

**Rangeland Health Standards
Assessment**

Willow Creek Allotment #404

Crooked Creek Allotment #1301

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 **Willow Creek Allotment #404**

Location: See Attached Map

7.5 Minute Topographic Maps: Clover Flat, Coglan Buttes, Tucker Hill, and Valley Falls

AUMs of Authorized Use: 472 AUMs

Permitted Season: Spring/Summer

Grazing System:

The Willow Creek Allotment is located approximately 25 miles north of Lakeview, Oregon. Land status within the allotment is 11,805 acres of public land and 8,845 acres of privately owned land. The allotment was categorized as an M=Maintain, based on the 1982 rating form summarized as follows:

- Range condition is satisfactory.
- Forage production potential is moderate to high and present production is near potential.
- No serious conflicts or controversy exist.
- Opportunities may exist for positive economic returns.
- Present management is satisfactory.

Allotment Overview **Crooked Creek Allotment #1301**

Location: See Attached Map

7.5 Minute Topographic Maps: Crooked Creek Valley

AUMs of Authorized Use: Active= 10 AUMs

Permitted Season: 5/1-6/30

Grazing System: None; Section 15 Grazing Lease

The Crooked Creek Allotment is located approximately 15 miles north of Lakeview, Oregon. Land status within the allotment is 240 acres of public land. The allotment is categorized as a C=Custodial, due to the low amount of public land surrounded by privately owned land within the allotment boundaries.

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 for Willow Creek #404 and Crooked Creek #1301 Allotments.

A.) From the utilization levels, season of use and locations of higher utilization levels, current grazing practices in the Willow Creek #404 Allotment are not affecting upland watershed functions. The average utilization on the native grasses since 1990 has been 34%. 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.

B.) Another indicator of Upland Watershed condition is plant composition and community structure. There is no single dominant vegetation type in the allotments; sagebrush/grass being the most common type. The variation in the herbaceous understory indicates that native vegetation communities appear stable. 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. See Standard 3 and 5 for a more detailed vegetation description. Sagebrush/perennial grass types are generally in the mid to late seral stages, appear stable, and are not impacted by the current livestock grazing.

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

Willow Creek #404:

1) In 1996, Willow Creek was inventoried on public land and the following determinations were made:

Reach 0.0-0.8	Functional at Risk (FAR), Trend up
Reach 0.8-1.1	Proper Functioning Condition (PFC)
Reach 1.1- 2.0	Non-functional (NF)
Reach 2.0-2.3	Proper Functioning Condition (PFC)
Reach 2.3-2.6	Functional at Risk (FAR), Trend up

Reach numbers on Willow Creek are from downstream up. The PFC and FAR trend up reaches are in exclosures and are improving rapidly. The NF reach is primarily impacted by the road and the lower condition was attributed to excess gravel moving thru, channel characteristics being out of balance, vertical instability and inadequate bank protection from flood flows. It was noted the vegetation is doing well and there were small segments of PFC and FAR within the non-functional reach. **Current livestock management on Willow Creek is not a significant factor for the current conditions and for Standard 2 not being met.**

2) Coyote Creek is a major intermittent stream. There is riparian vegetation in the more perennial upper reaches associated with springs. On the field tour 5/18/04, without the benefit of a full PFC team work-up, the condition of the upper end of Coyote Creek on

BLM was called FAR, trend not apparent. The channel in this location was well armored with rock although there is some historic bank cutting. The condition of the channel below the reservoir in Section 11 is not known, but the assumption is that the stream becomes more intermittent as the influence of springs diminishes. On the lower reach of Coyote Creek juniper invasion is affecting the condition and potential for improvement of the stream. **Current livestock grazing is not a factor in the lowered condition of the Coyote Creek channel and Standard 2 not being met.** A change in the season of use for this pasture is planned for the 2005 grazing season.

3) The unnamed drainage in T35S, R20E, Section 18 contains a spring that is currently non-functional. **Standard 2 is not being met, mainly due to livestock grazing.** The spring source should be excluded to improve riparian conditions. The spring collection area should be located and cleaned to put water back into the trough. The overflow from the trough should also be excluded to protect the riparian area that will develop with time. Further analysis and planning of development of this spring/drainage is ongoing with on-the-ground work to begin Summer, 2005.

Standard 2 is being met in the Crooked Creek #1301 Allotment. No riparian/wetland areas exist on the BLM land 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.

Plants:

Willow Creek #404: Standard 3 is being met for plant populations over most of the Willow Creek #404 Allotment. The Willow Creek Allotment has multiple plant community types. Low sagebrush and tall sagebrush are predominant in the uplands while willows and aspen are dominant in the riparian areas. There are also juniper and ponderosa pine. The shrub community includes current, greasewood, bitterbrush, and rabbitbrush. The shrub communities, as they change from one shrub-dominant type to another across the landscape, appear healthy.

The forbs are diverse in the low sagebrush, the tall sagebrush, riparian, woodland, and grassland communities. There is desert parsley, desert dandelion, milkvetch, yampah, Indian paintbrush, as well as larkspur, mustards, phlox, sego lily, balsamroot, and more. Many forbs were just germinating in the interspaces between shrubs and were too small to be identified.

The native grasses are primarily Sandberg's bluegrass, squirreltail, Indian rice grass, Great Basin wild rye and needlegrass, which are typical in these plant communities. The grasses appear to be in good condition with no sign of over-utilization by livestock.

Medusahead rye, a noxious weed, has been established within this allotment for several years. This species has spread to several areas over this and nearby allotments.

Ecological processes are at risk within the Willow Creek Allotment due to the increasing size of the medusahead rye populations. Medusahead rye could threaten both nutrient cycling and energy flow if left untreated. Currently, there are projects underway to treat this noxious weed on both public and private lands within the allotment. **Standard 3 is not being met** in those areas heavily infested by medusahead rye which accounts for approximately 1,500-2,000 acres within the Willow Creek Allotment. **Current livestock grazing is not a significant factor contributing to Standard 3 not being met.**

Although not tested with any scientific instrumentation, nutrient cycling and photosynthesis appear to be occurring; there is abundant plant debris from the previous season on the ground in a state of decomposition, and there is abundant chlorophyll being produced within all of the live plants present throughout the areas of the Willow Creek Allotment.

Crooked Creek #1301: Standard 3 is being met for plant populations in the Crooked Creek #1301 Allotment.

Of the four separated blocks of BLM land that comprise this allotment, only one was visited during the range evaluation.

The block visited is low sagebrush intermixed with juniper, ponderosa pine, and mountain mahogany. The shrubs of this community are diverse and include Wood's rose, snowberry, serviceberry, and bitterbrush. The shrubs appear healthy and do not show any signs of livestock use. The only indication of livestock use is some minor postholing in the rocky, low sagebrush flat from a recent wet period. This does not affect the shrub community.

The forb community is diverse in the low sagebrush flat and the adjoining rocky slope. There are desert parsley, milkvetch, wild onion, buckwheats, waterleaf, shooting star, Indian paintbrush, as well as larkspur, balsamroot, buttercups, and many more. Many forbs were just germinating in the interspaces between shrubs and trees and were too small to be identified.

The native grasses are primarily Sandberg's bluegrass and needlegrass, which are typical in low sagebrush communities, and based on visual observation, comprise about 10% of the overall vegetation in the low sagebrush community. The grasses appear to be in good condition with no signs of over-utilization.

Although not tested with any scientific instrumentation, nutrient cycling and photosynthesis appear to be occurring; there is abundant plant debris from the previous season on the ground in a state of decomposition, and there is abundant chlorophyll being produced within all of the live plants present throughout the one block of the allotment visited.

Wildlife:

Willow Creek #1301: Standard 3 is being met for animal populations in the Willow Creek #404 Allotment. Much of this area supports healthy diverse wildlife populations.

There are a few non-native seedlings within the allotment where wildlife populations are not as diverse as they could be if they were in a late seral stage or closer to their potential vegetative communities. The allotment does have adequate levels of species diversity to remain functional.

Crooked Creek #1301: Standard 3 is being met for animal populations in the Crooked Creek #1301 Allotment. The BLM administered land within this allotment is made up of several small parcels that are forested with ponderosa pine and scattered juniper. These forested areas are at high risk to insects and disease as well as wildfires due to high tree densities. These stands do, however, function appropriately ecologically with the proper communities of wildlife and plants.

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

Willow Creek #404: Willow Creek from the mouth to the headwaters does not meet state standards for temperature. Within the #404 allotment, Willow Creek has improved significantly since the initial photo points were taken in 1979. **The determination is that current livestock management is not a significant reason for Standard 4 not being met.**

Crooked Creek #1301: Standard 4 is being met.

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:

Willow Creek #404: Standard 5 is being met for native, T&E and locally important plant species in the Willow Creek #404 Allotment.

Native Plant Species: The South Lake vegetation and District vegetation data layers do not fully reflect the diversity of the plant species present in this allotment. The tree species present are *Juniperus occidentalis*, *Pinus ponderosa* and *Populus tremuloides*. There is shrub diversity throughout. The shrubs are: *Artemisia arbuscula*, *Artemisia tridentata*, *Chrysothamnus viscidiflorus*, *Ericameria nauseosa*, *Purshia tridentata*, *Ribes aureum*, *Ribes cereum*, *Salix exigua*, *Salix geyeriana*, *Salix lucida* ssp. *lasiandra*, and *Sarcobatus vermiculatus*. The forb and grass communities are even more diverse than the shrub community and include: *Achillea millefolium*, *Agoseris glauca*, *Allium* sp., *Alyssum* sp., *Antennaria* sp., *Arabis* sp., *Aster scopularum*, *Astragalus filipes*, *Astragalus purshii*, *Astragalus* sp., *Calochortus macrocarpum*, *Castilleja* sp., *Cirsium* sp., *Crepis* sp., *Elymus cinereus*, *Elymus elymoides*, *Layia glandulosa*, *Lewisia rediviva*, *Lomatium* sp., *Lygodesmia spinosa*, *Montia* sp., *Oryzopsis hymenoides*, *Perideridia* sp., *Phlox longifolia*, *Plectritis* sp., *Poa secunda*, *Rumex crispus*, *Scirpus acutus*, *Stipa thurberiana*, *Tragopogon dubius*, *Typha* sp., and *Zigadenus venenosus*. There are also less conspicuous plant species, to include *Carex* sp., *Juncus* sp., *Letharia* sp., and *Tortula* sp.

The essential habitat elements for species, populations and communities are present and available within the big and low sagebrush and riparian communities, and are consistent with the potential for the landscape. The plant communities are composed of many types of plants, have a distribution of differing age classes, and plants that are productive. There was evidence of seed dispersal from last year's inflorescences, and many juvenile and newly germinating plants.

This allotment has specific and identified areas of noxious weeds, i.e. medusahead rye, which limit the essential habitat elements for diverse species, populations, and communities in those areas. Planning is underway to treat the infested problem areas and to restore them to conditions capable of supporting diverse plant communities.

Special Status Plants: There are no known sensitive plants in the #404 Allotment although potential exists for those species that prefer low and tall sagebrush communities.

Locally Important Plant Species: Several cultural plants were noted during the field evaluation, *Lewisia rediviva* (bitterroot), *Oryzopsis hymenoides* (Indian rice grass), and *Perideridia* sp. (yampah), all of which have edible plant parts.

The majority of this allotment meets the standard, however, areas of medusahead do not.

Crooked Creek #1301: Standard 5 is being met for native, T&E and locally important plant species in the Crooked Creek #1301 Allotment.

Native Plant Species: The tree species present are *Cercocarpus ledifolius*, *Pinus ponderosa* and *Juniperus occidentalis*. There is a diverse shrub community within and around both the open flat areas and steeper slopes/rims. The shrubs are: *Amelanchier* sp., *Artemisia arbuscula*, *Artemisia tridentata*, *Chrysothamnus viscidiflorus*, *Purshia tridentata*, *Rosa woodsii*, and *Symphoricarpos* sp. The forb and grass communities are even more diverse than the shrub community and include: *Achillea millefolium*, *Agoseris* sp., *Agropyron spicatum*, *Allium* sp., *Antennaria* sp., *Astragalus hoodii*, *Astragalus* sp., *Balsamorhiza sagittata*, *Castilleja* sp., *Cirsium* sp., *Crepis* sp., *Delphinium* sp., *Dodecatheon conjugens*, *Elymus cinereus*, *Eriogonum nudum*, *Eriogonum ovalifolium*, *Eriogonum* sp., *Hydrophyllum* sp., *Layia glandulosa*., *Linum lewisii*, *Lomatium* sp., *Lupinus* sp., *Montia* sp., *Poa secunda*, *Ranunculus glaberrimus* var. *glaberrimus*, *Senecio* sp., *Stipa thurberiana*, *Verbascum blattaria*, and *Zigadenus venenosus*. There are less conspicuous plant species, to include *Carex* sp., *Juncus* sp., *Letharia* sp., and *Tortula* sp.

The essential habitat elements for species, populations and communities are present and available within the big and low sagebrush areas and are consistent with the potential for the landscape. The plant community is composed of many types of plants, has a distribution of differing age classes, and plants that are productive. There was evidence of seed dispersal from last year's inflorescences, and many juvenile and newly germinating plants present.

Special Status Plants: There are no known sensitive plants in this allotment although potential exists for those species that prefer low sagebrush flats, rocky slopes and juniper woodland communities.

Locally Important Plant Species: No cultural plants were noted during the field evaluation.

Wildlife:

There are no listed or sensitive fish species in the Willow Creek #404 or Crooked Creek #1301 Allotments.

Willow Creek #404: Standard 5 is being met for native, T&E and locally important wildlife species in the Willow Creek #404 Allotment.

Special status wildlife species or their habitats that are present within the Willow Creek Allotment #404 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: mule deer (*Odocoileus hemionus*), California bighorn sheep (*Ovis canadensis*) and pronghorn antelope (*Antilocapra americana*).

Bald eagles: nesting or roosting habitat does not exist within the Willow Creek Allotment. Nesting and roosting does occur on U.S. Forest Service lands to the west. It is suspected that the bald eagle occasionally visits the Willow Creek area. Bald eagle foraging does occur within the allotment, mostly of road killed deer adjacent to the major roadways and occasional carrion scattered through the allotment.

Peregrine falcons: nesting habitat does not exist within the Willow Creek Allotment. Occasional sightings occur within the vicinity of Chewaucan marsh. Chewaucan marsh also provides some foraging areas for peregrine falcons.

Ferruginous hawks: some potential nesting habitat for ferruginous hawks on a few scattered junipers exist within the Willow Creek Allotment. Surveys have not been conducted for ferruginous hawks however foraging habitat exists within portions of the allotment. There are no resource conflicts for peregrine falcons, ferruginous hawks or bald eagles.

Burrowing owls: no observations have been made within the vicinity of the Willow Creek Allotment. It is assumed that they occasionally occur within the allotment. There are no resource conflicts for this species.

Some marginal 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 however it is suspected that they could occur within portions of the allotment. There are no resource conflicts for these species.

Bighorn sheep inhabit the northeastern portion of the allotment. There is some overlap in range between bighorns and cattle within the allotment however bighorn sheep use is light at this time and is mostly restricted to the steeper hill slopes and ridges. No major

conflicts exist between bighorn sheep and cattle grazing within the Willow Creek Allotment.

Pronghorn antelope use is concentrated in portions of the Willow Creek Allotment that are covered with grass or shorter shrubs, including the non-native seedings. No major conflicts exist between pronghorn and cattle grazing within this allotment.

High to moderate concentrations of wintering mule deer inhabit the Willow Creek Allotment. No conflicts exist between mule deer and cattle grazing within this allotment. Bitterbrush is common in a few portions of the allotment, but gets little use by cattle due to timing of grazing.

Habitats for sage-grouse occur throughout most of the Willow Creek Allotment, but areas seeded to non-native grasses and areas dominated by medusahead rye probably do not receive much use by sage-grouse. There are four known sage-grouse lek sites. Two of these lek sites are active and two are inactive as of 2004. The active lek sites are within the vicinity of Red Knoll and are impacted by medusahead rye. Sage-grouse are known to occur throughout the allotment. Some small portions of this allotment are currently unusable to sage grouse due to past grassland conversion.

In order for sage-grouse habitats within this allotment to improve, restoration work would be needed to combat noxious weeds, specifically medusahead rye. This project is underway, but has not yet been implemented on-the-ground. It is unclear if areas that were seeded to crested wheatgrass will be used in the future by sage-grouse. There are similar habitats on the Vale BLM district that 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.

Overall, this standard is being met for wildlife species within this allotment. The occurrence of non-native seedings and invasive noxious weeds appear to be the limiting factors for sage grouse and most sagebrush dependant wildlife habitats. Efforts to improve this standard should focus on sagebrush restoration. This could be accomplished through intensive restoration efforts with fire, seeding or herbicides.

Crooked Creek #1301: Standard 5 is being met for native, T&E and locally important wildlife species in the Crooked Creek #1301 Allotment.

Special status species: The bald eagle (*Haliaeetus leucocephalus*) has some marginal nesting and roosting habitat within the Crooked Creek Allotment and some potential foraging areas. No known sightings of bald eagles have been made within the allotment, however winter foraging does occur in the surrounding areas and it is suspected that they are occasional visitors to the allotment.

There is also one species with high public interest. Mule deer (*Odocoileus hemionus*), occur throughout the allotment on a year round basis. No conflicts exist between mule

deer and cattle grazing. Bitterbrush is common in some portions of the allotment, but was probably more abundant when forest tree density was lower than its current state. Mule deer habitat would benefit from forest thinning in this area.

Overall, this standard is being met for wildlife species in the Crooked Creek Allotment. The tree density appears to be the limiting factor of mule deer populations within the allotment. Efforts to improve this standard should focus on restoration of forest health through thinning of ponderosa pine and juniper reduction.

Current Management and Recent Management Changes:

The noxious weed issues stated above are currently being addressed in a plan to decrease and eliminate medusahead rye.

<u>Team Members</u>	<u>Title</u>
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Determination

Existing grazing management practices or levels of grazing use in the Willow Creek #515 and Crooked Creek #1301 Allotments 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 Willow Creek #404 and Crooked Creek #1301 Allotments 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

9/30/07
Date