

**Rangeland Health Standards
Assessment**

Twin Lakes Allotment #429

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 allotments listed above 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.

Allotment Overview **Twin Lakes Allotment #429**

Location: See Attached Map

7.5 Minute Topographic Maps: Biscuit Point, Coglan Buttes, and Sharp Top

AUMs of Authorized Use: 2,272 AUMs

Permitted Season: Spring/Summer

Grazing System: Rest Rotation

The Twin Lakes Allotment is located approximately 55 miles north of Lakeview, Oregon. Land status within the allotment is 17,050 acres of public land. The allotment was categorized as an I=Improve, based on the **1983** rating form summarized as follows:

- Range condition is unsatisfactory.
- Forage production potential is moderate to high and present production is low to moderate.
- Serious conflicts or controversy may exist.
- Opportunities exist for positive economic returns.
- Present management is satisfactory/unsatisfactory.

This rating of “I” from 1983 is based on the lack of vegetation cover and unstable soils after the 1983 Sharp Top Fire. Fire rehabilitation efforts included successfully seeding 11,790 acres in the #429 Allotment to crested wheatgrass, leaving pockets of unburned sagebrush and native grasses. Steep ridges were allowed to recover naturally to the original native grasses and forbs. The allotment was divided into two pastures, North and South. Currently, one pasture is rested every other year.

STANDARD 1 - Upland Watershed -Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

Standard 1 is being met.

A.) Soil Surface Factor (SSF) is an indicator used to evaluate Standard 1. SSF documents erosion class and soil susceptibility to accelerated erosion and was determined during the Ecological Site Inventory (ESI) from 1996. Current livestock grazing practices in the Twin Lakes #429 Allotment are not affecting upland watershed functions. See table below for the allotment summary of SSF. The “Unknown” category includes rock outcroppings and playas.

Twin Lakes #429: Only 9% of the allotment is in the moderate category which indicates some active erosion and evidence of past erosion has occurred. These are range sites with a wide range of slopes and soil types and can be susceptible to both wind and water erosion. The average utilization on the native/crested wheatgrass mix since 1990 has been 39%.

From the utilization levels, season of use and locations of higher utilization levels, current grazing practices appear not responsible for areas being in the moderate erosion class. The root systems of perennial vegetation cover assist in holding soil in place. Perennial vegetation provides protective cover to reduce soil movement, decrease compaction and thus increase infiltration.

ESI for SSF from 1996

1996 ESI EROSION CONDITION CLASSES*					
	Stable	Slight	Moderate	Critical	Unknown**
#429--Acres	0	13,903	1,513	0	1,634
Percent of Allotment	0%	82%	9%	0%	9%

**The erosion condition classes are based on numeric scoring system which considers soil movement, surface litter, surface rock, pedestalling, flow patterns, rills and gullies.*

*** The SSF scores are derived from actual transects and an actual transect was 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 referred to as “Same As”, which are areas with similar vegetation, soils and conditions to a SWA with an actual transect.*

B.) Another indicator of Upland Watershed condition is plant composition and community structure. The composition of the vegetation within the allotment can be seen in Attachment 1. Crested wheatgrass is the dominant vegetation type in the allotment: 63% in #429. Pockets of sagebrush/native grass types scatter across the landscape in a mosaic pattern due to the 1983 Sharp Top Fire. Within the sagebrush/ native grass type there is considerable variation, with basin big sagebrush/grass and Wyoming big sagebrush/grass present throughout the allotment. Cheatgrass stands are present and

demonstrate what the potential result is if the perennial grass and sagebrush cover is lost because of a major disturbance.

The ESI compares the current plant composition to a defined Potential Natural Plant Community for the identified soil type and precipitation zone. Using the 1996 ESI, the percent of public land in the allotment in each seral stage is summarized in the table below. The sagebrush types with perennial grass understory are generally in the mid and late seral stages, appear stable, and are not impacted by the current grazing management. The crested wheatgrass seedings are generally in the early seral stage, appear stable, and are not impacted by the current grazing management.

Ecological Condition for Twin Lakes #429 Allotment as determined by the Ecological Site Inventory in 1996:

1996 ESI ECOLOGICAL CONDITION CLASSES				
	Early	Mid	Late	Climax
#429--Acres	13,518	1,735	163	0
Percent of Vegetation (15,416 acres)	88%	11%	1%	0%

Comments (L. Berger):

Overall, the upland watershed appears to be functioning properly. Review of the allotment and the ESI data (1996) indicate that the majority of the allotment appears to exhibit infiltration, storage, and stability that are appropriate to the site. From the field visit (5/21/04), the effects of grazing on the upland watershed appear to be short-term. The grazed pasture had some areas of bare ground and heavy use. Around most of the waterholes, there was little remaining vegetation. However, since this allotment is managed with a rest rotation system, adequate recovery of the grazed pasture occurs during the rest period. Observations of the rested pasture indicated no significant effects on the upland watershed from previous grazing. The pasture that was rested had healthy crested wheatgrass cover and a mix of other desirable grasses in the interspaces. The areas around the waterholes also recovered and were vegetated.

As a crested wheatgrass seeding, crested wheatgrass is the major vegetative component contributing to the capture and storage of water in the allotment. The deep expansive root system of crested wheatgrass aids in this process. The shrub and crested wheatgrass components of the allotment provide plant cover and plant community structure that also contribute to potential capture and storage of water. Crested wheatgrass aids in soil stability and decreases the susceptibility of the site to erosion.

Cheatgrass invasion contributes to the upland watershed not functioning properly in some areas of the allotment. Cheatgrass competes for water and nutrients with other desirable grass species. Cheatgrass has a shallow root system that reduces the potential capture and storage of water. Since cheatgrass is a fall annual, it uses available soil moisture earlier in the growing season, reducing available soil moisture later in the season. This lack of moisture reduces the ability of perennial vegetation to establish and grow to its

potential. In addition, cheatgrass increases the risk of soil organic matter decline from wildfire.

At the time of the ESI surveys, communities with a cheatgrass component comprised approximately 23% of the allotment (1996). Livestock grazing does not appear to be increasing the amount of cheatgrass in the allotment. The percentage of cheatgrass determined from the ESI in 1996 appears to be approximately the same amount of cheatgrass currently in the allotment. Since this allotment is managed with a spring/summer season of use, livestock graze the cheatgrass. Grazing when cheatgrass is green may reduce the competition of cheatgrass in the long term.

STANDARD 2 - Riparian/Wetland-Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

Standard 2 is being met for Riparian/Wetland function for the Twin Lakes Allotment. There are no major intermittent or perennial streams in this allotment. There are 71 acres of palustrine wetlands in the allotment. Lentic PFC was performed, and the 71 acres were in PFC. There have been no recent lentic PFC or surveys performed in the allotment.

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 hydrologic cycle.

Standard 3 is being met. The following are observations from the 1996 ESI and the BLM interdisciplinary team about the current plant communities for the Twin Lakes Allotment. The Observed Apparent Trend (OAT) for the vegetation communities on public land was determined using the ESI (1996) and is summarized in the table below. The unknown acreage includes rock outcroppings and playas.

1996 ESI OBSERVED APPARENT TREND*				
	Downward	Static	Upward	Unknown**
#429--Acres	2,728	5,995	6,693	1,634
Percent of Allotment	16%	35%	40%	9%

* 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.

** The OAT is determined from a transect and in the unknown acres the transect for that vegetation type was run on a different allotment and the OAT would not necessary represent this allotment.

Plants:

Standard 3 is being met for plant populations in the Twin Lakes #429 Allotment.

Twin Lakes #429 Allotment is in excellent condition. Evidence of livestock use is minimal. Overall plant diversity is very high. Shrubs and grasses are in excellent condition. See Standard 5 for the native plant species noted during the allotment tour and in ESI.

Introduced species include *Agropyron cristatum*, *Bromus tectorum*, *Cardaria* sp., *Cirsium vulgare*, *Lepidium perfoliatum*, *Ranunculus testiculatus*, and *Sisymbrium altissimum*.

Wildlife:

Standard 3 is being met for animal populations.

This area supports healthy diverse wildlife populations that are appropriate for the type of habitats available within this allotment. Wildlife populations within non-native seedings and heavily infested cheatgrass areas are not as diverse as they could be if they were in a late seral stage community or better ecological condition. They do, however, still have adequate levels of species diversity to remain functional. This standard is currently being met from the aspect of wildlife populations and diversity.

STANDARD 4 - Water Quality Standards- Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.

Standard 4 is being met for surface and ground water quality in the Twin Lakes Allotment. Neither surface water nor groundwater within the allotment has been listed for exceeding State water quality standards.

STANDARD 5 - Biological Diversity-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.

Plants:

Standard 5 is being met for native, T&E and locally important plant species in the Twin Lakes #429 Allotment.

Native Plant Species: *Achillea millefolium*, *Agropyron spicatum*, *Antennaria* sp., *Artemisia arbuscula*, *Artemisia cana*, *Artemisia spinosa*, *Artemisia tridentata* var. *tridentata*, *Artemisia tridentata* var. *vaseyana*, *Artemisia tridentata* var. *wyomingensis*, *Astragalus filipes*, *Balsamorhiza* sp., *Calochortus macrocarpus*, *Camassonia tanacetifolia*, *Chrysothamnus viscidiflorus*, *Cirsium* sp., *Collinsia* sp., *Crepis* sp., *Dodecatheon* sp., *Eleocharis* sp., *Elymus cinereus*, *Ericameria nauseosa*, *Erigeron* sp., *Eriogonum* sp., *Festuca idahoensis*, *Fritillaria pudica*, *Happlopappus* sp., ***Iliamna bakeri***, ***Ivesia rhypara* var. *shellyi***, *Juncus* sp., *Juniperus occidentalis*, *Letharia* sp., *Lithospermum ruderali*, *Lomatium* sp., *Lupinus* sp., *Oryzopsis hymenoides*, *Phlox hoodii*, *Poa secunda*, *Ranunculus glaberrimus* var. *glaberrimus*, ***Rorippa columbiae***, *Sitanion*

hystrix, *Stipa thurberiana*, *Symphoricarpos* sp., *Tragopogon dubius*, *Zigadenus venenosus*.

Special Status Plants: *Iliamna bakeri* (Baker's globemallow, Malvaceae family) is documented on the northwest side of Juniper Mountain in an area burned by the Juniper Fire. This area is about ½ mile southwest of Browns Horse Corral Waterhole in the Juniper Mountain Pasture of Allotment 515. ILBA is categorized as: ONHP List 1, Bureau Sensitive (SEN), "imperiled" in Oregon (S2), and "vulnerable" globally (G3). The habitat for this plant includes mountain slopes, juniper woodlands and lava beds. Most of the more robust populations have been found on 3-10 year old burns under burnt juniper trees.

Ivesia rhypara var. *shellyi* (Shelly's ivesia, Rosaceae family) is documented in Rehart Canyon in the most northern portion of the Juniper Mountain Pasture. IVRHS is categorized as: ONHP List 1, Bureau Sensitive (SEN), "critically imperiled" in Oregon (S1) and globally (G1T1), and is a federal "Species of Concern". IVRHS grows in pockets of boulders and outcrops of pumiceous welded ash-flow tuff rather than soil and is mostly inaccessible to livestock grazing.

Rorippa columbiae (Columbia cress, Brassicaceae family) was documented in the Flint Hills Pasture at Foley Creek in 1990 by the Oregon Department of Agriculture, but it has not been seen there since. During our visit for this range evaluation this area was under water. ROCO3 is categorized as: ONHP List 1, Bureau Sensitive (SEN), "vulnerable" in Oregon (S3) and globally (G3), and is a "candidate" species with the Oregon Department of Agriculture. ROCO3 habitat consists of moist areas along rivers and lakes, and vernal wet areas or ditches, as well as meadows and playas.

Locally Important Plant Species: No specific cultural plants were noted except for *Lomatium* sp.

Wildlife:

Standard 5 is being met for native, T&E and locally important wildlife species in the Twin Lakes #429 Allotment.

Special status wildlife species or their habitats that are present within this allotment include the bald eagle (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), peregrine falcon (*Falco peregrinus*), burrowing owl (*Speotyto cunicularia*), kit fox (*Vulpes macrotis*), sage-grouse (*Centrocercus urophasianus*), and pygmy rabbit (*Brachylagus idahoensis*). There are also three species with high public interest. These are mule deer (*Odocoileus hemionus*), California bighorn sheep (*Ovis canadensis*) and pronghorn antelope (*Antilocapra americana*).

There is no nesting habitat and only marginal foraging habitat within this allotment for bald eagle or peregrine falcon. There are no bald eagle or peregrine falcon sightings within the vicinity of the allotment; however it is suspected that they are occasional visitors to the area. Some marginal nesting habitat is available for ferruginous hawk on one cliff face on the eastern edge of the allotment. No surveys have been conducted for ferruginous hawk and no incidental sightings of ferruginous hawk exist within the vicinity of this allotment. Ferruginous hawk foraging habitat exists through much of the

allotment. There are no resource conflicts for peregrine falcons, ferruginous hawks or bald eagles.

Burrowing owls have been observed at a few locations within this allotment. A nesting burrow has been observed in the allotment near the eastern border. Incidental sightings have occurred in a few other locations scattered over the allotment. Inventories for burrowing owls were conducted in 2000 and only occasional sightings were documented. There are no resource conflicts for this species.

Habitat is present for kit fox and pygmy rabbit, but no known locations exist within the allotment for these species. No inventories have been conducted for either of these species within the allotment and there are no sightings within the surrounding area. It is suspected that they may occur within portions of the allotment; however habitats for these species are poor within the allotment. There are no resource conflicts for these species.

Bighorn sheep also occasionally visit the eastern edge of the allotment. There is little overlap in range between bighorns and cattle within the allotment. No major conflicts exist between bighorn sheep and cattle grazing within this allotment.

Pronghorn antelope are common within the allotment. Pronghorn use is concentrated over most of this allotment within areas seeded to crested wheatgrass. Use for this species is concentrated in areas without tall shrubs. Much of the allotment was re-seeded to crested wheatgrass after wildfire. No major conflicts exist between pronghorn and cattle grazing within this area.

Mule deer inhabit much of the area, but are widely spread and in low numbers. No high concentrations of wintering mule deer inhabit this allotment. No conflicts exist between mule deer and cattle grazing within this allotment. Bitterbrush is not very abundant and there is little sagebrush browse available within the allotment.

There are no known sage-grouse lek sites within the allotment. There are however eight known historic leks within 10 miles of the allotment. Current sage-grouse habitats within these allotments contain less than 1% (100 acres) nesting habitats. Brood rearing habitats also make up less than 1% (250 acres) and winter habitats 18% (3,070 acres). The other 81% (14,330 acres) of the allotment contains areas that are considered non-suitable for sage-grouse. This is primarily due to a lack of shrub cover over much of the allotment due to past wildfires and crested wheatgrass seedings. It is estimated that 70% of the area has the potential to be sage-grouse nesting habitat. The remaining 30% has the potential to become brood rearing habitats.

In order for sage-grouse habitats within the allotment to improve, a great deal of restoration work and time would be needed to return shrub cover to areas where it was removed by wildfire and restore understory native/non-native grasses to much of the remaining big sagebrush habitats. How crested wheatgrass seedings will be used in the future by sage-grouse is unclear. There are similar habitats on the BLM Vale District that

**ATTACHMENT 1:
VEGETATION TYPES IN TWIN LAKES ALLOTMENT #429**

Vegetation Type	Acres	Percent of Allotment
Grasses		
AGCR Crested wheatgrass	5,924	35%
BRTE Cheatgrass	281	2%
BRTE-DESCU Cheatgrass/tansy mustard	71	<1%
Grasses TOTAL	6,276	37%
Shrubs/Grasses		
ARTRT-BRTE-DESCU Basin big sagebrush/cheatgrass/tansy mustard	37	<1%
ARTRT-LETR5 Basin big sagebrush/creeping wildrye	59	<1%
ARTRT-PSSPS Basin big sagebrush/bluebunch wheatgrass	19	<1%
Basin big sagebrush/grass mix TOTAL	115	<1%
ARTRW8-BRTE Wyoming big sagebrush/cheatgrass	3,504	21%
ARTRW8-BRTE-DESCU Wyoming big sagebrush/cheatgrass/tansy mustard	80	<1%
ARTRW8-BRTE-ASTRA Wyoming big sagebrush/cheatgrass/milkvetch	6	<1%
ARTRW8-CAREX Wyoming big sagebrush/sedge	144	<1%
ARTRW8-ELEL5 Wyoming big sagebrush/bottlebrush squirreltail	206	1%
ARTRW8-PSSPS Wyoming big sagebrush/bluebunch wheatgrass	237	1%
Wyoming big sagebrush/grass mix TOTAL	4,177	24%
CHVI8-AGCR Green rabbitbrush/crested wheatgrass	207	1%
CHVI8-AGCR-ASFI Green rabbitbrush/crested wheatgrass/hangingpod milkvetch	4,519	27%
CHVI8-BRTE Green rabbitbrush/cheatgrass	9	<1%
CHVI8-LETR5 Green rabbitbrush/creeping wildrye	113	<1%
Green rabbitbrush/grass mix TOTAL	4,848	28%
Shrub/Grass Mix TOTAL	9,140	54%
TOTAL VEGETATION	15,416	90%
Unknown	1,634	10%

were cleared, seeded to crested wheatgrass, and then heavily grazed. Sagebrush has returned to some of these areas and they are currently being used by sage-grouse despite the non-native understory of crested wheatgrass. No major conflicts exist between cattle grazing and sage-grouse within this allotment at this time.

Overall, this standard is being met for wildlife species within this allotment. The occurrence of old wildfires and crested wheatgrass seedings appear to be the limiting factors for sage grouse and most sagebrush wildlife habitats. Efforts to improve this standard should focus on sagebrush restoration of past wildfire and seeded areas. This could be accomplished through intensive restoration efforts with fire, seeding, herbicides or through intensive grazing management. Use of intensive grazing to reduce root competition between crested wheatgrass and native shrubs and grasses can be accomplished successfully, but impacts from invasive species, impacts to soils and potential desirable seed sources available all need to be accounted for.

Current Management and Recent Management Changes:

The Twin Lakes Allotment #429 is managed for the forage value of crested wheatgrass. However, the native grasses and shrubs that are present appear to be responding well to the current grazing system.

<u>Team Members</u>	<u>Title</u>
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Todd Forbes	Wildlife Biologist
Heather Partipilo	Botanist
Erin McConnell	Noxious Weeds
Liz Berger	Hydrologist
Robert Hopper	Supervisory RMS
Ken Kestner	Supervisory NRS

Determination:

Existing grazing management practices or levels of grazing use in the Twin Lakes #429 Allotment promote achievement of significant progress towards the Oregon/Washington Standards and Guidelines for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

Existing grazing management practices or levels of grazing use in the Twin Lakes #429 Allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon/Washington Standards and Guidelines for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.


Lakeview Resource Area Manager

Date 9/28/04