

EVALUATION AND DETERMINATION
Achieving the OR/WA Standards for Rangeland Health
and
Conformance with the Guidelines for Livestock Grazing Management

Field Office: Medford Determination Date(s): 9/30/2007
 Grazing Allotment Name & Number: Heppsie Mountain # 10126

Standard 1 Watershed Function – Uplands Standard doesn't apply

1 <input checked="" type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
2 <input type="checkbox"/> Not Meeting the Standard, but making significant progress towards	
3 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors (list important causal agents)	6 <input checked="" type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
4 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are significant factors (list important causal agents)	7 <input type="checkbox"/> Does not conform with Guidelines for Livestock Grazing Management (list Guidelines No(s) in non-conformance)

Rationale:

The main limitations affecting livestock grazing on the Carney clay and Carney cobbly clay are compaction when the soils are wet, erosion, the surface clay/cobbly clay layer, and droughtiness. The main limitations affecting livestock grazing on the Heppsie-McMullin soils are erosion, compaction, the slope, and droughtiness. The season of use is from May 1-October 15 with 53 cows which does not significantly diminish the health and function of the watershed by maintaining adequate vegetative cover, healthy root systems, and soil moisture content that prevents soil compaction. These factors aid in maintaining existing infiltration, percolation, runoff and erosion rates. However, soils that remain wet later in the season exhibit a weak compaction layer and in drainages where the surrounding areas are dominated by annual grasses the soils surface resistance to erosion is lower than would be expected for the area (p.13-14, Rangeland Health Assessment Table D, Indicators 8 & 11).

In looking at the Rangeland Health Assessment conducted in August of 2006 indicators pertaining to Watershed function in the uplands revealed that 21 indicators (70%) were rated none to slight, 7 indicators (23%) were rated slight to moderate, 2 indicators (7%) were rated moderate, and zero were rated moderate to extreme, or an extreme to total departure. Line point intercept and soil stability data showed levels of ground cover, canopy cover, and species composition that would be expected with the exception of one invasive annual grass (bristly dogstail) with 14% cover in the loamy shrub scabland transect location.

Standard 2 Watershed Function – Riparian/Wetland Areas Standard doesn't apply

1 <input type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
2 <input type="checkbox"/> Not Meeting the Standard, but making significant progress towards	
3 <input checked="" type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 <input type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
4 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are significant factors	7 <input checked="" type="checkbox"/> Does not conform with Guidelines for Livestock Grazing Management (list Guidelines No(s) in non-conformance) Livestock Grazing Management 1 b) and 1 e); Facilitating the Management of Livestock Grazing 1a), 1c), and 1d); and Accelerating Rangeland Recovery 3 (USDI 1997).

Rationale:

Within the South Fork subwatershed, 2.2 miles were found to be in Proper Functioning Condition (PFC), 2 miles Functioning At Risk (FAR), and less than .01 mile Not Functioning (NF). This equates to ~ 42% of all surveyed reaches being PFC, 55% FAR, and 3% NF within the allotment boundary (USDI 1998). Within the allotment, 8.8 of a total of 24.3 BLM surveyed stream miles were found to have greater than 30% actively eroding banks, and ~ 20 miles (82% of all surveyed stream reaches) were reported to have greater than 30% fines, above the Oregon Department of Fish and Wildlife “desirable” benchmark. The percentage of actively eroding banks and fines are high in surveyed reaches in the Heppsie Mountain allotment.

Stream surveys conducted by BLM in 1998 identified numerous locations of livestock overutilization and excessive hoof/soil impacts in multiple locations throughout the allotment, primarily located in upper reaches of headwater tributaries and springs. Surveyors noted that while overutilization by cattle may be contributing to instream sedimentation and stream ratings other than PFC, generally the majority of assessed stream reaches in the allotment that are Functioning at Risk or Non-functional were found to be primarily impacted by other land management activities. Some of these areas were visited in August 2006 and livestock impacts are still present. The season of use on this allotment (May-October) allows cattle to access riparian areas from late spring to early fall. Cattle tend to linger and congregate in riparian areas throughout the entire grazing season because of convenience of forage, water, and shade.

Looking at the indicators in the Rangeland Health Assessment pertaining to Hydrologic Function revealed that 26 indicators (72%) were rated none to slight, 8 indicators (22%) were rated slight to moderate, 2 indicators (6%) were rated moderate, and zero were rated moderate to extreme, or extreme to total departure. Indicators of particular concern include indicator 3 Pedestals and Terracettes and indicator 5 Gullies both of which had a moderate departure in drainages in the Loamy shrub scabland ecological site (pp.13-17)

Standard 3 Ecological Processes Standard doesn't apply

1 <input checked="" type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
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3 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 <input checked="" type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
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Rationale:

The forested portion (54%) of this allotment supports a diverse mix of forest plant communities and invasive plant species are generally confined to road-sides or localized disturbed areas. The remaining 46% of the allotment consists of dry meadows and oak woodland plant communities. The oak woodlands in this allotment also support a diverse mix of plant species. However, invasive plant species are scattered through out the majority of the oak woodlands particularly bristly dogstail and other exotic annual grasses. Nested Frequency data indicates that there is a static to slightly upward trend in this plant community within the last 16 years. The dry meadows are generally less productive and vulnerable to invasive plant influences from species including medusahead rye, annual bromes, bristly dogstail, yellow starthistle, and a variety of other weedy species. Current livestock grazing is not considered a significant contributing factor in the rangeland health decline on these dry meadows.

Looking at the indicators in the Rangeland Health Assessment pertaining to Biotic Integrity revealed that 10 indicators (40%) were rated none to slight, 12 indicators (48%) were rated slight to moderate, 1 indicator (4%) was rated moderate, 2 indicators (8%) were rated moderate to extreme, and zero were rated extreme to total departure

Standard 4 Water Quality Standard doesn't apply

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Rationale:

The Oregon Environmental Quality Commission has adopted numeric and narrative water quality standards to protect designated beneficial uses. In practice, water quality standards have been set at a level to protect the most sensitive uses. Cold-water aquatic life such as salmon and trout are the most sensitive beneficial uses in the South Fork Little Butte Creek and its tributaries (ODEQ 2004:5). The Oregon Department of Environmental Quality (DEQ) is required by the federal Clean Water Act (CWA) to maintain a list of stream segments that do not meet water quality standards for one or more beneficial uses. This list is called the 303(d) list because of the section of the CWA that makes the requirement. DEQs 2004/2006 303(d) list is the most recent listing of these streams (ODEQ 2006a).

Within the Heppsie Mountain Allotment, North Fork Little Butte Creek and South Fork Little Butte Creek are listed on DEQs 2004/2006 303(d) list. Two short segments of the North Fork Little Butte Creek are contained within the allotment and a very short segment of the mainstem channel of the South Fork Little Butte Creek (private land) is within the allotment as well. Both streams are listed for exceeding the summer temperature and *E. coli* criteria; North Fork Little Butte Creek also exceeds the pH criterion; and South Fork Little Butte Creek also exceeds the sedimentation criterion.

The BLM is recognized by Oregon DEQ as a Designated Management Agency for implementing the Clean Water Act on BLM-administered lands in Oregon. The BLM and DEQ have a Memorandum of Agreement (MOA) that defines the process by which the BLM will cooperatively meet State and Federal water quality rules and regulations. In accordance with the MOA, the BLM in cooperation with the Forest Service, DEQ, and the Environmental Protection Agency is implementing the *Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters* (USDA and USDI 1999). Under the Protocol, the BLM will protect and maintain water quality where standards are met or surpassed, and restore water quality limited waterbodies within their jurisdiction to conditions that meet or surpass standards for designated beneficial uses. The BLM would also adhere to the State Antidegradation Policy (OAR 2005; 340-041-0004) under any proposed actions. The DEQ has not determined the Total Maximum Daily Load (TMDL) for the North and South Forks Little Butte Creek. A TMDL is a calculation of maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A water quality restoration plan (WQRP) for BLM-administered lands in the North and South Forks Little Butte Creek Key Watershed (USDI 2006) was prepared by the BLM and approved by the DEQ. The DEQ will review the BLMs WQRP upon completion of the TMDL and they may suggest a revision to the WQRP at that time if necessary to comply with the TMDL. Recovery goals focus on protecting areas where water quality meets standards and avoiding future impairments of these areas, and restoring areas that do not

currently meet water quality standards. Necessary federal and state permits would be obtained for any proposed instream work.

In advance of a TMDL setting specific numeric targets for the planning area, the Oregon statewide narrative criteria found in OAR 340-041-0007(1) (ODEQ 2006b) is the water quality criteria that applies to BLM management.

(1) Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels.

Human activities that contribute to these water quality listings in the North and South Forks Little Butte Creek include: agriculture activity; rural residential developments; water withdrawals; timber harvest; local and forest access roads; and state highways (USDI and USDA 1997). Timber harvest, roads, and livestock grazing are the primary impacts specific to federally-managed lands that have the potential to affect water quality conditions in the allotment area.

Livestock grazing on the Heppsie Allotment is not considered a significant factor to these listings because the lease authorizes a relative small number of AUMs (294) and only includes a small portion of the watersheds draining into the two listed streams; however, it is a contributing factor.

BLM stream surveys conducted from 1998 in the allotment (USDI 2006b) identify multiple locations of livestock overutilization and excessive hoof/soil impacts in upstream tributary reaches that are contributing to stream sedimentation and bacterial contamination of surface water. Some of these areas were visited in August 2006 and livestock impacts are still present. The season of use on this allotment (May-October) allows cattle to access riparian areas from late spring to early fall. Cattle tend to linger and congregate in riparian areas throughout the entire grazing season because of convenience of forage, water, and shade.

Most of the observed “hot spots” are located well upstream from the water quality limited listed segments, but one area of concern is located within approximately ¼ of a mile from the North Fork Little Butte Creek and includes several small stream channels that are subject to trampling and bank erosion. No studies have been conducted in the mainstem channel to determine if and how much bacterial contamination may be contributed to the listed reach as a result of grazing in this allotment, but it is inevitable that displaced and mobilized sediment and bacterial contamination from these hot spots eventually finds its way into the mainstem. The likelihood of grazing from this allotment to contribute to the *E. coli* listing increases as proximity of the impacts to the mainstem decreases, hence the hot spot located only ¼ of a mile from the mainstem of the North Fork Little Butte is a concern.

On an adjacent BLM segment of South Fork Little Butte Creek, located just downstream of the private segment that flows across the northern boundary of the allotment, it is rocky with stable stream banks and vigorous willow growth since the 1997 Flood. A monitoring sight was established along this stretch of South Fork Little Butte Creek in an area accessible to cattle. Yearly site visits (2000, 2002, 2003, 2005, and 2006) found no indication that cattle used this area. A riparian photo-point was established in 2001 along the South Fork Little Butte Creek in T.37S., R.3E., Section 17 to monitor riparian conditions. Photos were taken at this location in 2001 and again in 2006. The condition of the riparian area is showing improvement with a noted increase in willows and other shrubby vegetation (USDI 2006).

In the Rangeland Health Assessments indicators 5.Gullies, and 3.Pedestals were rated moderate departures at the Loamy shrub scabland ecological site. These indicators have the potential to reduce water quality by increasing sedimentation. Other indicators that could increase sedimentation that were rated slight to moderate departures include 1.Rills 2.Water Flow Patterns 8.Soil surface resistance to erosion and 9.Soil surface loss or degradation. Indicators that were rated slight to moderate departures that could increase temperature and sedimentation include 4.Bareground 10.Plant community composition and distribution relative to infiltration and 11.Compaction.

Standard 5 Native, T&E, and Locally Important Species Standard doesn't apply

1 <input checked="" type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
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3 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 <input checked="" type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
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Rationale:

Except for riparian areas that are heavily grazed in the oak-woodland and meadow plant communities the allotment is lightly-moderately grazed in most years. Northern spotted owls are unlikely to be affected by the livestock grazing because their preferred habitat is dense forest, and grazing is light to non-existent in these areas. Great gray owl foraging opportunity, however, is likely to be adversely affected in the areas that are heavily grazed. Gophers and voles are the primary prey species of great gray owls. Both of these species are herbivores, and overgrazing reduces their food supply. Also, trampling in the heavily grazed areas can collapse tunnel systems. Lewis’s woodpecker would not likely be affected by the livestock grazing since their primary food sources are insects, acorns and fruit.

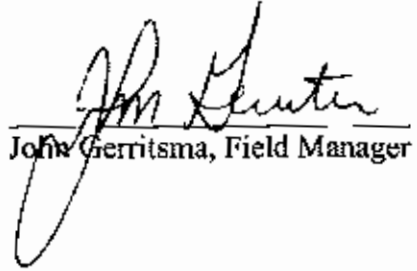
The allotment is within an area designated by the Medford Resource Management Plan as Big Game Winter Range for deer and elk. Grazing has little influence on hiding and thermal cover conditions, but it can have an effect on forage conditions, achieving and maintaining targeted livestock utilization levels of less than 60% use, would help ensure that there is adequate grass and herbaceous forage for deer and elk on the winter range.

Although no direct effect to designated fish habitat from grazing has been observed within this allotment, several monitoring sites have documented areas of post holing and bank erosion in upstream tributary reaches. Most of the observed “hot spots” are located well upstream from fish habitat, but one area of concern is located within approximately ¼ of a mile from the North Fork of Little Butte Creek and includes several small stream channels that are subject to trampling and bank erosion. No studies have been conducted in the mainstem channels to determine if and how much sediment may be being contributed to Coho Critical Habitat (CCH) as a result of grazing, but it is inevitable that displaced and mobilized sediment from these hot spots eventually finds its way into CCH. The majority of sediment generated and stored in upland and tributary reaches would likely only be transported and released into CCH as pulses of elevated turbidity during periods of high stream flow, and as the mainstem channels would be experiencing high turbidities during these same periods from other (including natural) sources, it would not be detectable to CCH beyond background levels occurring to habitat from all other sources. The likelihood of grazing to noticeably affect SONC coho salmon or CCH increases as proximity of the impacts to CCH decreases, hence the hot spot located only ¼ of a mile from CCH in the North Fork of Little Butte is a concern.

Special status plants occur in areas receiving light grazing, are unpalatable to livestock, and/or are protected by living on rocky cliffs, in trees, and in coniferous forests where livestock seldom forage. The allotment is within the range of federally listed Gentner’s fritillary (*Fritillaria gentneri*). No occurrences of *Fritillaria gentneri* or any other federally listed plant species are known on federal lands within the allotment. The allotment is outside of the range of other federally listed plants recognized by the U.S. Fish and Wildlife Service *Limnanthes floccosa* & *Lomatium cookii* (USDI Fish and Wildlife Service, 2008).

Field Manager's Determination Rationale:

I concur that grazing is meeting Rangeland Health, and where grazing is not meeting Rangeland Health, grazing is not a significant factor.


John Gerritsma, Field Manager

9/30/07
Date

References

Oregon Department of Environmental Quality (ODEQ). 2004. Draft Rogue basin riparian condition assessment report. DEQ, Medford, Oregon.

Oregon Department of Environmental Quality (ODEQ). 2006a. *Oregon's 2004/2006 integrated report*. Internet address: [<http://www.deq.state.or.us/wq/303dlist/wq2004intgrprt.htm>]. DEQ, Portland, Oregon.

Oregon Department of Environmental Quality (ODEQ). 2006b. Oregon administrative rules, chapter 340, division 41, internet address [<http://www.deq.state.or.us/wq/wqrules/wqrules.htm>]. DEQ, Portland, Oregon.

U.S. Department of Agriculture, U.S. Department of the Interior, Bureau of Land Management. 1997. *Little Butte Creek watershed analysis, version 1.2*, Medford, OR.

U.S. Department of Agriculture, U.S. Department of the Interior, Bureau of Land Management, 1999. Management Recommendations for Survey and Manage Terrestrial Mollusks, V. 2.0.

US Department of the Interior, Bureau of Land Management, Medford District. 1998 and 1995. Stream and Riparian Survey Data. Medford, OR.

US Department of the Interior, Bureau of Land Management. 1997. *Standards for rangeland health and guidelines for livestock grazing management for public lands administered by the Bureau of Land Management in the states of Oregon and Washington*. Bureau of Land Management, Washington, D.C.

U.S. Department of the Interior, Bureau of Land Management, Medford District. 2006. *Water quality restoration plan for the North and South Forks Little Butte Creek Key Watershed*. Medford, OR.