Land Health Evaluation Report

Moose Creek AMP Allotment

Bureau of Land Management

Butte Field Office

Introduction and Assessment Process

This report documents whether land health standards were achieved for the Moose Creek AMP 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: Moose Creek AMP, 10303
Current Management Category: I (Improve)
Location: T. 1 S., R. 9 W., T.2 S., R. 9 W., T. 2 S., R. 8 W., and T. 1 S., R. 8 W. See attached map.
Public Acres: 5,950 acres
Season of Use: 5/21-11/30
Public Animal Unit Months: 683 AUMs
Assessment Date/Period: 7/27, 7/29, 8/10/2010

Allotment Overview
The Moose Creek AMP Allotment is located approximately 3 miles north of Melrose, MT, and 25 miles south of Butte, MT. The allotment is managed under an allotment management (AMP) and grazed under a rest-rotation grazing system with two pastures rested each year. The Humbug Spires Wilderness Study Area also spans a portion of the allotment. Topography on the allotment ranges from gently rolling hills to steep rugged slopes.

Vegetation varies from sagebrush grasslands, forested areas, and riparian areas. Dominant species occurring on the sagebrush grassland sites include rough fescue, Idaho fescue, bluebunch wheatgrass, Wyoming sagebrush and mountain sagebrush, and a variety of upland forbs. Forested sites are predominantly comprised of Douglas-fir with the occasional juniper and herbaceous species in the understory as well as snowberry. While aspen is predominantly located in riparian areas aspen is also found on upland sites in the allotment.

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
Moose Creek AMP	10303	YES	NO	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 upland standard was not met in previous years due to historic livestock grazing, which impacted upland sites in many areas in the allotment. Reduced livestock numbers as well as resting the allotment for the past two seasons has drastically improved uplands in the Moose Creek AMP Allotment.

The Interstate Pasture had been historically one of the most heavily utilized pastures due to its proximity to the ranch. The ID team selected an evaluation area representative of the soils, topography, vegetation, and distance to water within the Interstate Pasture. The ecological site was a droughty, steep and soil surface texture was gravelly-loam, verified by digging a soil pit. The ID team evaluation at the site indicated that all soil and site stability, hydrologic function, and biotic integrity indicators were as expected and there was no departure from the expected. Visits to other pastures in the allotment indicated that the uplands have recovered from the historic levels of use and all range plants exhibited high vigor.

Minimal spruce budworm activity in the Douglas-fir is occurring, and conifers have not colonized and expanded into upland sites on the Moose Creek AMP Allotment like they have in many other areas on adjacent lands.

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

Finding Standard is not met**.**

Rationale

Three of the four riparian areas assessed during the allotment evaluation were rated functioning at risk (FAR) and only one was rated proper functioning condition (PFC). Moose Creek was rated PFC due to the excellent channel characteristics, vigor and abundance of riparian vegetation, and overall stream stability. Despite the heavily used county road directly adjacent to the stream, no evidence of additional sediment entering Moose Creek was observed.

Chicken Gulch is an intermittent stream within the Chicken Gulch Pasture. A riparian exclosure was recently removed from a portion of the stream, because it was not effective at protecting riparian resources. Several patches of weeds are present that include musk

and Canada thistle, common mustard, hounds tongue, and black henbane. In portions of the stream the channel has become poorly defined as a result of streambank sloughing. Mid-reach evidence of historic mining activity is present adjacent and within the channel. There is also evidence that the channel had historically become unstable and the streambed dropped 3 to 4 feet. The current channel has stabilized although woody and herbaceous riparian vegetation is lacking in vigor, abundance, and only mature to decadent woody species are present along the majority of the stream where riparian vegetation still exists.

Bull Frog and Wildflower Springs are located in the Negro Mountain Pasture. Bull Frog Spring is developed for livestock water and the majority of the spring is located inside of an exclosure. However the small portion of the spring area that was not fenced inside of the exclosure has limited riparian vegetation, the soils are heavily trampled, and the less desirable non-native grasses are beginning to expand from the portion outside of the exclosure inward. Although a few desirable herbaceous species are still present within the exclosure, non-native grasses make up the largest portion of vegetation. Over the Bull Frog Spring was rated FAR with a downward trend. Wildflower Spring was also rated FAR, however the trend was not apparent. Willows are primarily dead and decadent with no regeneration observed. The 2 acres spring has hummocks throughout, and the riparian vegetation that is remaining is lacking in vigor. A small patch of common toadflax was also noted adjacent to the spring.

Reach Name	Type	Size (Length or Area)	Previous Rating	2010 Rating
Moose Creek	Perennial	1.15	PFC	PFC
Chicken Gulch	Intermittent	1.85	PFC	FAR
Wildflower Spring	Lentic	2 acres	PFC	FAR
Bull Frog Spring	Lentic	1 acre	FAR	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. The Middle Big Hole River, Moose Creek and MacLean Creek are listed on the State of Montana and EPA 303(d) list of impaired water bodies. Portions of

MacLean Creek is a tributary of Moose Creek, which flows into the Big Hole River. Portions of MacLean Creek and Moose Creek are on BLM land within the Moose Creek AML allotment. TMDLs were developed for these reaches 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, partially contact recreation. It does not support aquatic life, cold water fisheries and drinking water.

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 a 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 in Moose Creek was noted as the primary negative water quality factor. Low flow alterations, stream bank alterations and effects from historic logging in uplands were noted as the primary causes of sediment. Irrigated crop production, which adversely lower flows so that sediment is not transported downstream, is noted as the primary source of low flow alterations on the headwaters to mouth of Moose Creek section of stream on BLM land, however logging, roads and grazing were also noted as contributing factors.

Although MacLean Creek is listed on the 303(d) list, it is listed as fully supporting all beneficial uses, including aquatic life, drinking water, cold water fishery, contact recreation, agriculture, and industry.

The TMDL Water Quality Improvement Plan calls for an overall 24% reduction in sediment from the watershed. Reductions are broken down with a 38% reduction from cropland, 24% reduction from grazing in uplands, 33% from roads in uplands and 49% from streambank erosion. No active sedimentation or erosion was found on streams addressed on BLM lands.

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.

Fisheries

There is one fish bearing stream in the allotment, Moose Creek. Moose Creek provides some of the best riparian and aquatic habitat in the Butte Field Office. Fish species found in Moose Creek include non-native brook trout, brown trout, rainbow trout (rare) and Yellowstone cutthroat trout. Mottled sculpin is the only native species found in the creek on BLM managed land. Further upstream, genetically pure westslope cutthroat trout are found on private and Forest Service lands.

Wildlife

The Moose Creek Allotment is within the Divide linkage area identified by American Wildlands. This linkage connects the western foothills of the Highland Mountains to the Pioneer Mountains and Fleecer Mountain. This linkage supports wildlife movement between core habitats in the Highland and Pioneer Mountains.

The allotment is dominated by sagebrush/grassland habitat with Douglas-fir forest found at higher elevations and along drainages. Riparian vegetation is common in drainages and high quality riparian habitat is found along Moose Creek.

The allotment provides habitat predominately for those species that depend on or prefer sagebrush/grassland habitat. Numerous wildlife species and/or their habitats can be found in the allotment including but not limited to elk, mule deer, moose, bighorn sheep, red fox, black bear, coyote, bobcat, mountain lion, spotted frog, tailed frog, long-tailed and short-tailed weasel, porcupine, badger, red squirrel, flying squirrel, mountain cottontail, snowshoe hare, white-tailed jackrabbit, ground squirrels, least chipmunk and other small mammals.

Avian species known or suspected to use the allotment include dusky grouse, northern flicker, mountain chickadee, chipping sparrow, gray jay, Clark's nutcracker, common raven, dark-eyed junco, mountain bluebird, western meadow lark, horned lark, Townsend's solitaire, great-horned owl, yellow-rumped warbler, red-naped sapsucker, Brewer's, and vesper and savannah sparrows.

Although some elk reside in the allotment year-round, most of the use occurs from winter through spring and the allotment provides critical elk winter range. Primary elk use areas are from upper Moose Creek south into Camp Creek. The allotment also provides mule deer winter range, especially in the foothills.

The allotment provides yearlong and migration habitat for bighorn sheep known as the Highland herd. This population of sheep commonly uses Moose Creek, Soap Gulch, and Camp Creek drainages in the Highland Mountains.

Pronghorn antelope are found year-round in the allotment with most of the use occurring in the Moose Creek pasture, Spires pasture, and Big Hole pasture. Although antelope can be found year-round in the allotment, most migrate to the Fleecer area during the winter.

Moose use of the allotment is concentrated within riparian habitats, especially Moose Creek.

Habitat dominated by sagebrush provides important habitat for sagebrush obligates including BLM sensitive species such as sage grouse and sage thrasher. Other BLM sensitive species suspected or known to be found in the allotment include long-billed curlew, Brewer's sparrow, northern myotis, Townsend's big-eared bat, golden eagle, and grey wolf.

Habitat for one species listed under the Endangered Species Act, grizzly bear, is found throughout the allotment. Although the allotment is not within a designated recovery or distribution zone for grizzly bear, the allotment does provide habitat and movement corridors for the grizzly bear.

Sagebrush and sagebrush/grassland habitat in the allotment provides high quality forage and structure for those species that use or depend on this habitat type. Some conifer colonization of sage is occurring in small pockets and at higher elevations and is having a

minor impact on wildlife habitat.

Although weed infestations are low compared to other areas in the field office, weeds are still having a negative impact on wildlife habitat in the allotment.

The quality of riparian habitat varies throughout the allotment. Moose Creek provides very high quality riparian habitat and a diversity of riparian vegetation. Chicken Gulch, however, has been significantly impacted by historic mining activities as well as heavy livestock grazing and infestations of non-native plant species. Concentrated wildlife use of the drainage along with livestock has prevented recovery of riparian species. A small riparian exclosure near the headwaters of this perennial stream constructed to protect predominately willow has been non-functioning for many years. This exclosure has been removed and the BLM is proposing to fence out the entire drainage, creating a riparian pasture that will protect Chicken Gulch and allow recovery of riparian species. Smaller wildlife exclosures placed throughout the drainage would also allow aspen and willow to survive wildlife browsing and aid in the recovery of riparian vegetation.

High quality upland habitat along with healthy and diverse riparian conditions along Moose Creek provide habitat necessary to maintain a viable and diverse population of native wildlife species, including special status wildlife species.

Idaho sedge, which is a BLM sensitive plant species, occurs along Maclean Creek and although most of the creek is not part of the allotment, the sedge is likely found in other areas not yet documented 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:

- Chicken Gulch is being impacted by historic and current livestock grazing and weeds infestations.
- Bull Frog and Wildflower Spring is being impacted by historic and current livestock grazing.
- BLM portions of Moose Creek are PFC and even though BLM did not assess the portions in private lands, evidence of excess sediment deposits appeared to occur on private lands which may be contributing to MT DEQ TMDL issues.

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:

- Improving grazing management by changing the Chicken Gulch Pasture to a

riparian early season pasture and reconfiguring the allotment boundaries would help improve riparian condition.

- Building an exclosure around Wildflower Spring and expanding the existing exclosure at Bull Frog Spring would improve riparian conditions.

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 Moose Creek AMP Allotment Assessment:

Permittee authorized to graze on the allotment

Western Watersheds Project

Beaverhead-Deerlodge National Forest
Butte and Wise River Ranger Districts

Montana Fish, Wildlife, and Parks
Butte Resource Area

BLM Staff Participants

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

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