

Land Health Evaluation Report

Big Hole Allotment

Bureau of Land Management

Butte Field Office

Introduction and Assessment Process

This report documents whether land health standards were achieved for the Big Hole 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 this allotment 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: Big Hole #10515

Current Management Category: M (Maintain)

Location: T2N, R13W, Section 34; Deer Lodge and Beaverhead Counties

Public Acres: 160 acres

Season of Use: 05/15 to 10/15

Public Animal Unit Months: 15

Assessment Date: July 1, 2009

The Big Hole Allotment lies about 15 miles northwest of Wise River, MT and about 50 miles southwest of Butte, MT. The allotment is 160 acres in size, and is grazed in conjunction with adjacent private property (approximately 640 acres) from about 6/1 to 9/15 with 40 c/c pairs. The Big Hole River flows through this allotment. LaMarche Creek also flows onto this allotment, for about 500 feet, and then enters the Big Hole River. Some wildlife enhancement has been completed on LaMarche Creek on this allotment in support of Arctic Grayling. Livestock grazing utilization was decreased with a change in ownership of the base property in 2001.

Much of this allotment located on the north side of the river is too wet (swampy) to support livestock grazing. Approximately 5 acres, located east of LaMarche Creek, is drier, and receives grazing use on this allotment on the north side of the river. The public land in this allotment located south of the Big Hole River is covered by conifers, and contains little forage that is desired by livestock. The Big Hole River also limits livestock access to the south side of the river in this location. Most of the livestock grazing in this area occurs on private property.

The Wise River weather station reports 11.22 inches of precipitation on average. The Butte weather station reports 12.86 inches of precipitation on average and an average daily temperature of 39.5 degrees Fahrenheit. The Big Hole Allotment is located at a higher elevation and receives more precipitation and colder temperatures than these weather stations. The Big Hole Allotment is in the 15” to 19” precipitation zone.

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
LaMarche Creek	10508	Yes	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 met.

Rationale

The rangeland health evaluation conducted on this allotment was compared to the Natural Resource Conservation Service’s ecological site guides. The site evaluated on this allotment showed little departure from the soil stability, hydrologic and biotic function indicators.

Utilization is within acceptable levels on this allotment and on adjacent private property managed with the public land.

Site 1: a Rangeland Health Evaluation Worksheet was completed on T2N, R13W, Sec. 34: SE1/4SE1/4. The soil type for this site is Maurice loam, 2 to 8 percent slopes (21C). This site was determined to be a silty 15-19” precipitation zone ecological site. The assessment showed 17 of 17 indicators rated none to slight from departure.

The uplands are in Proper Functioning Condition.

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

Finding Standard is met.

Rationale

The riparian reaches, DL-2-1 (LaMarche Creek) and DL-2 (Big Hole River) were rated as Proper Functioning Condition (PFC) in 2009.

Reach DL-2-1 is the lowest most 500 feet of LaMarche Creek. From its mouth where it enters the Big Hole River to about 500 feet upstream. This portion of stream was rated as Nonfunctional (NF) in 1988, Functioning at Risk (F@R) in 2002 and PFC in 2009. This stream reach evaluation was included in the riparian function checklist done for reach DL-2. The livestock trail located on the west side of this reach, which was

observed in 2002, is recovering and becoming revegetated. Fisheries habitat was improved, after 2002, in this stream by adding pools to it. This work was coordinated by the Montana Department of Fish, Wildlife, and Parks (MDFW&Ps), a private property owner and the Bureau of Land Management (BLM). This stream is showing an upward trend.

Reach DL-2 is approximately 3800 feet of Big Hole River frontage. The Interdisciplinary Team (ID) gave these reaches all positive responses for the hydrological, vegetation and erosion deposition functions. There were no concerns about their function.

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 making beneficial use determinations. The State of Montana 303(d) list of impaired water bodies was reviewed for Deer Lodge County, the Big Hole River and LaMarche Creek are included on this list.

Based on the data provided by the State of Montana the Big Hole River supports agriculture and industrial beneficial uses and partially supports recreation. LaMarche Creek supports agriculture, aquatic life, cold water fishery, drinking water, industrial and recreation beneficial uses. Probable causes and sources of this listing for the Big Hole River were acid mine drainage from abandoned mine lands of cadmium, copper and lead, low flow alterations from irrigation and habitat alterations from highway or other construction, livestock grazing in the riparian area and stream bank modifications. No probable causes or sources were given on the report for LaMarche Creek.

Based on the above evaluation and DEQ determinations, the water quality standard is not met on this allotment.

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 habitat necessary to maintain a diverse population of native plant and animal species including special status species. Vegetation and observed wildlife and their habitat were all in a healthy condition on the allotment. Noxious weeds are rare or absent. The vegetative composition and reproductive capability are healthy throughout the allotment. A variety of successional stages and age classes of plant communities are represented across the landscape.

Although the Big Hole Allotment is small (roughly 160 acres) it provides important aquatic habitat for arctic grayling in LaMarche Creek as well as within the Big Hole River. The Arctic grayling is a native species to Montana and the only remaining indigenous fluvial population in Montana is found in the Big Hole River and some of its tributaries. Montana Fish, Wildlife and Parks recognizes LaMarche Creek as a critical overwintering and spawning stream for arctic grayling and has partnered with the BLM and private land owners to create overwintering pools and spawning habitat in LaMarche Creek.

Due to the small size of the Big Hole Allotment, the amount of wildlife use in this area would be expected to be limited. Willows and other riparian vegetation found in the allotment, however, do provide excellent browse for moose and elk as well as habitat for many migratory birds. LaMarche Creek provides an important wildlife movement corridor that connects large tracts of federal lands to the north and south and BLM lands contribute to this functioning movement corridor.

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:

- The Big Hole River's water quality, on the Big Hole Allotment, is impacted by upstream irrigation on private property for agricultural purposes. No causal factors were identified in the 303d report and no factors were observed for LaMarche Creek and the Water Quality Standard on this allotment. No excess sediment is produced from water running off this allotment. Current grazing management does not appear to contribute to this condition.

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:

- No actions are identified. Any actions that could affect present water quality of the Big Hole River or LaMarche Creek are out of BLM control.

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 parties were solicited by mail to see if they had interest in the 2009 Rangeland Health Assessments for the BLM – Butte Field Office: MT Fish, Wildlife, and Parks, Western Watersheds Project, Beaverhead-Deerlodge National Forest, Helena National Forest, Gallatin National Forest, MT Department of Natural Resources and Conservation and the allotment grazing lessee.

The grazing permittee's representative accompanied the Interdisciplinary Team on the 2009 assessment and participated in it.

BLM Staff Participants

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

Assessment Team Member	Title	Signature	Date
John Sandford	Natural Resource Specialist		
Sarah LaMarr	Wildlife Biologist		
Tanya Thrift	Riparian Coordinator		
Corey Meier	Soil, Water, Air Lead (Soils Scientist)		

Review	Title	Signature	Date
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