within the allotment as a whole or within any one pasture.

However, livestock management practices are not providing adequate rest or deferment from livestock grazing use during the active growing season, especially within pasture 4 where downward trend in frequency of deep-rooted bunchgrass species was recorded. Implementation of a rest-rotation grazing schedule for four of the six pastures in the allotment planned in the 1989 agreement, and recent implementation of rest in less than the planned 1-of-3-years cycle, does not provide adequate opportunity for recovery of plant health and vigor following repeat years of active growing season use. A number of sources suggest limiting the intensity of grazing use of bluebunch wheatgrass during the active growing season and providing at least 2 years of deferment or rest for every year of active growing season use (Stoddart, 1946), (Blaisdell & Pechanec, 1949) (Mueggler, 1972) (Mueggler, 1975) (Anderson, 1991) (Miller, Seufert, & Haferkamp, 1994) (USDA NRCS, 2012).

In summary, healthy, productive, and diverse populations of native plants are maintained at an adequate level within pastures 1 and 2 to meet the standard for Native Vegetation Communities, even though vegetation communities with a full complement of dominant grasses and shrubs consistent with the reference phase of the site potential are not present. Proper nutrient cycling, hydrologic cycling, and energy flow are provided by current vegetation within these pastures. Standards for Native Vegetation Communities are not met within pastures 3, 5, and 6 where the departure of biotic indicators from site potential is moderate, portions of pastures 5 and 6 dominated by annual species, and pasture 4 where downward trend in frequency of desirable deep-rooted bunchgrass species is recorded. Failure to meet the standard for Native Vegetation Communities in pastures 3, 5, and 6 is attributed to historic grazing management practices and fire history, while failure to meet the standard in pasture 4 is attributed to current livestock grazing management practices.

Information Sources:

Anderson, Loren D. 1991. Bluebunch wheatgrass Defoliation; Effects & Recovery. USDI Bureau of Land Management Technical Bulletin 91-2. Salmon, Idaho. 10p.

Blaisdell, James B., Joseph F. Pechanec. 1949. Effects of herbage removal at various dates on vigor of bluebunch wheatgrass and arrowleaf balsamroot. *Ecology* 30: 298-305.

Holechek, Jerry L., Hilton Gomez, Francisco Molinar, and Dee Galt. 1999. Grazing studies: what we've learned. *Rangelands*. 21(2): 12-16.

Miller, Richard F., Jamie M. Seufert, Marshall R. Haferkamp. 1994. Management of bluebunch wheatgrass (*Agropyron spicatum*): a review. Oregon State University Agricultural Experiment Station. Station Bulletin 669. Corvallis, Oregon. 39p.

Mueggler, W.F. 1972. Influence of competition on the response of bluebunch wheatgrass to clipping. *Journal of Range Management* 25:88-92.

Mueggler, W.F. 1975. Rate and pattern of vigor recovery in Idaho fescue and bluebunch wheatgrass. *Journal of Range Management* 28(3) p.198-204.

Stoddart, L.A., 1946. Some physical and chemical responses of *Agropyron spicatum* to herbage removal at various seasons. Utah State Agricultural Experiment Station Bulletin #324. 24p.

USDI BLM. 1999. Proposed Owyhee resource management plan and final environmental impact statement. Boise Field Office Bureau of Land Management. Boise, Idaho.

USDI BLM. 2012. Rangeland Health Assessment and Evaluation Report; Achieving the Idaho Standards for Rangeland Health; Garat allotment (0584). BLM Idaho State Office. Boise, Idaho. 90p.

USDA NRCS 2012. Plant fact sheet; bluebunch wheatgrass. Web page accessed 2/14/2012: (USDI BLM, 2012)

USDA NRCS. 2010. Ecological Site Descriptions (Draft). Available from the Idaho State Office of BLM, Boise ID or the Idaho State Office of NRCS, Boise ID.

Vavra, Martin, William A. Laycock, and Rex D. Pieper. 1994. Ecological Implications of Livestock Herbivory in the West. Society for Range Management. Denver, Colorado. 297p.

Standard 5 (Seedings)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Standard

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

Guidelines

- Conforms with Guidelines for Livestock Grazing Management
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Rationale:

Although there are some small inclusions of seeded areas within the Garat allotment, the presence of these seeded communities has been identified as an insignificant portion of the allotment. Seedings do not dominate vegetation communities and have been incorporated into discussions under Standard 4 – Native Plant Communities.

Standard 6 (Exotic Plant Communities, Other than Seedings)

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

Standard

- Standard does not apply
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Guidelines

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

Rationale:

The presence of exotic plant communities has been identified within the Garat allotment, with the occurrence of cheatgrass and other invasive species. However, as is discussed under Standard 4 – Native Plant Communities in the Rangeland Health Assessment and Evaluation Report completed in January 2012 (USDI BLM, 2012) for the Garat allotment, current available information shows their potential for expansion to dominate vegetation communities is limited.

Standard 7 (Water Quality)

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

Standard

- Standard does not apply
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Guidelines

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Rationale:

The Idaho Department of Environmental Quality (IDEQ) is the state agency tasked with implementing the federal Clean Water Act. IDEQ sets the state’s standards through the integrated report and beneficial use process. Idaho BLM is expected to implement grazing practices that make progress toward achieving proper functioning condition and satisfactory riparian condition on stream segments listed as water quality limited in the current IDEQ 303(d) list.

Juniper Basin Reservoir falls within the Upper Owyhee watershed that was assigned cold water aquatic life and primary and secondary recreation contact beneficial uses. The reservoir is currently not supporting the beneficial use. However, the reservoir was created for irrigation water storage, rather than cold water biota or recreational use. In

June 2009, IDEQ prepared a 5-year review for the watershed that the Garat allotment falls in (Upper Owyhee), and stated, “It is unclear how appropriate the beneficial use assigned to Juniper Reservoir is...”

Juniper Reservoir was not assessed by the BLM for functional condition; however, field visits in 2011 indicated there was heavy livestock use surrounding the reservoir and there were impacts associated with the use of riparian vegetation and trampling adjacent to the water body. As expected, distribution of grazing is concentrated adjacent to reservoirs and utilization is higher in these areas but decreases farther away from water sources.

Information Sources:

Idaho Department of Environmental Quality. December 1999. South Fork Owyhee Watershed Subbasin Assessment and Total Maximum Daily Load.

http://www.deq.idaho.gov/media/455393-water_data_reports_surface_water_tmdls_owyhee_river_sf_owyhee_river_sf_entire.pdf

Idaho Department of Environmental Quality. January 2003. Upper Owyhee Watershed Subbasin Assessment and Total Maximum Daily Load Owyhee County, Idaho.

http://www.deq.idaho.gov/media/455421_water_data_reports_surface_water_tmdls_owyhee_watershed_upper_owyhee_watershed_upper_entire.pdf

Idaho Department of Environmental Quality. 2009. Upper Owyhee Watershed Five Year Review.

http://www.deq.idaho.gov/media/455477_water_data_reports_surface_water_tmdls_owyhee_watershed_upper_owyhee_watershed_upper_five_year_review_0609.pdf

Idaho Department of Environmental Quality. 2011. Idaho’s 2010 Integrate Report.

http://www.deq.idaho.gov/media/458038-integrated_report_2010_final_entire.pdf

Idaho Department of Environmental Quality. June 2012. Owyhee River Watershed Total Maximum Daily Load Temperature Addendum. North and Middle Fork Owyhee, South Fork Owyhee, and Upper Owyhee. <http://www.deq.idaho.gov/media/851939-owyhee-river-watershed-tmdl-addendum-0612.pdf>

USDI Bureau of Land Management. 1999. Owyhee Resource Management Plan. Available at the Owyhee Field Office, Marsing, Idaho.

Standard 8 (Threatened and Endangered Plants and Animals)

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

Standard

- Standard does not apply
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- Not meeting the Standard; Making significant progress toward
- Not meeting the Standard; Livestock grazing management practices are **not** significant factors

Guidelines

- Conforms with Guidelines for Livestock Grazing Management
- Does not conform with Guidelines for Livestock Grazing Management; Guideline No(s). 4, 8, 9, 12, 20

Rationale:

Plants

The available information for special status plants indicates Standard 8 is not being met for Davis' peppergrass as discussed below. However, Standard 8 is being met for rattlesnake stickseed, inch-high lupine, Newberry's milkvetch, and stream orchid. Threats to Davis' peppergrass are associated with livestock grazing impacts such as concentration, trampling, and soil disturbance. The playa habitat in which this plant inhabits is easily damaged due to the types of soils. Playas where Davis' peppergrass occurs are in hard clay bottoms on volcanic plains that get inundated with water during spring seasons. After the spring, the playas dry and become cracked and solid, similar to concrete. These aridisols have low organic matter content, a layer of pebbles on the surface of the ground, and a subsurface zone where salts have accumulated to form a hard or cemented layer (Owyhee Watershed Council and Scientific Ecological Services). This special status plant in the Garat allotment is found in pasture 5, where a spring rest/rotation grazing regime was prescribed in 1993. Davis' peppergrass would benefit from a grazing rotation that includes grazing outside of spring or winter seasons to provide some protection to the playa habitat when playas are desirable to livestock due to water inundation and wet soils that can be easily damaged. Placement of livestock reservoirs and salt away from playas inhabited by Davis' peppergrass can decrease the amount of livestock activity in the vicinity. However, for the reasons identified, , Standard 8 is not being met.

Information Sources:

(Shock, Candace B., Myrtle P. Shock, Byron M. Shock and Clinton C. Shock 2011) *Upper Owyhee Watershed Assessment*. Prepared for the Owyhee Watershed Council, prepared by Scientific Ecological Services. Accessible online, <http://www.shockfamily.net/UpperOwyhee/upperowyheeindex.html>

Wildlife

Habitat conditions for sage-grouse and other sagebrush-obligate species on the Garat allotment are the result of a combination of man-made and natural forces (i.e., livestock management, wildfire, and natural progression) on the plant community over time. The strategy for assessing/evaluating Standard 8, in the Rangeland Health Assessment & Evaluation Report (RHA&ER), is to “apply a landscape-level approach focused on habitat values required by sage-grouse.” These habitat values would largely provide habitat characteristics illustrated by the *Sage-grouse Breeding Habitat Suitability Indicators* identified in the RHA&ER. The following paragraphs provide rationale for concluding that the Garat allotment is “Not Meeting Standards and that Current Livestock grazing management practices are Significant Factors” for Standard 8 of the *Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management*.

Livestock grazing (historic and current), fire, and land management practices have all contributed to present-day conditions. In general, key habitat components for sage-grouse include an adequate canopy cover of tall grasses and medium-height shrubs for nesting, abundant forbs and insects for brood-rearing, and the availability of herbaceous riparian species for late growing-season foraging (Garat RHA&ER). Of primary concern is the ability of the sagebrush vegetation community to provide habitat structure (overstory/understory interface) and function (nesting, security, and foraging cover) for effective sage-grouse habitat.

The 2003/2004 sage-grouse breeding habitat assessments identified at various levels issues in sagebrush community composition, structure, and function in all pastures. Pastures 1 and 2 showed the highest potential for suitable sage-grouse breeding habitat; however, of concern in the overstory is the mixed spreading/columnar growth form of sagebrush that exposes the understory. Although not desirable, the effect of this condition appears to be minimized by the occurrence of suitable grass/forb height and perennial grass canopy cover in the understory.

In pastures 5 and 6, sage-grouse breeding habitat conditions were rated as marginal. A marginal habitat rating suggests that there are specific or a mix of disconnected habitat indicators in vegetation composition, structure, and function that are a concern associated with the limited ability of the overstory/understory to provide nesting and security cover.

On the low end of the spectrum are unsuitable sage-grouse breeding habitat conditions identified at sites in pasture 3, resulting from the combination of marginal sagebrush canopy cover (greater than 25 percent) and growth form in the overstory, in conjunction with unsuitable grass/forb height and perennial grass canopy cover in the understory. An unsuitable average sagebrush canopy cover of less than 10 percent exists in pasture 4 as well. A wildfire in 1985 (followed by no rest from livestock grazing) and

continued grazing in pasture 4 has contributed to the current depressed condition and unsuitable sage-grouse breeding habitat conditions at this site.

A native vegetation community of healthy, productive, and diverse populations of native plants typically provides an adequate composition, structure, and function for effective sage-grouse habitat conditions. Effective sage-grouse habitat is closely related to vegetation community conditions discussed in Standard 4. Because vegetation communities have shifted from the site potential of co-dominance by deep-rooted perennial grasses to a greater dominance by sagebrush species or shallow-rooted bunchgrasses due to historic grazing and fire (in addition to exotic annual grass dominance in portions of pastures 5 and 6), Standard 8 is not being met within pastures 3, 5, and 6. This vegetation progression to shallow-rooted bunchgrasses, although meeting Standard 4 for adequate nutrient cycling, energy cycling, and hydrologic cycling, runs counter to the development of effective sage-grouse habitat conditions.

The downward trend of perennial bunchgrasses in pasture 4 has also led to unsuitable habitat conditions for sage-grouse. In addition to the results of historic grazing and fire, current livestock management is constraining herbaceous vigor and annual production of larger bunchgrasses in the understory, thereby favoring an increased occurrence of smaller bunchgrasses and annuals (see Standard 4). This scenario prevents the allotment from meeting habitat conditions required for sage-grouse; therefore Guidelines 4, 8, 9, 12 of the *Idaho Rangeland Health and Guidelines for Livestock Grazing Management* are not being met.

Late brood-rearing habitat

Sage-grouse rely on mesic and riparian areas in the summer and early fall where there are abundant forbs that are still green and growing after the forbs in the uplands have dried out. Riparian habitat within Piute Creek occurs in pastures 2, 3, and 4 of the Garat allotment. The most recent PFC assessments (2014) of Piute Creek indicated that it was FAR due to a combination of livestock grazing and pugging, drought, and a dam. Livestock have removed vegetative cover and pugged the wet meadows, which has led to scouring and erosion in portions of the creek bed. Scouring and erosion combined with drought have resulted in a lower water table and decreased vigor and diversity of riparian dependent vegetation. Sage-grouse rely on these riparian-dependent plant species for forage during the summer and early fall. A decrease in the vigor and diversity of these plants reduces the quality and abundance of forage available to sage-grouse. Therefore pastures 2, 3, and 4 are not providing adequate late brood-rearing habitat for sage-grouse and are not meeting Standard 8. Late brood-rearing habitat is largely absent in pastures 1, 5, and 6.

In summary, pastures 1 and 2 provide the best, but not optimal, conditions for sage-grouse nesting. Pastures 5 and 6 were rated as marginal, and with improved grazing management, may have potential to progress toward a healthier and more desirable sage-grouse habitat conditions. Pastures 3 and 4 have sites that are not meeting the

needs for effective sage-grouse breeding habitat and therefore are not meeting Standard 8 of the Idaho Standards for *Rangeland Health and Guidelines for Livestock Grazing Management*. Any attempts to improve habitat conditions through grazing management or vegetation manipulation will require a long-term strategy. Deferring use during the critical spring herbaceous growing period can advance understory vegetation vigor and production to improve nesting and early-brood rearing habitat conditions.

In portions of the allotment, fences are not constructed to Owyhee RMP standards (Figure WDLF-1, 1999 ORMP, page 133). For example, in some places, the height of the top wire is approximately 60 inches high, which violates the ORMP standards in big-game ranges of 38 to 40 inches, depending on species. Although undocumented in the Garat allotment, management fences are known to contribute to habitat fragmentation, disrupting wildlife movement and sometimes causing wildlife mortalities. Fence standards have been developed by the BLM to mitigate these issues, but the fences in this allotment do not comply with these standards. Therefore, some fences in the Garat allotment are not meeting Guideline 20 of the Idaho Standards for *Rangeland Health and Guidelines for Livestock Grazing Management*.

Determination:

I have determined that Standards 1, 2, 4, and 8 of the Idaho Standards for Rangeland Health are not being met in the Garat allotment. Historic livestock grazing management practices and wildfire have been identified as causal factors toward not meeting Standard 1, while current livestock grazing management practices are significant factors in not meeting Standards 2, 4 and 8. Livestock management practices do not conform with all Idaho Guidelines for Livestock Grazing Management, including 4, 5, 8, 9, 12, and 20.



Owyhee Field Manager

Date

7/8/2014