

Land Health Evaluation Report

Alder Creek Allotment

Bureau of Land Management

Butte Field Office

Introduction and Assessment Process

This report documents whether land health standards were achieved for the Alder Creek Grazing Allotment administered by the Bureau of Land Management's Butte Field Office. Standards for Land 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: Alder Creek # 03233

Current Management Category: I (Improve)

Location: T1N, R12W, Sections 10, 11, 14, 15, 23 & 24; Beaverhead County

Public Acres: 2,164 acres

Season of Use: None

Public Animal Unit Months: 119

Assessment Date: August 11, 2011

The Alder Creek Allotment has not been grazed by domestic livestock since 1993. The grazing lease on the Alder Creek Allotment was cancelled by decision in March of 2000. This area is allotted but unleased. Several factors make livestock grazing difficult on this allotment. This allotment contains a number of timber clear cuts, and the clear cuts on this allotment become restocked with lodgepole pine, which consequentially have decreased the amount of available forage. An adjacent National Forest Allotment, that took the Alder Creek Allotment cattle from midsummer to fall, was closed to livestock grazing. These livestock lost much of their summer forage with this closure. Fencing along the east boundary line of the allotment is nonexistent or in poor repair allowing livestock to enter adjacent private property. Much of this adjacent private property was subdivided and developed in the 1990s. Because of these issues the Alder Creek Allotment was made unavailable for grazing through the Butte Resource Management Plan of April, 2009.

The official allotment map shows that approximately 54 acres have been removed from the allotment for recreation use along the Big Hole River. This area is now referred to as the Dickie Bridge and Bryant Creek Recreation Areas. There is no land in this allotment that borders the Big Hole River.

Much of the Alder Creek Allotment (also known as the Tie Creek Area) is timbered with lodgepole pine. Several timber clear cuts were implemented in the early 1970s along with an improved road construction project to assist in timber management of the area. Approximately 750 to 1000 acres, of the allotment, were clear cut. The allotment was partially rested from grazing in the 1970s to allow growth of lodgepole pine seedlings. Approximately 100 to 150 acres of these clear cuts were thinned in the 1980s. In 1997, approximately 400 acres in the Alder Creek Allotment were harvested for mistletoe eradication and meadow enlargement for wildlife benefit. In August of 2007, a defensible fuels break line was constructed, on a portion of this allotment, in response to the Pattengail Wildfire. Trees were harvested along the Tie Creek road system to create a fire line or buffer for homes located between Highway 43 and the Tie Creek road system.

The buffer was meant to provide increased firefighter and public safety in the event the Pattengail Wildfire reached that area. The Pattengail Wildfire did not reach this area. Much of the unharvested timber on the Alder Creek Allotment has been infested with Mountain Pine Beetle, resulting in timber mortality.

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
Alder Creek	03233	Yes	Yes	Yes	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 upland rangeland health evaluations conducted on this allotment were compared to the Natural Resource Conservation Service’s ecological site guides. The sites evaluated on this allotment showed little departure from the soil stability, hydrologic and biotic function indicators.

The allotment contains 2 vegetation trend studies. The following is a summary of this study information:

a. Alder Creek Daubenmire #1

The vegetation (grasses, forbs and shrubs) measured at this study site does not show a significant increase or decrease in composition. This site contains an acceptable variety of desirable vegetation. Litter has remained at 100% frequency since 1984. This study has been read five times, from 1979 to 2011. Trend can be characterized as static.

b. Alder Creek Daubenmire #2

The vegetation measured at this study site does not show a significant increase or decrease in composition. This site contains an acceptable variety of desirable vegetation. This study has

been read four times, from 1979 to 2011. Trend can be characterized as static.

See attached tables which shows Frequency, Canopy and Composition information for key species of these studies.

The ID team performed two upland evaluations in the Alder Creek allotment. The first evaluation was performed at T1N, R12W, Sec. 23, within the soil map unit Ratiopeak-Monaberg complex, 8 to 30 percent slopes, very stony (931E). A verification pit was dug on a southwest facing shoulder slope to determine the ecological site. The pit contained a buried A and B_t horizon. A buried soil (covered with a surface mantle of new soil material) may have occurred at this site by several processes (e.g. inversion of soil horizons due to tree upheaval, colluvium from a landslide event, or a volcanic eruption). The buried material matched the major map component Monaberg, very stony and similar soils, placing it in the Loamy Steep (LoS) 15-19” ecological site. These soils form in alluvium derived from quartzite and occur on hillsides. They are well drained and moderately deep, with bedrock coming in at 28 inches. The ID team concluded that 17 of 17 indicators, on the Rangeland Health Evaluation Worksheet, rated none to slight from departure from that expected.

The second rangeland health evaluation was performed at T1N, R12W, Sec. 14, within the soil map unit Ratiopeak-Sigbird complex, 15 to 40 percent slopes, very stoney (721E). The verification pit was dug in a grassy clearing on a on a south facing backslope. The verification soil matched the map component Ratiopeak, very stony and similar soils. These soils form in colluvium derived from argillite and occur on mountainsides. They are deep soils with bedrock occurring at >60 inches and are well drained (i.e. not hydric). The corresponding ecological site was Droughty Steep 15-19” which relates to the old ecological site Silty Droughty 15-19”. The ID team concluded that 17 of 17 indicators, on the Rangeland Health Evaluation Worksheet, rated none to slight from departure from that expected.

Extensive lodgepole pine mortality, attributed to the mountain pine beetle, was observed throughout the allotment but adequate regeneration is expected.

The attribute ratings were all rated as none to slight for departure from expected condition of the sites evaluated. The allotment has excellent ground cover and a good representation of native vegetation. The uplands on this allotment are in Proper Functioning Condition.

Western Montana Standard #2

“Riparian and Wetland Areas are in Proper Functioning Condition”

Finding Standard is met.

Rationale

Approximately 3 miles of riparian/stream reaches are present on the Alder Creek Allotment in 2 stream reaches. Big Hole Tributary BHFT-8 and Tie Creek BHFT-9, both rated as Proper Functioning Condition (PFC).

The definition of a hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in its upper part (NRCS Field Indicators of Hydric Soils in the United States, Version 7.0, 2010).

Field Indicators, of a hydric soil, are soil characteristics which are documented to be strictly associated only with hydric soils. Field Indicators are an efficient on-site means to confirm the presence of hydric soil. The Field Indicators are designed to identify soils which meet the hydric soil definition without further data collection. Some hydric soils exist for which no Field Indicators have yet been recorded and documented, and to identify these soils as hydric, evidence must be gathered to demonstrate that the definition is met. Additional Field Indicators are being developed and tested.

If a field indicator is met, the soil is classified as *hydric*.

The soil textures along the flood plain and stream bed of reach BHFT-8 are loamy over coarse sand. This reach met the hydric soil indicator “A4 Hydrogen Sulfide”. A hydrogen sulfide odor (the “rotten egg smell”) was observed at the soil surface indicating that the soil contains sulfur-bearing compounds which have been reduced in an anaerobic environment, and classifies this soil as hydric.

Reach BHFT-9 was classified as an A3 Rosgen Stream: entrenched, low width/depth ratio, low sinuosity, cobble bed material. The soil textures along the floodplain and stream bed were loamy very fine sand. This reach met the hydric soil indicators “A12 Thick Dark Surface and F6 Redox Dark Surface”. The ID team observed a thick black surface layer with redox depletions within the upper 12 inches and a depleted matrix below, classifying this soil as hydric. Depletions are the stripped mineral grains (gray in color). Depletions usually indicate a longer period of saturation or a more consistent period of saturation within the upper 12 inches and a depleted matrix below. A depleted matrix is when the whole body of soil has been reduced to a gray color.

The section of the Big Hole River, referred to as the Dickie Bridge Recreation Area, located near this allotment was previously rated as FAR condition. This rating was based on information provided by the Montana Riparian Wetland Assessment in 1994 and not by ID team assessment. During the assessment this year, the ID team concluded that the reach is PFC. The reach’s hydrological characteristics are appropriate for the channel type, and the proper riparian plant communities are present and in healthy condition. A historic irrigation ditch that parallels the river along this reach is present within 25 feet of the river. Stream banks are well-vegetated with riparian species and there are no adverse impacts to the hydrology, vegetation, or sediment balance of the reach.

All streams, in the allotment, were rated as proper functioning condition (PFC). Hydrologic function, vegetation and erosion/deposition along these reaches are in a healthy and satisfactory condition. Many species of willows, carex, and riparian grasses and forbs were present along all stream reaches.

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

Finding Standard is 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. The Middle Big Hole River, which is located below the Alder Creek 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 the Big Hole River and are published in the Middle and Lower Big Hole Planning Area Total Maximum Daily Loads (TMDL) and Water Quality Improvement Plan of 2009.

The Middle Big Hole River was determined by the DEQ to be fully supporting agriculture and industry, and partially supporting contact recreation. It does not support aquatic life, cold water fisheries, or drinking water uses.

Sediment was noted as a primary factor negatively affecting water quality of the Middle Big Hole River, originating from historic mining, unstable banks, grazing, and roads. The TMDL plan targets an overall 28% reduction in sediment loading for the watershed, which corresponds to target reductions in uplands of 23% reduction from grazing and 56% reduction from croplands. Streamside source target reductions are 36% from streamside erosion and 30% from roads. Mining is noted as contributing excessive levels of lead and copper.

No known abandoned or active mines on BLM land are contributing sediment or metals to reaches on the Alder Creek Allotment. Upland grazing occurs but is not contributing to upland erosion and sedimentation of the allotment’s reaches. All stream banks within the allotment were stable and well-vegetated with plant communities that have root masses capable of withstanding high flow events. Therefore, stream banks are not known to be contributing significant amounts of sediment. Erosion was not apparent on the roads of the allotment.

The ID team did not find that the Alder Creek Allotment is contributing excessive levels of sediment or contaminants to the Middle Big Hole River. Therefore, the ID team concluded that the Alder Creek Allotment was 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 are 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 for a variety of native wildlife species. Big game including moose, elk, and deer are present; small mammal burrows were noted; numerous passerine species were seen during the allotment evaluation; Columbia spotted frogs seemed plentiful in Teddy Creek and along the Big Hole River; numerous insect and arachnid species were seen. During the evaluation no factors that would prevent native species from using the allotment were noted. Wildlife appears to be healthy, diverse, and reproducing satisfactorily. Great gray owls and northern goshawks, BLM sensitive species, have been known to nest here. Although the allotment is too small to sustain

healthy and diverse wildlife communities on its' own, it is connected on all sides to USFS and undeveloped private land. The Big Hole River and Highway 43 run near the eastern boundary of the allotment; these would be a barrier or hazard to some species. Other than that there are no barriers to wildlife movement in and out of the allotment.

Noxious weeds did not appear to be a significant component of the allotment. Conifer species are expanding somewhat into sage, grass, and riparian areas due to alteration of historic disturbance but have not become dominant in these areas. Native vegetation in the allotment is diverse in age class and species.

Preliminary Identification of Causal Factors and Recommendations

All land health standards are being met under current management of the Alder Creek Allotment, and the ID team recommends continuing this management.

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, no additional final determinations are necessary. Because this allotment is not authorized for livestock grazing, no grazing decisions will be issued.

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 Alder Creek Allotment Assessment:

Western Watersheds Project

Two adjacent property owners. They provided discussion concerning the existing conditions of the area.

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

Assessment Team Member	Title	Signature	Date
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Chris Robinson	Range Technician, Riparian and Soils		
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