

# INSTRUCTIONS

## Land Health Evaluation Report

### Limestone Hills Allotment

Bureau of Land Management

Butte Field Office

## Introduction and Assessment Process

This report documents whether land health standards were achieved for the Limestone Hills 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

<b>Allotment Name/Number:</b>	Limestone Hills Allotment #20273
<b>Current Management Category:</b>	I (Improve)
<b>Location:</b>	Broadwater County, T7N, R1W, Sections 25 and 36; T7N, R1E, Sections 26 - 35; T6N, R1W, Section 1; T6N, R1E, Sections 2-6, 8-10, 15, 17, 21, 22, 27, 28, 33, 34
<b>Public Acres:</b>	13,118 BLM
<b>Season of Use:</b>	5/15 - 9/30
<b>Public Animal Unit Months:</b>	1,627
<b>Assessment Date/Period:</b>	6/14/2010 – 6/17/2010

### **General Setting:**

Elevations within the allotment range from 4,000 to 6,600 feet. Average annual precipitation throughout the allotment ranges from around 10.7 inches (Western Regional Climate Center, 2010) to upwards of 20 inches in the higher elevations (USDA NRCS Map Unit Descriptions). Terrain varies from slightly sloped, grassy parks to steep, sheer limestone cliffs to mountainous pine forests in the higher elevation portions. The majority of the lower elevation portions are composed mostly of sagebrush (*Artemisia tridentata*), and Rocky Mountain Juniper (*Juniperous scopulorum*) with an understory of bluebunch wheatgrass (*Pseudoroegneria spicata*), needle and thread (*Hesperostipa comata*), Idaho fescue (*Festuca idahoensis*), and blue grama (*Bouteloua gracilis*). The higher elevation forests consist of ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), lodgepole pine (*Pinus contorta*), and Rocky Mountain Juniper (*Juniperous scopulorum*).

A large portion of the allotment lies within the Montana Army National Guard's Limestone Hills Training Area. This area consisting of 21,219 acres has been submitted for withdrawal to the Department of Defense, National Guard and is hoped to be completed by 2013. The allotment was evaluated for rangeland health in 2002 and found that the upper elevation pastures (Whipcracker, Cold Springs and Iron Mask) met the upland standard, while lower elevation pastures (Tank Range, Compound and Marble Quarry) were found to not be meeting the upland standard. The riparian reaches throughout the allotment had been previously assessed for Proper Functioning Condition and the results from those ranged from Non-Functioning to Proper Functioning Condition.

The allotment contains several ephemeral streams and only a few perennial streams. The West Fork of Indian Creek and Indian Creek are the only perennial streams within the allotment that are fish-bearing. Both streams contain brook trout (*Salvelinus fontinalis*). The allotment also supports a variety of large and small mammals and birds. Historically bighorn sheep were present on the allotment, although in recent years few sightings have been documented.

**Allotment History:**

These public lands are fenced in with approximately 640 acres of adjacent state land, and are divided into 6 pasture areas. Livestock have been rotated through the allotment in a rest rotation system since the mid 1980’s. Four operators graze this allotment in common with approximately 300 yearlings or dry cows. The permittees do not fully stock the allotment with the authorized numbers of livestock held on their permits and only graze with yearlings and dry cows in an effort to get broader distribution.

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
Limestone Hills	20273	No	No	No	Yes	No

**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 upland sites were assessed in three of the lower elevation pastures. At all three sites Biotic Integrity was found to have a slight to moderate departure from expected. At two of the sites both Soil & Site Stability and Hydrologic Function was found to have none to slight departure from the expected. At one of the sites both Soil & Site Stability and Hydrologic Function were found to have a slight to moderate departure from expected. Monitoring stations consisted of three Daubenmire transects of which data showed trends were stable to a slight increase in bluebunch wheatgrass, Idaho Fescue, and needle and thread. Noxious weeds are present throughout the allotment. As compared to the past evaluation in 2002, study information, and observations, the uplands show signs of improvement.

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

**Finding**        Standard is not met.

**Rationale**

Ten miles of riparian reaches including streams and springs were assessed on the Limestone Hills Allotment in 2010. Overall, 5.6 miles were rated functioning at risk (FAR), 4.3 miles were rated proper functioning condition (PFC), and less than 0.5 miles were rated non-functioning (NFU). The majority of the reaches in the allotment has been historically and/or is actively being mined, and a few reaches lie within the National Guard Firing Range. Noxious weeds are present along almost every reach in the allotment in varying quantities and include spotted knapweed, musk thistle, Canada thistle, common mullen, common mustard and dalmation toadflax. Leafy spurge was found within one riparian enclosure.

Indian Creek and its tributaries comprise the majority of the riparian reaches within the allotment. The majority of Indian Creek was previously rated as NFU and FAR, however the ID team was currently FAR in most areas with one portion PFC. The FAR rating was attributed to the due the amount of noxious weeds present along the stream, as well as the lack of woody riparian species and recruitment of those species. In most areas of Indian Creek, the ID team also concluded that there were many indicators that the stream channel was improving and would continue to do so under current management. Although Indian Creek is still not considered properly functioning, the majority of its tributaries were rated as PFC, many of which were previously rated as NFU.

Tank Range Spring was the only reach that was rated NFU, due to heavy bank disturbance partially associated with the firing range along the banks and within the reach. A road crossing occurs in the middle of the reach that had a plugged culvert. The spring has limited water in the system, which is not sufficient enough to maintain hydric soils. Limited water capacity further limits riparian vegetation vigor and composition.

**Table 1. Stream reaches and condition class ratings for streams and springs on the Limestone Hills Allotment.**

<b>Reach Name</b>	<b>Type of Reach</b>	<b>Reach Length</b>	<b>Previous Rating</b>	<b>2010 Rating</b>
Indian Creek	Perennial	0.44	NFU	FAR
Indian Creek	Perennial	0.49	NFU	FAR
Indian Creek	Perennial	0.19	FAR	FAR
Indian Creek	Perennial	0.49	NFU	FAR
Indian Creek	Perennial	0.49	NFU	FAR
Badger Gulch	Perennial	0.38	FAR	FAR
Indian Creek	Intermittent	0.8	PFC	FAR
Unnamed	Ephemeral	0.46	NFU	PFC
Unnamed	Ephemeral	0.61	FAR	PFC
Unnamed	Ephemeral	0.34	NFU	PFC
Unnamed	Ephemeral	0.51	NFU	PFC
Whiplash	Intermittent	0.29	FAR	FAR
Whiplash	Intermittent	0.17	NFU	FAR
Whiplash	Intermittent	0.4	PFC	PFC
Whiplash	Intermittent	0.37	NFU	FAR
Unnamed	Intermittent	0.47	FAR	FAR
Unnamed	Intermittent	0.15	NFU	FAR
Whipcracker--Unnamed Trib.	Intermittent	0.34	PFC	PFC
Unnamed	Intermittent	0.45	NFU	FAR
West Fork Indian Creek	Perennial	0.21	FAR	FAR
Tank Range Spring	Intermittent	0.19	FAR	NFU
Limestone Spring	Intermittent	0.1	FAR	PFC
Limestone Spring	Intermittent	0.71	NFU	PFC
Indian Creek Tributary	Intermittent	0.3	NFU	PFC
Indian Creek Tributary	Perennial	0.32	NFU	PFC
Indian Creek Tributary	Perennial	0.18	NFU	PFC
West Fork Indian Creek Trib.	Perennial	0.2	FAR	FAR

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

**Finding** Standard is not met.

**Rationale**

Within the allotment, Indian Creek and the East Fork of Indian Creek are on the State of Montana’s 303(d) list of impaired water bodies. Water quality in Indian Creek is impaired due to the amount of arsenic, cadmium, lead, and mercury in the stream. The point source has not been identified, because the Total Maximum Daily Load (TMDL) assessment has not been completed for the area. Indian Creek does not meet state water quality standards, and therefore the allotment does not meet the BLM water quality standard.

Stream morphology in Indian Creek is extremely altered from historic placer mining. The BLM Abandoned Mine Lands (AML) program has reclaimed and restored as much of the channel as possible and monitors reclamation efforts towards meeting PFC. Historically, the creek flowed to the Missouri River, but currently is interrupted, with flow vanishing subsurface. The AML program has for several years tried to restore the historic flow. In 2010 another phase of reclamation was initiated, with the intent of installing a ground water sill to force subsurface flow back to the surface; however, investigations into the stream bed characteristics resulting from historic placer operations on the creek revealed that deep, cobbly alluvium prohibits successful installation of a ground water sill. The reclamation project was abandoned.

Reach Limestone Spring and Tank Range Spring had excessive sediment observed in the water above what would be expected for the type of reach.

Groundwater in wells, within the allotment located downslope of the Graymont Mine are monitored and sampled for nitrates, resulting from blasting as part of the conditions of Limestone mine operations. Testing is overseen by the state Department of Environmental Quality (DEQ), the bonding agency. To date, excessive nitrates have not been reported.

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

**Finding** Standard is met.

**Rationale**

Although no quantitative data was collected, visual parameters were assessed during the rangeland health assessment. Vegetation was not covered in dust in any area of the allotment, nor was there any impairment of visibility noticeable; therefore the air quality standard is being met.

**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 not 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.

Noxious weeds have expanded to most areas within the allotment and are a prevalent feature within all plant communities, and are impacting most plant communities at varying degrees. Neither the upland or riparian standard is currently being met, and even though wildlife use the area, the quality of habitat could be much improved and support more species diversity and provide better habitat. The area is particularly critical for wintering mule deer that rely on mountain mahogany, sagebrush, and juniper for cover and food with herbaceous species providing a smaller portion of their diets. Improved uplands and riparian areas would contribute to better habitat for wintering mule deer and for other wildlife that utilize the Limestone Hills. No BLM sensitive plants were found on the allotment.

**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:

- Munitions firing
- Historic mining

- Past Livestock Management
- Livestock out of compliance with the annual grazing schedules.

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 to restore riparian conditions or surface water quality within the area leased to the National Guard are proposed. Unexploded Ordinance (UXOs) are present throughout, making application of treatments inherently dangerous.
- Reclamation and restoration of uplands and streams affected by historic mining will be addressed through separate actions, outside the scope of this assessment.
- Continue coordination with the National Guard and Broadwater County to address the weed populations
- Work closely with permittees to ensure annual grazing rotations are followed and cattle remain in the appropriate pastures according to the annual grazing schedules.

## **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 Sugarloaf Allotment Assessment:

Permittees authorized to graze on the allotment

Western Watersheds Project

Helena National Forest  
Townsend Ranger District

Montana Fish, Wildlife, and Parks  
**Townsend Area Resource Office**

Montana National Guard Representative

**BLM Staff Participants**

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

<b>Assessment Team Member</b>	<b>Title</b>	<b>Signature</b>	<b>Date</b>
Roger Olsen	Rangeland Management Specialist		
Scot Franklin	Wildlife Biologist		
Tanya Thrift	Rangeland Management Specialist, Riparian Coordinator, Sensitive Plants		
Corey Meier	Soil, Water, Air Lead (Soils Scientist)		
John Sandford	Rangeland Management Specialist		
Lacy Decker	Range Tech. (Weeds)		

<b>Review</b>	<b>Title</b>	<b>Signature</b>	<b>Date</b>
---------------	--------------	------------------	-------------

Tanya Thrift	Assistant Field Manager, Renewable Resources		
Sherrí Lionberger	Butte Field Manager		