

Land Health Evaluation Report
Indian Creek Allotment
Bureau of Land Management
Butte Field Office

Introduction and Assessment Process

This report documents whether land health standards were achieved for the Indian Creek 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: Indian Creek, 20233
Current Management Category: I (Improve)
Location: T. 7 N., R. 1 E. (See attached map)
Public Acres: 7,933 acres
Season of Use: Forage Reserve Allotment, Season of use pending further planning and analysis
Public Animal Unit Months: 1,082
Assessment Date/Period: 5/18-5/21/2010

The Indian Creek Allotment is located approximately 2 miles north of Townsend, MT, and contains primarily BLM lands, but also a few private in holdings and mining claims, as well as a section of state land. An additional acquisition was purchased to make the existing Indian Creek Allotment larger. The Indian Creek Allotment has been set aside as a forage reserve allotment that will be available to individuals within the Elkhorn Mountains Management Area to rest other grazing allotments, and to enhance winter range for wildlife in the Elkhorn Mountains. Currently a management plan is being developed by the Butte Field Office to manage future grazing use and develop range improvements that will make the allotment usable as a forage reserve. The allotment has been rested for the past 7 years.

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
Indian Creek	20233	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.

<p>Western Montana Standard #1 <i>“Uplands are in Proper Functioning Condition”</i></p>

Finding Standard is not met.

Rationale

The uplands in the allotment were divided into two general areas based on soils, ecological sites, and elevation. The lower elevation portion of the allotment is primarily within the silty-limey ecological site. The soil surface texture in evaluation area is gravelly, sandy, clay, loam verified by digging a soil pit. Overall the soil and site stability was as expected, with one indicator slightly to moderately from the expected. The area where the evaluation was completed by the ID team had been historically grazed very heavily and there was evidence of some soil surface loss and degradation. Overall the hydrologic function was as expected with two of the ten indicators slightly to moderately departed from the expected. One factor was the soil surface loss and degradation and the other factor was the amount of surface litter was less than expected due shifts in plant composition to more shallow rooted grasses that are not as highly productive. The biotic integrity over rating was not as expected and five of the nine indicators were slightly to moderately departed from the expected. Amount of litter and annual production were not as expected because bluebunch wheatgrass was not present at the levels expected compared to the ecological site guide. Cheatgrass was noted in several areas on the site, and as result of the cheatgrass and lack of bluebunch wheatgrass, the functional structural plant groups have shifted away from a dominance of deep-rooted perennials towards more shallow rooted species. The lower elevation portion of the allotment had similar characteristics throughout.

The higher elevation portion was represented by healthy upland conditions. The evaluation site was completed on a shallow ecological site and the surface texture was similar to the first evaluation site. All indicators for soil and site stability and hydrologic function were as expected for the site. One indicator of biotic integrity was slightly to moderate departed from the expected compared with the ecological site guide due to the presence of dalmation toadflax, but overall conditions were as expected for the site.

No trend monitoring studies were present within the newly acquired portions of the Indian Creek Allotment and the ID team completed line point intersect transects at each site in order to compare current conditions with the ecological site guides. At the second evaluation site in the higher elevation portion, bluebunch wheatgrass cover was 50% and cover of Idaho fescue was 24%. At the lower elevation site needle and threadgrass cover was 22% and cover of blue gramma was also 22%.

The forested portions of the allotment were located on the hillslope that divided the allotment into higher and lower elevation areas. Dominant species included Douglas fir, rocky mountain juniper, ponderosa pine, and some patches of mountain mahogany. Ponderosa pine was very decadent and there was also some decadence in the Douglas-fir. Both rocky mountain juniper and Douglas-fir have expanded into upland sites, and in some areas have formed very dense patches.

The vast area of the allotment that is lower elevation, despite years of rest, is still not in satisfactory condition due to weeds, historic soil loss, and shifts in plant dominance to

less productive, shallow rooted species. The condition of the forests with the heavy decadence of ponderosa pine and colonization of Douglas fir and rocky mountain juniper into upland sites is also unsatisfactory. The allotment as whole is therefore not meeting upland standards at this time.

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

Finding Standard is not met.

Rationale

The majority of the reaches in the Indian Creek Allotment are ephemeral or intermittent. A total of three miles of streams were assessed during the evaluation and all of them were rated functioning at risk, and all but two had a downward trend. Indian Creek was the only stream that had an upward trend due increased channel stability and improvements in the quantity and vigor of riparian vegetation. All of the reaches on the allotment had weeds present along most of the lengths, and varying degrees of bank and channel instability. The limited amount of water in each stream on the allotment contributes to a slow recovery from past disturbances. The majority of the reaches have limited riparian vegetation and where cottonwoods are present almost no recruitment is occurring and only mature decadent cottonwoods remain. As a whole the riparian conditions are not satisfactory and the riparian standard is not being met.

Table 1. Streams located on the Indian Creek Allotment that were evaluated during the 2010 land health assessment.

Reach Name	Stream Type	Length	Previous Rating	2010 Rating
Indian Creek	Ephemeral	0.46	FAR	FAR
Indian Creek	Perennial	0.92	FAR	FAR
Whipcracker Gulch	Intermittent	0.30	PFC	FAR
Whipcracker Gulch	Intermittent	0.37	PFC	FAR
Unnamed	Perennial	0.18	PFC	FAR
Unnamed	Intermittent	0.37	PFC	FAR
Unnamed	Ephemeral	0.25	FAR	FAR
Unnamed	Intermittent	0.20	NFU	FAR

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. No streams in the allotment are listed on the State of Montana and EPA 303(d) list of impaired water bodies. Streams are interrupted, not flowing to the Missouri River. Two reaches were found to not meet water quality standards.

Reach B-77 flows onto a down a dirt road, so has excessive sedimentation. Whipcracker Gulch, Reach B78, flows out of an adit, at the Iron Mask abandoned mine site, over waste rock and through and along tailings. Water quality was tested as part of a toxicology risk assessment in the characterization study and draft Iron Mask Mine and Mill Site Expanded Engineering/Cost Analysis (EE/CA) and found to exceed Montana DEQ drinking water standards; however, sediment in the stream bed was found to contain high metal content. Further analysis and proposals for treatment or cleanup will be addressed as part of a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, also known as Superfund), action and is outside the scope of this assessment.

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 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 Indian Creek Allotment. 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:

- Stream alignment and abandoned mine lands are identified for Water Quality not meeting standard. Current grazing management does not appear to contribute to this condition. No excess sediment is produced from water running off this allotment.
- Historic livestock grazing that has altered plant communities.
- Weed and other undesirable species expansion.
- Conifer expansion and decadence.

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:

- Realign stream/install culverts or hardened crossings along road in Reach B-77(Unnamed reach)
- Cleanup Reach B-78 (Unnamed reach) as part of a CERCLA action, separate from this assessment
- Conifer thinning either burning or mechanical to improve forest health.
- Using herbicide and other techniques to impact weeds and prevent further infestations.
- Continued rest and potential reseeding areas to improve plant communities.
- Thinning of conifers that have colonized uplands.

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 Indian Creek Allotment Assessment:

Western Watersheds Project

Helena National Forest
Townsend Ranger Districts

Montana Fish, Wildlife, and Parks
Townsend Resource Area

BLM Staff Participants

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

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