Land Health Evaluation Report

Toll Mountain Allotment

Bureau of Land Management

Butte Field Office

Introduction and Assessment Process

This report documents whether land health standards were achieved for the Toll Mountain Grazing Allotment administered by the Bureau of Land Management's Butte Field Office. Standards for Rangeland Health were evaluated utilizing an interdisciplinary team (ID team) of resource specialists.

Rangeland Health Standards for Western Montana are described in detail in the Record of Decision (ROD) issued for Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Montana, North Dakota and South Dakota (August 1997). The preamble of the Western Montana Standards states: "The purpose of the S&Gs (Standards and Guidelines) are to facilitate the achievement and maintenance of healthy, properly functioning ecosystems within the historic and natural range of variability for long-term sustainable use." Standards are statements of physical and biological condition or degree of function required for healthy sustainable lands. Achieving or making significant progress towards these functions and conditions is required of all uses of public land as stated in 43 CFR 4180.1.

This report contains an evaluation of each of the five standards:

- Standard #1 Upland Health
- Standard #2 Riparian/Wetland Health
- Standard #3 Water Quality
- Standard #4 Air Quality
- Standard #5 Biodiversity

Available monitoring data from both upland and riparian sites, existing inventories, historical photographs and standardized methodology are used by an ID team to assess condition and function. Condition/function declarations regarding are expressed as:

- Proper Functioning Condition (PFC)
- Functioning at Risk (FAR), which is assigned a trend of up, down, static or not apparent
- Nonfunctioning (NF)

Standards are met when conditions are at PFC or FAR with an upward trend. This is dependent on scope and scale. The BLM will consider the information contained in this report, along with public scoping and other sources of information, to make a determination regarding causal factors and courses of action to be analyzed in a National Environmental Policy Act (NEPA) document.

General Allotment Summary

Allotment Name/Number:	Toll Mountain #20228
Current Management Category:	M (Maintain)
Location:	T. 2 N., R. 6 W., Sec. 23, 24, 25, 26, and 35 T. 1 N., R. 6 W., Sec. 2 Jefferson County
Public Acres:	2,841
Season of Use:	6/1 -6/30
Public Animal Unit Months:	85 Active, 126 Suspended, 211 Permitted
Assessment Date/Period:	07/18/2011-07/19/2011

Elevations within the allotment range from 5,000 to 6,300 feet. Precipitation is in the 14-19” delineation. Terrain varies from open grass parks, to dense forested areas. Sagebrush parks are found throughout the allotment. The allotment has designated trails throughout both pastures though use is concentrated in the north pasture. Grazing occurs yearly on the allotment though only one pasture is used per year in an alternating fashion. Actual use dates can vary depending on pasture rotations in accordance with the Toll Mountain Coordinated Resource Management Plan (CRMP) with the Beaverhead-Deer Lodge National Forest.

Three upland health assessments were performed within the Toll Mountain allotment. The ID team performed the first assessment in the Whiskey Gulch south pasture, in the soil map unit Clancy-Bielenberg-Breeton complex, 15 to 35 percent slopes (1830E). The verification pit was dug on a north facing 9% backslope. The soil matched the map component Breeton and similar soils, placing it in the Thin Sandy (TSy) 15-19" ecological site. These soils form in coarse-loamy alluvium derived from granite and occur on alluvial fans, hillsides, and terraces. Bed rock occurs at >60 inches. These soils are well drained (i.e. not hydric).

The second assessment was also performed in the south pasture, in the soil map unit Clancy-Burtoner, bouldery, complex, 4 to 15 percent slopes (1831D). The soils expected in this map unit are Typic Argiustolls; soils with a dark mollic surface horizon and argillic horizon (clay increase) beneath, and lithic bedrock at 20 to 60 inches. The verification pit, dug on a similar north facing hillside, did not match the soil map unit. Using the Rangeland Ecological Site Key version 11.1 (National Range and Pasture Handbook, 2011) this soil was keyed out to the Sandy 14-19” ecological site.

The third assessment was completed in the Whiskey Gulch north pasture. The ID team chose to perform the assessment within one of the larger soil map units, Baxton-Connieo, very bouldery-Rock outcrop complex, 4 to 15 percent slopes, moist (1242D). The verification pit was dug on a north facing gradual hillside and matched the major map component Baxton and similar soils. This particular map component did not have an assigned ecological site. The same ecological site, Sandy (Sy) 15-19", was used for the upland evaluation. These soils form in sandy colluvium derived from granite over residuum, and occur on hillsides, mountainsides, and ridges. Paralithic bedrock occurs at 20 to 40 inches. These soils are well drained (i.e. not hydric).

Summary of Standards Achieved --Yes, No, N/A (Not Applicable)--						
Allotment Name	Allot #	1. Upland	2. Riparian	3. Water Quality	4. Air Quality	5. Biodiversity
Toll Mountain	20228	No	Yes	No	Yes	Yes

Rangeland Health Standards Evaluation and Rationale

The issue of scope and scale must be kept in mind when evaluating each standard. It is recognized that isolated sites within a landscape may be Functioning at Risk (FAR) and not meeting the standards; however, considering broader scope and scale, the area may be deemed in Proper Functioning Condition (PFC). Likewise, isolated sites may be in PFC, but, overall, the resource within the allotment or area could be FAR and not meeting standards. Therefore, no single indicator provides sufficient information to determine rangeland health. Indicators are used in combination to provide information necessary to make rangeland health determinations.

Western Montana Standard #1
"Uplands are in Proper Functioning Condition"

Finding Standard is not met.

Rationale Three rangeland health assessments were performed. The two assessments done in the south pasture found that all three attributes (Soil and Site Stability, Hydrologic Function, and Biotic Integrity) were at a "None to Slight" departure from expected. Vegetation composition and relative cover was found to be as expected. This along with the overall site stability led the IDT to agree that these two sites met that rating. The third assessment performed in the north pasture found that the Soil and Site Stability attribute was at a "None to Slight" departure while the other two attributes, Hydrologic Function and Biotic Integrity were at a "Slight to Moderate" departure. Several rills were observed along the adjacent road during assessment three. Sediment movement was evident from the accumulation of displaced fines and litter around tree trunks. No water-flow patterns were apparent. The erosional features were concluded to be primarily due to the change in dominant vegetation cover and subsequent increase in bare soil patches. The interdisciplinary team felt that the majority of the federal lands within the allotment were more similar to the third assessment than those conducted within the south pasture. Two of the assessments were conducted within areas of past disturbance.

From field assessments the IDT identified conifer encroachment into sagebrush sites outside the range of natural variability. At the second assessment site the conifers had encroached 50 to 75 feet, because one cycle of burning that would have naturally occurred without fire suppression had been missed and the area was at the end of the

second cycle. The third assessment site had been high grade logged and effects of those logging operations are still visible. There were few large (>16" DBH) trees in relation to large stumps. Also historic wind and water erosion was still found. The first assessment site was within an area that had been burned in the late 1980's, along with a blackline placed along the road in 2003, and was agreed that most of the grass sage sites should closely resemble that one. The entire allotment is considered to have been in historic sage grouse habitat but is no longer suitable for this species due to conifer colonization in historically sagebrush parks and open Douglas fir savannah types.

Western Montana Standard #2
"Riparian and Wetland Areas are in Proper Functioning Condition"

Finding Standard is met.

Rationale A total of approximately 1.1 miles of stream reaches are present on the Toll Mountain Allotment. All of the reaches in the allotment are tributaries of Big Pipestone Creek. The only reach not assessed, PIPE-16 (Interstate Spring), was found to be in Proper Functioning Condition (PFC) in 2003 and visits to the spring by specialists have verified it is in a similar state. The other three reaches, PIPE-3 (Pole Canyon), PIPE-8 (Whisky Gulch), and PIPE-9 (Whisky Gulch Tributary), were assessed on 07/19/2011. PIPE-3, Pole Canyon Creek, was assessed as an upper lentic spring system and a lower lotic flowing system. The upper lentic portion of the reach met the hydric soil indicator S5-Sandy Redox (NRCS Field Indicators of Hydric Soils in the United States, Version 7.0, 2010). Iron oxide concentrations occurring as soft masses were observed within 6 inches of the soil surface in the flood plain. The lower lotic portion of the reach did not meet any of the hydric soil indicators.

The short upper lentic area was heavily trampled, resulting in the disturbance of flow patterns. The riparian-wetland vegetation in the lentic areas lacks the diversity of age classes and species that would be expected and is heavily browsed resulting in low vigor. The short upper lentic system was found to be Functioning at Risk with a downward trend (FAR-Down). Most of the degradation of this site was contributed to past logging activities. The area had been clear cut approximately 60-80 years ago, which probably removed most of the riparian vegetation. The logging activities left the area highly susceptible to disturbance. Much of the stream bank and flood plain had been disturbed by hoof action. The disturbed surfaces have generated bare soil patches which are susceptible to particle detachment and transportation by flowing water. Hoof disturbances have altered the natural surface of the stream bank, causing more erosional vulnerability. No major signs of active sediment erosion were observed, however, given the trampled stream bed, the possibility exists.

The lower lotic system was found to be PFC. The team observed slight sediment movement from valley walls into the stream bed. This was mainly attributed to an old logging road. Also, there is evidence of minor conifer colonization along the reach. PIPE-8, Whisky Gulch, was found to be PFC. Whiskey Gulch was previously rated FAR

condition with the trend not being apparent. However, during the assessment this year, the ID team concluded that conditions have improved and the reach is PFC. Riparian vegetative cover has increased, and the stream has come into balance with the sediment being supplied by the watershed. Approximately 1/3 of the reach is within a riparian exclosure.

PIPE-9 was found to not be non-riparian with no hydric soils and this confirmed past notes that the reach was ephemeral and "More woody draw than riparian."

The interdisciplinary team felt the standard was met overall even though a small segment was rated FAR. All systems survived the large 30 year event that this area experienced this spring. As a whole for the allotment, the large majority of riparian areas on federal lands are PFC.

Western Montana Standard #3:
"Water Quality Meets State Standards."

Finding Standard is not met.

Rationale The State of Montana, Department of Environmental Quality (DEQ) has responsibility for implementing the Clean Water Act. This responsibility includes establishing Total Maximum Daily Loads (TMDL) of sediment and contaminants affecting water quality for beneficial uses. Big Pipestone Creek, which is located below the Toll Mountain Allotment, is listed on the State of Montana and EPA 303(d) list of impaired water bodies, but none of the reaches within the allotment are listed. TMDLs have been developed for Big Pipestone Creek and are published in the Upper Jefferson River Tributary Sediment Total Maximum Daily Loads (TMDL) and Framework Water Quality Improvement Plan of 2009.

Big Pipestone Creek was determined by the DEQ to be fully supporting drinking water and agriculture, and partially supporting aquatic life, coldwater fisheries, contact recreation, and industry.

Sedimentation and siltation were noted as a primary factors negatively affecting water quality of Big Pipestone Creek, originating from roads, streambank erosion, municipal and stormwater point sources, grazing, cropping, historic and current mining, irrigation, and silviculture. The TMDL plan targets an overall 46% reduction in sediment loading for the watershed, which corresponds to target reductions in uplands of 59% reduction from grazing, a 91% reduction from croplands, and a 45% reduction from silviculture. Streamside source target reductions are 67% from streamside erosion. Road target reductions are 62% for unpaved roads and 10% for erosion from I-90.

No known municipal/stormwater point sources, cropping, irrigation projects, or abandoned/active mines on BLM land are contributing sediment to reaches on the Toll Mountain Allotment. Upland grazing occurs but is not contributing to upland erosion and sedimentation of the allotment's reaches. Livestock trailing and trampling in riparian areas is contributing to streambank erosion and sedimentation of Pole Canyon Creek. A historic logging road is present along the Interstate Spring Complex, but it is not

contributing sediment to that reach.

The ID team found that the Toll Mountain Allotment is contributing unknown amounts of sediment to Big Pipestone Creek. Therefore, the ID team concluded that the Toll Mountain Allotment was not meeting the water quality standard.

Western Montana Standard #4
"Air Quality Meets State Air Quality Standards."

Finding Standard is met.

Rationale Although the actual air quality in the allotment is unknown; there is no evidence to suggest that the current allotment conditions would be contributing to any air quality problems in terms of a source of smoke or dust particulates. No visual impairment was observed.

Western Montana Standard #5
"Provide habitat as necessary, to maintain a viable and diverse population of native plant and animal species, including special status species."

Finding Standard is met.

Rationale
The following indicators were used to assess whether existing habitat conditions are at a condition to support viable and diverse populations of native plant and animal species, including special status species.

- Plants and animals are diverse, vigorous, and reproducing satisfactorily
- Noxious weeds are absent or insignificant in the overall plant community.
- Spatial distribution of species is suitable to ensure reproductive capability and recovery.
- A variety of age classes is present.
- Connectivity of habitat or presence of corridors prevents habitat fragmentation.
- Diversity of species (including plants, animals, insects, and microbes) are represented.
- Plant communities in a variety of successional stages are represented across the landscape.

The allotment provides many different types of habitat for a wide variety of both plant and animal species. This allotment is managed under the Toll Mountain CRMP in which all federally managed land, totaling 15,127 acres, will be managed with applicable wildlife and special status plants possibly found within the allotment boundaries.

Wildlife species typical of the area are present. Wildlife surveys specific to this allotment have not been conducted since the late 1990s but deer, elk, and numerous bird species have been casually observed. Cooper's hawk reproduction was recorded in the north pasture in 2011. The south pasture and roughly south half of the north pasture are

considered winter elk habitat. The connectivity indicator is somewhat reduced by Interstate 15 on the north side of the allotment but wildlife movement is not impaired in other directions.

Preliminary Identification of Causal Factors and Recommendations

Based on the field review and observations, it appears the following factors may be contributing to land health standards not being achieved:

- Conifer encroachment
- Big Pipestone on 303d list
- Some sediment in ephemeral, non-connected streams
- Reduce hoof action in upper portion of Pole Canyon Creek

Final determinations will be made upon assessment of further information. It should be noted that if changing a current management or use will not result in progress toward meeting the standards, then the current management or use should not be considered a significant causal factor.

The following actions may be necessary in order to make significant progress in achieving the Western Montana Standards for Rangeland Health:

- Conifer reduction
- Riparian exclosure with off-site water
- Thinning and/or burning of timber stands in the allotment to create healthier forest conditions that mimic natural fire regimes, decrease the shading of riparian zones, and increase stream flow to maintain riparian soil moisture.

How This Information Will Be Used

If the information in this Evaluation Report indicates that the allotment meets the Western Montana Standards for Rangeland Health, BLM will issue grazing decision(s) (subject to protest and appeal) to renew or issue associated grazing authorizations as necessary, with the appropriate level of NEPA documentation and public involvement in accordance with CEQ guidance and BLM direction. No additional final determinations are necessary.

For allotments not meeting the Western Montana Standards for Rangeland Health, BLM will use the information in this Evaluation Report along with any other relevant data or information, including input from interested parties, to make a final determination whether or not current grazing management or levels of use are a significant causal factor in not meeting rangeland health standards on the allotment. If current grazing management and/or levels of use appear to be a significant causal factor, BLM will use the NEPA process to document the affected environment and develop alternatives to propose changes to grazing management to facilitate achieving rangeland health standards. These changes or actions will be addressed with an appropriate level of NEPA

documentation and public involvement in accordance with CEQ guidance and BLM direction. A Final Determination Document will be prepared in concert with the NEPA analysis and associated decision(s). Pursuant to 43 CFR 4180.2(c), the Authorized Officer shall take appropriate action as soon as practicable, but not later than the start of the next grazing year upon determining that existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards. Any grazing decisions, however, are subject to protest and appeal.

If current grazing management or levels of use do not appear to be a significant causal factor, changes or activities in other program areas or activities that appear to be significant causal factors may or may not be undertaken through a NEPA process, dependent on program and office priorities. However, a Final Determination Document will be prepared to document and outline the significant causal factors.

Involvement of Permittees, State Agencies and Interested Publics

The following groups/individuals were notified of the Toll Mountain Allotment Assessment:

Permittees authorized to graze on the allotment

Western Watersheds Project

Beaverhead-Deerlodge National Forest
Butte and Whitehall Ranger Districts

Montana Fish, Wildlife, and Parks

BLM Staff Participants

The following BLM staff participated in the preparation of this report:

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Review	Title	Signature	Date
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