RANGELAND HEALTH STANDARDS - ASSESSMENT – North Rabbit Hills Allotment #0531

Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM, 1997)

Introduction

The Range Reform '94 Record of Decision (BLM, 1995a) recently amended current grazing administration and management practices. The ROD required that region-specific standards and guidelines be developed and approved by the Secretary of the Interior. In the State of Oregon, several Resource Advisory Councils (RACs) were established to develop these regional standards and guidelines. The RAC established for the part of the state covering the North Rabbit Hills allotment is the Southeastern Oregon RAC. These standards and guidelines for Oregon and Washington were finalized on August 12, 1997 and include:

Standard 1 - Upland Watershed Function

> Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

Standard 2 - Riparian/Wetland Watershed Function

> Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

Standard 3 - Ecological Processes

> Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.

Standard 4 - Water Quality

> Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.

Standard 5 - Native, T&E, and Locally Important Species

> Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.

Standard 1 - Upland Watershed

This standard is being met on the allotment. The indicators used to evaluate this standard are Soil Surface Factor (SSF), which documents accelerated erosion; and plant community composition, which indicates root occupancy of the soil profile.

Soil Surface Factor (SSF) is an indicator of accelerated erosion and is a method of documenting observations regarding erosion. A copy of the form used to document SSF is attached (Appendix A, "Determination of Erosion Condition Class"). On about half of the allotment (48%) the SSF is in the Slight erosion class. These soils are not very susceptible to wind or water erosion. Most of the remaining acres (46%) are unknown. There were no transects ran in these vegetation types in this allotment and the representative transect from a different allotment would not necessarily have the same erosion conditions.

Most of the utilization appears to be on the crested wheatgrass seedings and the average utilization was 50% since 1992 with the range being 40%- 58%. This is under the 60% level allowed for seedings in the winter. The authorized use is January thru April 15, but most of the use is in February thru April 15.
It appears from the amount of acreage in the slight erosion condition class, the utilization levels, and the season of use, that current grazing practices are not negatively impacting the upland watershed.

SOIL SURFACE FACTOR FOR ALLOTMENT #0531 – NORTH RABBIT HILLS

	Erosion Condition Classes*					
	Stable	Slight	Moderate	Critical	Rockland or Playa	Unknown**
Acres	376	6,031	0	0	326	5,810
Percent of Allotment	3%	48%	0	0	3%	46%

** The erosion condition classes are based on numeric scoring system which considers soil movement, surface litter, surface rock, pedestalling, flow patterns, rills and gullies. Appendix A is an example of the scoring sheet that is used.*

*** The SSF scores are derived from actual transects and these transects were not done in every Site Writeup Area (SWA), but only in enough SWAs to represent the different vegetation types. Therefore the unknown acres result from SWAs where the representative transect was run in a different pasture or allotment. Therefore the SSF score should not be used as it may or may not be represent the SSF score in the #531 allotment.*

Another indicator of Upland Watershed condition is plant composition and community structure. The composition of the vegetation within the allotment can be seen in attached Table 1. There is no single dominant vegetation type in the allotment, with crested wheatgrass being the most common grass type, making about 17% of the allotment. The Wyoming big sagebrush and Wyoming big sagebrush/grass occupies about 15% and 18% of the allotment respectively. The crested wheatgrass seedings do provide a stable perennial plant community and a significant forage resource for the cattle It doesn't appear livestock grazing has any significant impact on vegetation composition or community structure since most of the use is on created wheatgrass seedings in the winter.

The Ecological Site Inventory (ESI) compares the current plant composition to a defined Potential Natural Plant Community for the identified soil type and precipitation zone. Using the 1995-2000 ESI, the percent of public land in the allotment in each seral stage is summarized in the following table.

Ecological Condition of Allotment #0531, North Rabbit Hills, as determined by the Ecological Site Inventory in 1995 and 1996.

	Ecological Condition Classes			
	Early	Mid	Late	Climax
Acres	8,548	1,938	580	0
Percent of Vegetation (11,066 acres)	77%	18%	5%	0

About 77% (8,548 acres) of the vegetation in the allotment is in the early seral stage and this includes all the crested wheatgrass seedings and the cheatgrass stands (3,635 acres). The Wyoming big sagebrush (1,859 acres), the Wyoming big sagebrush/cheatgrass (631 acres) the green rabbitbrush/crested wheatgrass (1,310 acres) and green rabbitbrush/cheatgrass (410 acres) makes up most of the remaining acres in the early seral condition. The remaining 703 acres in the early seral stage are small inclusions of sagebrush with native grass understory and a Thurber's needlegrass community. The crested wheatgrass seedings and cheatgrass stands are mono cultures that are automatically in the early seral stage. The Wyoming big sagebrush type contains some scattered bottlebrush squirreltail, cheatgrass, and annual forbs, but the sagebrush plants occupy enough of the available space and resources to make establishment of new perennial grasses very difficult without new disturbance. The green rabbitbrush types are similar to sagebrush as scattered perennial grasses and annual forbs are present, but the rabbitbrush occupies the available space and resources to the extent few perennial plants can become established. The current winter and early grazing does not significantly impact the sagebrush types and the utilization of the cheatgrass when is young and green may actually reduce cheatgrass production in this type.

The remaining vegetation types in the mid and late seral stages are a mixture of sagebrush/grass types and the spiney hopsage type. These types appear stable and are not significantly impacted by the current grazing management.

Standard 2 - Riparian/Wetland

Standard II is being met for Riparian/Wetland function. Riparian-wetland areas are in properly functioning physical conditions appropriate to soil, climate, and landform. There are 5 acres of palustrine wetlands found in the allotment and they are rated at Proper Functioning Condition. Livestock grazing does not appear to be a factor limiting Riparian/Wetland function.

Standard 3 Ecological Processes

This standard is being met. Following are observations from the interdisciplinary team about the current plant community in the North Rabbit Hills Allotment. There are no obvious signs of livestock overuse or damage in areas surveyed. The plant community potential is being hindered by early-germinating *Bromus tectorum* across much of the landscape. This is especially true in the north where stands of *Artemesia tridentata* that did not burn have a thick cheatgrass understory. Processes of vegetation growth and decomposition are occurring, among both native and non-native species, as indicated by in season and previous season plant debris in and on the soil surface. Many of the plants in this allotment are those that were introduced purposefully, those that spread opportunistically, and those emerging as early seral species following wildfire, i.e. crested wheat, cheatgrass, and green rabbitbrush, respectively. Most native grasses are near and beneath rocky escarpments. Native grasses also appear to be producing seed quite normally

but the plants are a small minority within the non-native grass population. The introduced grass *Agropyron cristatum* appears healthy and seed production is high. The vegetation along roadsides and in other heavily disturbed areas is dominated by weedy species like *Lepidium perfoliatum*, *Sisymbrium altissimum,* and *Salsola kali*. These species are likely to continue to spread within and along disturbed areas by wind, water, and livestock movement. Although remnant native vegetation stands are present, overall plant species diversity is limited. See Standard 5 for examples of native plant species present in this allotment.

The Observed Apparent Trend (OAT) for the vegetation communities on public land was determined during the ESI (1995-2000) and is seen in the Table below. About half the acres in the allotment are unknown as a result of the survey procedure, where the actual transect representing a vegetation type was run on a different pasture or allotment and the OAT score can not be accurately transferred. Of the acres where OAT was actually measured, 5% of the allotment was static while 46% was in a downward trend. Of the 5,817 acres determined to be in a downward trend, about 58% contains significant amounts of cheatgrass and about 21% are crested wheatgrass seeding. The current practice of grazing in late winter and early spring should actually reduce cheatgrass production in relation to perennial grasses, and therefore is probably not responsible for the downward trend ratings in the cheatgrass dominated sites.

OBSERVED APPARENT TREND FOR ALLOTMENT #0531 – NORTH RABBIT HILLS

	Observed Apparent Trend*				
	Upward	Static	Downward	Rockland or Playa	Unknown**
Acres	0	590	5,817	326	5,810
Percent of Allotment	0	5%	46%	3%	46%

** The Observed Apparent Trend (OAT) is a numerical rating which considers vigor, seedlings, surface litter, pedestals and gullies to estimate the trend of a particular site and SWA. An example of how the rating is determined can be seen in Appendix B.*

*** The OAT scores are derived from actual transects and these transects were not done in every Site Writeup Area (SWA), but only in enough SWAs to represent the different vegetation types. Therefore the unknown acres result from SWAs where the representative transect was run in a different pasture or allotment. Therefore the OAT score should not be used as it may or may not be represent the OAT score in the 531 Allotment.*

This standard is being met for animal populations. The allotment is supporting the current and proposed number of mule deer and pronghorn antelope identified by Oregon Department of Fish and Wildlife (ODFW) management plans.

Standard 4 - Water Quality Standards

There are no Oregon listed water quality limited streams in this pasture.

Standard 5 Native, T&E, and Locally Important Species

This standard is being met for native, T&E and locally important wildlife species. The deer and pronghorn populations are healthy and increasing in number within the allotment. Habitat quantity and quality do not appear to be limiting population size or health. Coyote predation is thought to be depressing mule deer recruitment, however, deer and pronghorn populations continue to fluctuate at or slightly below ODFW's management objective for the unit.

The allotment also provides habitat for numerous small and nongame birds and mammals common to the Great Basin. There are no known sage grouse leks or identified habitat found within the allotment. The allotment also provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, and possibly pygmy rabbits, California bighorn sheep, various sensitive bat species or Peregrine falcons. Livestock grazing does not appear to be limiting wildlife habitat within the allotment.

Special Status Plants: None found, none suspected.

Locally Important Plant Species: None found.

Native Plant Species: *Artemesia tridentata, Eriastrum sparsiflorum, Microsteris gracilis, Oryzopsis hymenoides, Sarcobatus vermiculatus, Stipa comata*, and *Zigadenus venenosus*. Lichens are present on sagebrush.

Current Management and Recent Management Changes

The allotment has been grazed in the winter and early spring (January to Mid April) for many years and this management will continue. This winter and early spring use with crested wheatgrass allows the native grass and forbs rest most years and the crested wheatgrass is still able to regrow during the spring and fall months.

Team Members	**Title**
Les Boothe	Range Management Specialist
Alan Munhall	Fishery Biologist
Vern Stofleth	Wildlife Biologist
Lucile Housley	Botantist
Bill Cannon	Archaeologist
Ken Kestner	Supervisory NRS
Robert Hopper	Supervisory RMS
Erin McConnell	Weed Management Specialist

Determination

(X) Existing grazing management practices or levels of grazing use on the North Rabbit Hills Allotment promote achievement of significant progress towards the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

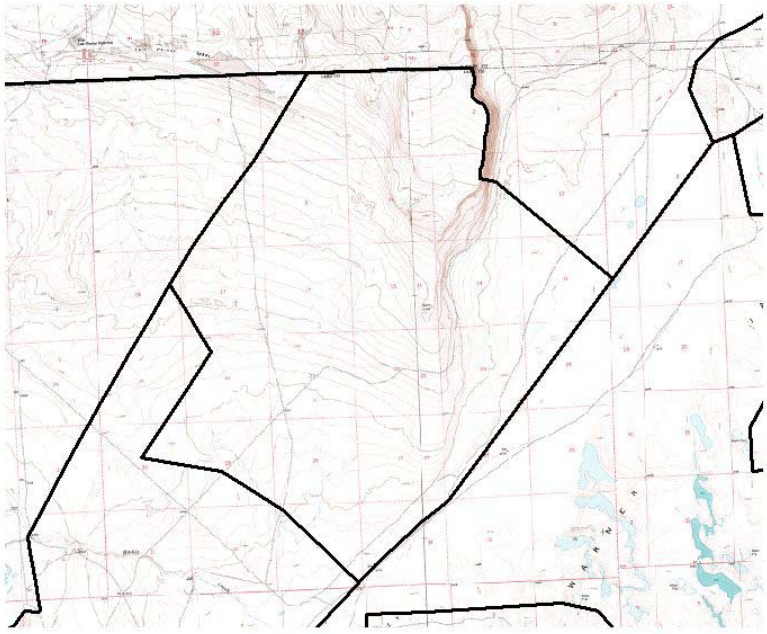
( ) Existing grazing management practices or levels of grazing use on the North Rabbit Hills Allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

Field Manager, Lakeview Resource Area — Date: 10/3/03

TABLE 1. VEGETATION TYPES IN ALLOTMENT 0531 – NORTH RABBIT HILLS

Vegetation Type	Acres	Percent of Allotment
Grasses		
AGCR Crested Wheatgrass	2,169	17%
BRTE Cheatgrass	1,466	12%
STTH Thurber's Needlegrass	292	2%
Grasses TOTAL	**3,927**	**31`%**
Shrubs		
ARTRT big sagebrush	381	3%
ARTRW Wyoming big sagebrush	1,859	15%
GRSP Spiney Hopsage	24	T
Shrubs TOTAL	**2,264**	**18%**
Shrubs/Grasses		
ARSP-SIHY bud sagebrush- bottlebrush squirreltail	117	1%
Big Sage/Grass		
ARTRT-BRTE big sagebrush/Cheatgrass	594	5%
ARTR-ELCI big sagebrush/basin wildrye	127	1%
ARTR-SIHY big sagebrush/bottlebrush squirreltail	58	T
Big Sage/Grass TOTAL	**779**	**6%**
Wyoming Sage/Grass		
ARTRW-BRTE Wyoming big sage/cheatgrass	1,778	14%
ARTRW-ELTR Wyoming big sage/creeping wildrye	110	1%
ARTRW-SIHY Wyoming big sagebrush/bottlebrush squirreltail	371	3%
Wyoming Sagebrush/Grass TOTAL	**2,259**	**18%**
All Sagebrush/Grass TOTAL	**3,038**	**24%**
Babbitbrush/Grass		
CHVI-AGCR green rabbitbrush/crested wheatgrass	1,310	10%
CHVI-BRTE green rabbitbrush/cheatgrass	410	3%
Rabbitbrush/Grass TOTAL	**1,720**	**14%**
TOTAL VEGETATION	**11,066**	**88%**
Playa	206	2%
Rockland/ Rubble	120	1%
Unknown *	1,151	9%
ALLOTMENT TOTAL	**12,543**	

North Rabbit Hills Allotment 0531



Allot Boundary

N
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2 0 2 4 Miles

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