

**RANGELAND HEALTH STANDARDS - ASSESSMENT -CHUKAR SPRINGS ALLOTMENT
#0214**

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 Rabbit Basin 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"). With 71% of the allotment being in the Slight and no acres in the moderate or higher classes there is little or no active soil erosion or evidence of past erosion on these areas.

	Erosion Condition Classes*				Rockland or Playa	Unknown**
	Slight	Moderate	Critical			
Acres	1,374	0	0		225	325
Percent of Allotment	71%	0	0		12%	17%

* 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.

** Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusions, therefore the acres in these inclusions are considered unknown.

The average utilization on the crested wheatgrass since 1990 has been 56% use, and on native species 34%. The authorized use is 52 AUMS between March 15 and April 13 and the average actual use has been 51 AUMS during the last 15 years with use every year but one.

Another indicator of Upland Watershed condition is plant composition and community structure. The composition of the vegetation within the allotment was determined by the Ecological Site Inventory (ESI) in 1987 and can be seen in attached Table 1. There is no single dominant vegetation type in the allotment, with Wyoming big sagebrush/cheatgrass (37% of allotment) and big sagebrush/grass (34% of the allotment) being the most common types. The big sagebrush/grass type contains big sagebrush/blue bunch wheatgrass and big sagebrush/cheatgrass occupying about 19% and 15% of the allotment, respectively.

The Wyoming big sagebrush/cheatgrass type has variation in the herbaceous understory, with Sandberg bluegrass, basin wildrye and Thurber's needlegrass all present at the inventory transect. This indicates that while cheatgrass is prevalent it is not a monoculture within this type. However the amount of cheatgrass invasion in the past still limits the potential perennial vegetative cover and the shallow root system of cheatgrass limits the capture and storage of water. Cheatgrass invasion limits potential seedling establishment and growth of perennial vegetation. Since cheatgrass is a fall annual, it uses available soil moisture earlier in the growing season, reducing available soil moisture later in the season. Cheatgrass reduces storage of water through the soil profile. This lack of moisture reduces the ability of perennial vegetation to establish and grow to its potential. In addition, cheatgrass increases the risk of more frequent wildfires, which could reduce the amount of soil organic matter.

The two trend photos for the allotment, taken in the Wyoming big sagebrush/cheatgrass type, indicate an increase in perennial grass cover since 1970 and also an increase in juniper density. The current spring grazing system utilizes the green cheatgrass before it has a chance to go to seed and the grazing is over before most of the native perennial grasses have undergone significant growth. Therefore the plant community and structure in this allotment appear to be stable and slowly improving under this current grazing management.

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 1987 ESI, the percent of the allotment in each seral stage is summarized in the table below.

Ecological Condition of Allotment #0214, Chukar Springs as determined by the Ecological Site Inventory in 1987.

	Ecological Condition Classes					
	Early	Mid	Late	Climax	Rockland or Playa	Unknown*
Acres	716	243	415	0	225	325
Percent of Vegetation (1,974 acres)	37%	13%	22%	0	12%	17%

** Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusions, therefore the acres in these inclusions are considered unknown.*

The ESI inventory in 1987 determined that about 37% of the allotment was in the early seral stage and this was the Wyoming sagebrush/cheatgrass type that was discussed earlier. This type almost rated mid seral. This rating was done in 1987 and the photo trend information in this type seems to indicate that the amount of perennial grass has increased in the last 15 years and this also would raise the rating to mid seral. The current early spring grazing does not significantly impact this sagebrush type and the utilization of the cheatgrass, when it is young and green may actually reduce cheatgrass production.

The vegetation type in the mid seral (13%) is big sagebrush/cheatgrass with enough of a perennial grass understory and variety of shrubs to rate out in the mid seral. These types appear stable and are not impacted significantly by the current grazing management. The vegetation types in the late seral stage (22%) are big sagebrush/bluebunch wheatgrass and a small area (39 acres) of big sagebrush/cheatgrass. The bluebunch wheatgrass is a desirable native perennial and indicates these sites are stable.

In spite of the apparent increase in perennial grasses and improvement in ecological condition, the standard is still not being met. The failure to meet the standard is due to cheatgrass invasion, as communities with a cheatgrass component comprise 52% of the allotment. Cheatgrass invasion contributes to the upland watershed not functioning properly in some areas in the allotment. Although the standard is not being met, it is not due to livestock grazing, but to the negative effects large amounts of cheatgrass have on the upland watershed. Since this allotment is currently managed with an actual season of use from mid March to mid April, livestock graze the cheatgrass. Grazing when the cheatgrass is green may aid in meeting the standard in the long term by reducing the negative competition of cheatgrass. Seeding of perennial vegetation may be another treatment used to help meet the standard.

Standard 2 - Riparian/Wetland

This Standard is being met for Riparian/Wetland function. There are 4 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 allotment. There are no obvious signs of livestock overuse or damage in areas surveyed. The higher elevation areas are composed of pockets of big sagebrush with an understory of dense

populations of cheatgrass. Livestock use when cheatgrass is greening up may be helpful in reducing cheatgrass populations. Lower elevations are primarily crested wheat and cheatgrass with scattered forbs and grasses. Hilltops and upper elevation areas possess the greatest plant diversity, including grasses, forbs, and shrubs. See Standard 5 for plant species diversity. In the northeast part of the allotment, the plant community changes as soil type changes, into the more salt tolerant species.

The Observed Apparent Trend (OAT) for the vegetation communities on public land was determined during the ESI (1987) and is seen in the Table below. The vegetation type making up the 37% of the allotment with a downward trend is the Wyoming sagebrush/cheatgrass type. This is the same type that was in early seral stage and was discussed in Standard 1. The downward trend rating in 1987 does not fit with the recent trend photos of the area that would indicate an increase in perennial grasses and an upward trend. The inventory in 1987 gave the site an OAT rating of 16. A rating of 17 would have put the site in the static category. The low rating was the result of the observed condition of the desirable plants which had low vigor and few seedlings. Since 1987 there has been a reduction in the AUMS grazed in the allotment from 105 AUMS in 1985 and 1986 to around 50 AUMS during the last 15 years. This reduction in AUMS correlates with the 2 photo trend plots in this type which indicate an upward trend in range condition. Therefore the downward trend observed in 1987, probably the result of high stocking rates, seems to have been reversed by cutting the stocking rate in half and limiting the grazing to early spring. In 1987 the OAT recorded that 19% of the allotment was in upward condition and this is the big sagebrush/bluebunch wheatgrass type which occurs in the higher elevations and has always received lighter utilization (<30%) than the lower elevation types. With lower stocking rates now than in 1987, assumption is that the upward trend in the bluebunch wheatgrass sites is continuing.

	Observed Apparent Trend*			Rockland or Playa	Unknown**
	Upward	Static	Downward		
Acres	375	283	716	225	325
Percent of Allotment	19%	15%	37%	12%	17%

* 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.

** Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different vegetation communities. The transect data for the SWA may not apply to these inclusion, therefore the acres in these inclusions are considered unknown.

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

Standard 5 is being met for native, T&E and locally important species.

The deer and pronghorn populations are healthy and stable in number within the allotment. Habitat quantity and quality do not appear to be limiting population size or health. Wildlife populations 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, as well as, very limited sage grouse and California bighorn sheep habitat (both Bureau Sensitive Species). There are no known sage grouse leks found within the allotment, however, sage grouse

have been seen using the allotment at different times of the year. The allotment also provides habitat for raptors and other sensitive species, as well as, some 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, various sensitive bat species or Peregrine falcons. Livestock grazing does not appear to be limiting wildlife habitat within the allotment.

Introduced plant species noted on this visit included *Agropyron cristatum*, *Bromus japonicus*, *Bromus tectorum* and *Ranunculus testiculatus*.

Native Plant Species: *Achillea millefolium*, *Agropyron spicatum*, *Artemisia tridentata* var. *vaseyana*, *Artemisia tridentata* var. *wyomingensis*, *Balsamorhiza* sp., *Chaenactis douglasii*, *Chrysothamnus viscidiflorus*, *Delphinium* sp., *Distichlis spicata* var. *stricta*, *Elymus cinereus*, *Elymus elymoides*, *Epilobium* sp., *Ericameria nauseosa*, *Eriogonum ovalifolium*, *Juncus* sp., *Juniperus occidentalis*, *Lomatium* sp., *Lygodesmia spinosa*, moss (soil), *Penstemon* sp., *Perideridia* sp., *Poa secunda*, *Populus tremuloides*, *Ranunculus glaberrimus* var. *glaberrimus*, *Ribes cereum*, *Salix* sp., *Sarcobatus vermiculatus*, *Stipa thurberiana*, and *Verbascum thaspus*.

Special Status Plants: No sensitive plants have been documented in this allotment. There are unconfirmed suspicions that *Symphoricarpos longiflorus* (long-flowered snowberry) may be present. This will be confirmed during visits planned Spring/Summer 2004. SYLO is on the Bureau Assessment List (ASM) and ONHP List 2. It is present at several locations in the Resource Area.

Locally Important Plant Species: The cultural plant *Perideridia* was noted during this visit. Plants of the *Perideridia* genera are edible and are used by Native Americans.

No noxious weeds are known to occur in the allotment.

Current Management and Recent Management Changes

Prior to 1987 the number of AUMS used was close to or over 100 and the season of use often included the summer months. The allotment has been grazed in the early spring with the current 52 AUMS since 1987. This current management will continue until scheduled juniper control projects are implemented and than adjustments may be made if rest periods are determined to be necessary..

Team Members

Title

Les Boothe	Range Management Specialist
Alan Munhall	Fishery Biologist
Vern Stofleth	Wildlife Biologist
Heather Partipilo	Botanist
Bill Cannon	Archaeologist
Ken Kestner	Supervisory NRS
Robert Hopper	Supervisory RMS
Erin McConnell	Weed Management Specialist
Elizabeth Berger	Hydrologist

Determination

- Existing grazing management practices or levels of grazing use on the Chukar Springs 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 Chukar Springs 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.

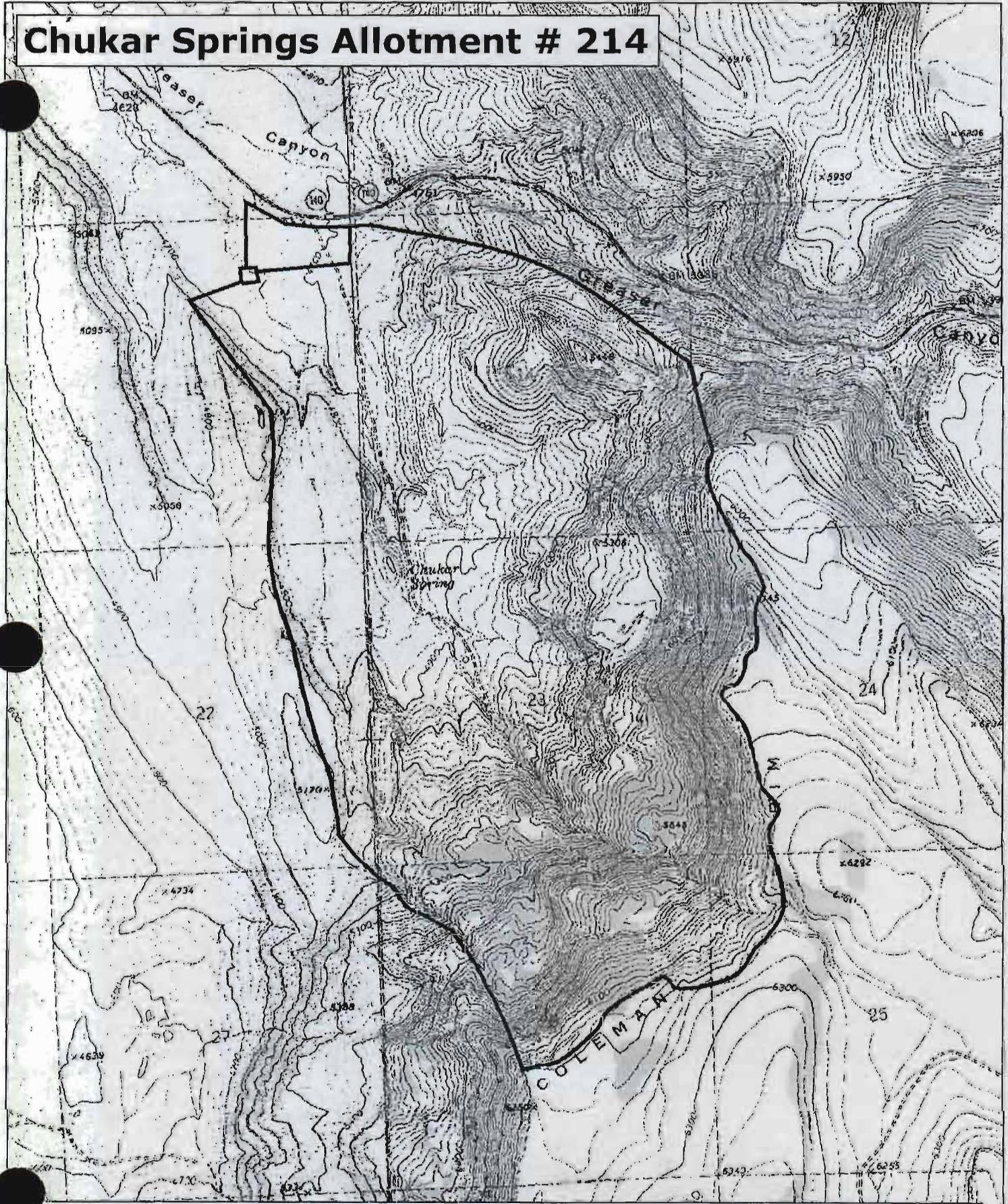
Ronald C. Thomson
Field Manager, Lakeview Resource Area

9/24/04
Date

Table 1.
VEGETATION TYPES IN ALLOTMENT 0214 – CHUKAR SPRINGS

Vegetation Type	Acres	Percent of Allotment
Low sagebrush/Grass		
ARAR-FEID Low sagebrush/Idaho fescue	1	T
ARAR-POSE Low sagebrush/Sandberg bluegrass	2	T
Big Sage/Grass		
ARTR-AGSP big sagebrush/blue bunch wheatgrass	375	19%
ARTR-BRTE big sagebrush/cheatgrass	281	15%
Big Sage/Grass TOTAL	656	34%
Mountain Sage/Grass		
ARTRV-FEID Mountain big sagebrush/Idaho fescue	1	T
Wyoming Big Sage/Grass		
ARTRW-BRTE Wyoming big sagebrush/cheatgrass	716	37%
TOTAL VEGETATION		
Rockland/ Rubble	225	12%
Inclusions	323	17%
ALLOTMENT TOTAL	1,924	

Chukar Springs Allotment # 214



0.5 0.25 0 0.5 Miles



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