

Land Health Evaluation Report

Boulder Allotment

Bureau of Land Management

Butte Field Office

Introduction and Assessment Process

This report documents whether land health standards were achieved for the Boulder 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: Boulder 11057
Current Management Category: C (Custodial)
Location: T6N, R4W, Section 32
Public Acres: 35
Season of Use: 3/1-2/28
Public Animal Unit Months: 16
Assessment Date/Period: 6/11/2009

The Boulder allotment is located approximately one mile southwest of Boulder, MT. Elevation on BLM land ranges from approximately 5,000 to 5,400 feet. Landforms in the allotment include ridges, hillsides, mountain slopes, and escarpments. Slopes are generally from 4-45%. Plant communities consist primarily of big sagebrush-steppe with varying degrees of conifer encroachment.

Current and past BLM involvement with this allotment has been largely limited to administrative functions. A term and condition in the grazing permit states that it can be grazed in conjunction with the permittee's livestock operation so long as use is not detrimental to the public land and use is within the permitted grazing dates. Personal communication with the permittee indicates that the allotment is generally grazed for 2-3 weeks somewhere between June and mid-July with 30 cattle, depending upon weather and forage conditions.

Approximately 10 acres at the south end of the BLM parcel comprise a mine tailings site that was reclaimed by the permittee over 25 years ago and converted to a hayfield with crested wheatgrass and smooth brome. A letter in the file states that verbal permission was given for the reclamation by the BLM office out of Dillon, MT. Once it was completed, the permittee was allowed to use it for cutting hay. Currently, the permittee has only been using the hayfield for grazing cattle.

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
Boulder	11057	No	N/A	N/A	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

Uplands were assessed in the field at Boulder allotment on 6/11/2009. The assessment included an evaluation of one representative eco-site for land health indicators and observations through a general allotment walk-through. NRCS/SCS ecological/range site reference guides were used to identify departures from the expected conditions at the eco-site and the other observed areas. These departures were then used to determine whether Montana land health upland standard is being met.

During the assessment at Boulder allotment, plant pedestals and water-flow patterns were observed that indicated some soil loss in the past and some loss of soil stability. Areas of bare soil were common but small. Overall, the majority of soils appeared stable but at risk due to the changes taking place in the plant community.

On the approximately 10 acres of BLM that was reclaimed and converted to a hayfield, the vegetation was dominated by crested wheatgrass (non-native). Sandberg bluegrass and smooth brome (non-native) were the primary co-subdominants. Cheatgrass patches were common, especially the drainage going through the hayfield. Though there were signs of native vegetation re-establishing, it is unlikely they will become a major component without significant restoration efforts.

On the remaining native rangeland portion (BLM), the plant community had been altered to be co-dominated by cheatgrass (especially in drainages), Sandberg bluegrass, and blue grama. Dalmatian toadflax, musk thistle, mustards, and other noxious/invasive non-native species were also present throughout. Bluebunch wheatgrass should have been the dominant species but is now a minor component. As a result of this plant community shift, the potential production, litter, and soil stability has decreased.

The hydrologic function has likely been affected to a degree by the loss of soil and change in the primary plant composition from the deeper rooted bunchgrasses to shallower rooted cheatgrass, Sandberg bluegrass, and blue grama. Cheatgrass and Sandberg bluegrass are known to deplete the surface soil of moisture early in the season that would otherwise be used later on by deeper rooted species. Blue grama also affects the hydrology by reducing water infiltration due to its sod-forming cover.

Overall, the biotic integrity is decreased from its potential and appears to be in a downward trend. Efforts to improve the vegetative condition will have to include addressing the cheatgrass and other non-native invasive species populations that are established and/or expanding.

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

Finding Not applicable

Rationale

Riparian or wetland areas were not identified on BLM administered land within Boulder allotment.

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

Finding Not applicable

Rationale

Surface and groundwater water were not identified on BLM administered land within Boulder allotment.

Western Montana Standard #4
“Air Quality Meets State Air Quality Standards.”

Finding Standard is met

Rationale

Air quality data was not collected within Boulder allotment; however, observed vegetation was not dust covered and there was no impairment of visibility.

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.

There were large mammals, birds, insects, spiders, grasses, forbs, shrubs, and trees observed at Boulder allotment. They all appeared healthy. Current and remnant inflorescences/flowers on plants indicated that reproduction was taking place on present species. Despite the unexpected reduction of bluebunch wheatgrass, spatial distribution of other species appeared acceptable. Noxious weeds (i.e. Dalmatian toadflax) and non-native invasive species (e.g. cheatgrass) were present throughout the allotment but did not completely dominate the native plant community. Trees, perennial shrubs, and grasses were present in age classes ranging from young to old. There was connectivity of habitat to prevent fragmentation. Multiple plant, animal, and insect species were found. The plant community in the native rangeland portion, overall, appeared to be in an early successional stage; however the northern forested end of the allotment was in a mid to late successional stage.

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:

- Noxious weed and non-native invasive species expansion, primarily cheatgrass.
- Reclamation of abandoned mine lands without using native plant species.
- Livestock grazing management.

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:

- Annual weed treatments.
- Restoring the native plant community through mechanical efforts.
- Modifying the grazing permit – A possible solution discussed with the permittee, if needed, would be to graze the 10 acre hayfield separate from the rest of the allotment. A temporary one strand electric fence, about 800 feet, could be installed along the north end of the hayfield annually to rest or prevent over-use of the native range to facilitate recovery.

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 people/organizations were solicited by mail to see if they had interest in the 2009 Rangeland Health Assessment for Boulder allotment: MT Fish, Wildlife, and Parks, Western Watersheds Project, Beaverhead-Deerlodge National Forest, Helena National Forest, MT Department of Natural Resources and Conservation, and the allotment grazing permittee. Interest was only expressed by the grazing permittee. His son subsequently attended the assessment. The preliminary findings were then discussed with the permittee.

BLM Staff Participants

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

Assessment Team Member	Title	Signature	Date
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Review	Title	Signature	Date
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