

**Rangeland Health Standards
Assessment**

Big Juniper Mountain Allotment #515

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

Big Juniper Mountain Allotment #515

Location: See Attached Map

7.5 Minute Topographic Maps: Alkali Lake, Coleman Hills, Commodore Ridge, Corn Lake, Juniper Mountain, Sagebrush Knoll, Rabbit Hills NW, Turpin Knoll, Venator Canyon

AUMs of Authorized Use: Active=3,621 AUMs; Suspended=796 AUMs;
Total=4,417 AUMs

Permitted Season: Spring/Summer/Fall

Grazing System: Rest Rotation

The Big Juniper Mountain Allotment #515 is located approximately 70 miles northeast of Lakeview, Oregon. Land status within the allotment is 84,862 acres of public land and 5,252 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 low to moderate.
- Limited conflicts or controversy may exist.
- Opportunities exist for positive economic returns.
- Present management is satisfactory.

In August of 2001, the Juniper Fire burned approximately 4,565 acres in this allotment. Fences were constructed to protect the burn area from grazing and will be kept as permanent livestock/pasture management fences. The majority of the burned area has recovered naturally to a good stand of native grasses and forbs.

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 Upland Watershed.

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 1992, 1993, 1995, 1996, and 1997. Current livestock grazing practices in the Big Juniper #515 Allotment are not affecting upland watershed functions. See table below for the allotment summary of SSF. The "Unknown" category includes rock outcroppings and playas.

Big Juniper #515: 29% of the allotment is in the moderate category which indicates some active erosion and evidence of past erosion. These are native 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 grasses from 1990 to the present has been 30%.

From the utilization levels, season of use and locations of higher utilization levels, current grazing practices do not appear responsible for areas being in the moderate and critical erosion classes. 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 1992, 1993, 1995, 1996, and 1997.

ESI EROSION CONDITION CLASSES*						
	Stable	Slight	Moderate	Critical	Severe	Unknown**
#515 (84,862 Total Acres)	0	52,405	24,255	3,672	34	4,496
Percent of Allotment	0%	62%	29%	4%	<1%	5%

**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. Two sagebrush/grass vegetation types dominate the allotment. Low sagebrush/native grass mixes make up approximately 35% of the allotment. Big sagebrush/native grass mixes make up approximately 45% of the allotment. However, within the big sagebrush/grass vegetation type there is considerable variation, with basin big sagebrush/grass, mountain big sagebrush/grass, and Wyoming big sagebrush/grass present throughout the allotment. The variation in the herbaceous understory indicates that native vegetation communities appear stable. Cheatgrass stands are minimal but demonstrate what the potential result is if the perennial grass and sagebrush cover is lost because of a major disturbance.

The ESI compares the plant composition to a defined Potential Natural Plant Community for the identified soil type and precipitation zone. Using the 1992, 1993, 1995, 1996, and 1997 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 current grazing management.

Ecological Condition for Big Juniper Mountain #515 Allotment as determined by the Ecological Site Inventory in 1992, 1993, 1995, 1996, and 1997:

ESI ECOLOGICAL CONDITION CLASSES				
	Early	Mid	Late	Climax
#515--Acres	5,602	51,577	18,524	4,663
Percent of Vegetation (80,366 acres)	7%	64%	23%	6%

Overall, the upland watershed in Big Juniper Allotment #515 appears to be functioning properly. Review of the allotment and the ESI data indicate that the majority of the allotment appears to exhibit infiltration, storage, and stability that are appropriate to the site. There is a diversity of shrub and perennial grass species. The deep expansive root system of perennial vegetation aids in the capture and storage of water. The plant cover, diversity in plant composition, and plant community structure also contribute to potential capture and storage of water. Perennial vegetation aids in soil stability and decreases the susceptibility of these areas to erosion.

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

Standard 2 is being met for Riparian/Wetland function in the majority of the allotment. Specific areas that are not meeting standard are described below. There are 833 acres of palustrine wetlands found in the Big Juniper Allotment #515 of which 773 acres are in Proper Functioning Condition (PFC) and 60 acres are at Functional at Risk. Draining of the 60 acre playa appears to be caused by rocky underlying geologic structure/soil material and is allowing some water percolation. The playa holds water 5-7 out of 10 years so the seal has not been completely broken. Livestock grazing is not a factor limiting Riparian/Wetland function.

Standard 2 is not being met in the Horseshoe Spring and Horseshoe Meadow area, Foley Creek area, and specific developed springs within the allotment.

The Horseshoe Spring and Horseshoe Meadow system is the largest riparian-wetland area in the allotment and has the potential to capture and store a substantial amount of water. This is evidenced by the extent of the remaining riparian vegetation and the anaerobic soil conditions at the site. Horseshoe Spring is developed with a pipe from the spring to a trough, and is excluded around the source. The overflow from the trough flows to a waterhole, then through an overflow drainage. There is some riparian vegetation around the spring area, intermixed with upland vegetation, including sagebrush. The enclosure fence is down in some locations, allowing livestock to graze inside. The enclosure is too small for the actual spring area. Livestock use has contributed to compaction, erosion, and headcuts at the immediate site. This is evidenced by signs of livestock use, such as areas of bare ground, trails, bank trampling, and postholing in the spring area.

The Foley Creek area is located in the South East corner of the Flint Hills pasture. Foley Creek is an intermittent creek that may have water flowing in it for short periods of time in the early spring in good moisture years. Foley Creek eventually empties into a large playa located between the Flint Hills and Coyote Hills. The MC Corral and MC Reservoir are also located in the immediate area. The uplands immediately associated with the MC Reservoir and MC Corral (within a one mile radius) is dominated by Wyoming big sagebrush and rabbit brush. The under story of native grasses is sparse-native grasses present include; Thruver needlegrass, Indian ricegrass, bluebunch wheatgrass, bottlebrush squirreltail and sandberg bluegrass. This particular area along Foley Creek is a natural congregation point for cattle due to MC Reservoir and MC Corrals. The immediate area around such structures commonly has reduced plant diversity, increased surface disturbance, and areas of bare ground associated with increased animal use around reservoirs and stock corrals. Foley Creek does not meet standard 2 for proper riparian/wetland function due to influence of man made structures, but the current rest rotation grazing system is not contributing to the failure of this standard in the Foley Creek area. Upon examination of utilization records the Flint Hills pasture has averaged light to moderate grazing during scheduled use (20- 50% utilization) from 1986 through 2002- the Flint Hills pasture was rested in 2003 and 2004 grazing seasons.

Developed Springs within the Big Juniper Allotment #515 include Coffee Pot Springs A and B (both located on private land), Horseshoe Spring, Southside Spring, Juniper Spring, and Radio Spring. Lack of exclosure maintenance is the primary factor contributing to poor condition of developed springs. At present no spring exclosures are in tack and functioning properly on the above mentioned springs.

Projects are currently being proposed to aid in restoring proper functioning condition to the springs and their riparian areas. Since the effects from livestock grazing are due to non-functioning spring developments and exclosures, attaining proper riparian-wetland function would require maintenance of these systems. Proper functioning conditions would also require additional fencing to expand the size of the exclosures around the riparian areas. Maintenance and larger exclosures would keep livestock from grazing a larger portion of the riparian areas and allow riparian vegetation to recover. Functioning spring developments and riparian exclosures would also help reduce compaction, postholes, and hummocks. Reduction of western juniper in the spring areas could help restore riparian-wetland function. Upland vegetation and western juniper compete with riparian vegetation for water and nutrients in the soil. Treating the upland vegetation in the riparian-wetland areas may aid in reducing competition for resources needed for recovery of riparian vegetation.

- Coffee Pot Springs are two spring sources (both located on private property) approximately a quarter mile apart. Coffee Pot Spring “A” is East of Coffee Pot Spring “B.” Coffee Pot Spring “A” is piped to a trough and excluded around the source. There is some riparian vegetation around the spring area intermixed with upland vegetation, including western juniper. The exclosure is smaller than the extent of the spring area, as evidenced by riparian vegetation outside the

exclosure. Livestock grazing in the riparian area adjacent to the exclosure fence has caused postholes and areas of bare ground. Some of the fence strands of the exclosure are down, permitting livestock to graze within the exclosure. The overflow from the trough extends approximately 25 feet from the trough into the riparian area below the spring. As livestock graze in the riparian area below the overflow pipe, areas of bare ground, compacted soils, and postholes have been observed.

Coffee Pot Spring “A” would require expanding the size of the existing exclosure to approximately one acre and moving the trough. The existing pipeline from the spring would need to be extended northwest to a bench in the uplands to relocate the trough.

- Coffee Pot Spring “B” is piped to a trough and excluded around the source. There is some riparian vegetation around the spring area, intermixed with upland vegetation, including western juniper. The livestock exclosure fence is down in multiple places and livestock graze within the exclosure. The exclosure is smaller than the extent of the spring area, as evidenced by riparian vegetation present outside the exclosure. The overflow from the trough extends approximately 30 feet from the trough and water flows into a drainage from the spring. Livestock use at the site has caused compacted soils and areas of bare ground.

Coffee Pot Spring “B,” would require expanding the existing exclosure to approximately a quarter acre in size and moving the trough. Since the trough is currently located in the riparian area, the existing pipeline from the spring would need to be extended northeast to a bench in the uplands to relocate the trough.

- Southside Spring is piped to a trough and excluded from livestock grazing around the source. Currently, water is not flowing from the spring. The cause is unknown. There is little riparian vegetation growing in the spring area. Western juniper and sagebrush are intermixed. The exclosure fences are down in many places and livestock graze within the exclosure. The exclosure is smaller than the extent of the riparian area, as evidenced by riparian vegetation present outside the exclosure.

Southside Spring would require expanding the existing exclosure by 50-100 feet on all sides. Reducing the competition of upland vegetation and western juniper at this spring may aid in increasing spring flow.

- Juniper Spring had been rested from grazing for the last two years to allow the burned area to recover after the Juniper Fire of 2001. Cinder blocks are stabilizing a pipe from the spring source but no trough has been installed. There is no exclosure around the spring area as exclosure was burned down in during the Juniper Fire of 2001.

The extent of the spring area will require a spring enclosure approximately one acre in size. Water would be piped from the spring to troughs located away the riparian area at a stable site with minimal slope.

- Radio Spring flows into a waterhole. There is an enclosure around the waterhole. The extent of the riparian area is not excluded, as evidenced by riparian vegetation present outside of the enclosure. Portions of the fence are down, allowing livestock to graze within the enclosure. The overflow from the trough extends approximately 25 feet into the riparian area below the spring. Livestock grazing in the riparian area outside the enclosure and below the overflow pipe has contributed to poor site conditions, including compacted soils, postholes, and sparse riparian vegetative cover.

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 ESI and the BLM interdisciplinary team about the current plant communities for the following allotments:

The Observed Apparent Trend (OAT) for the vegetation communities on public land was determined using the ESI (1992, 1993, 1995, 1996, and 1997) and is summarized in the table below. The unknown acreage includes rock outcroppings and playas.

ESI OBSERVED APPARENT TREND*				
1992, 1993, 1995, 1996, and 1997				
	Downward	Static	Upward	Unknown**
#515 (84,862 Total Acres)	19,089	36,964	24,313	4,496
Percent of Allotment	22%	44%	29%	5%

* 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 Big Juniper #515 Allotment. Big Juniper Mountain #515 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*, *Lepedium perfoliatum*, *Ranunculus testiculatus*, and *Sisymbrium altissimum*.

Wildlife:

Standard 3 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- 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 Big Juniper Mountain Allotment #515. 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 Big Juniper #515 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 Big Juniper Mountain Pasture. 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 Big 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 Big Juniper #515 Allotment.

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 and pronghorn 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 non-game birds and mammals common to the Great Basin, as well as, sage grouse and California bighorn sheep habitat. There are 12 known sage grouse leks found within the allotment, and sage grouse use appears to be increasing since the wildfire that occurred within the allotment in 2001. Sage grouse populations like the rest of southeastern Oregon are fluctuating between stable and declining slightly. 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, various sensitive bat species or Peregrine falcons. Livestock grazing does not appear to be limiting wildlife habitat within the #515 allotment.

Current Management and Recent Management Changes:

New pasture management fences have been constructed in the #515 allotment for the purpose of protecting burned rangeland and distributing livestock more evenly. Further analysis and planning is needed to begin restoration efforts on the springs in this allotment. A new fence in the Horseshoe pasture will reduce livestock presence on Horseshoe Spring.

<u>Team Members</u>	<u>Title</u>
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Lance Okeson	Rangeland Management Specialist
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Heather Partipilo	Botanist
Erin McConnell	Noxious Weeds
Robert Hopper	Supervisory RMS
Ken Kestner	Supervisory NRS

Determination

() Existing grazing management practices or levels of grazing use in the Big Juniper #515 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.

(X) Existing grazing management practices or levels of grazing use in the Big Juniper #515 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.



Tom Rasmussen, Lakeview Resource Area Manager

09/30/04

Date

ATTACHMENT 1:

VEGETATION TYPES IN BIG JUNIPER MT. ALLOTMENT #515

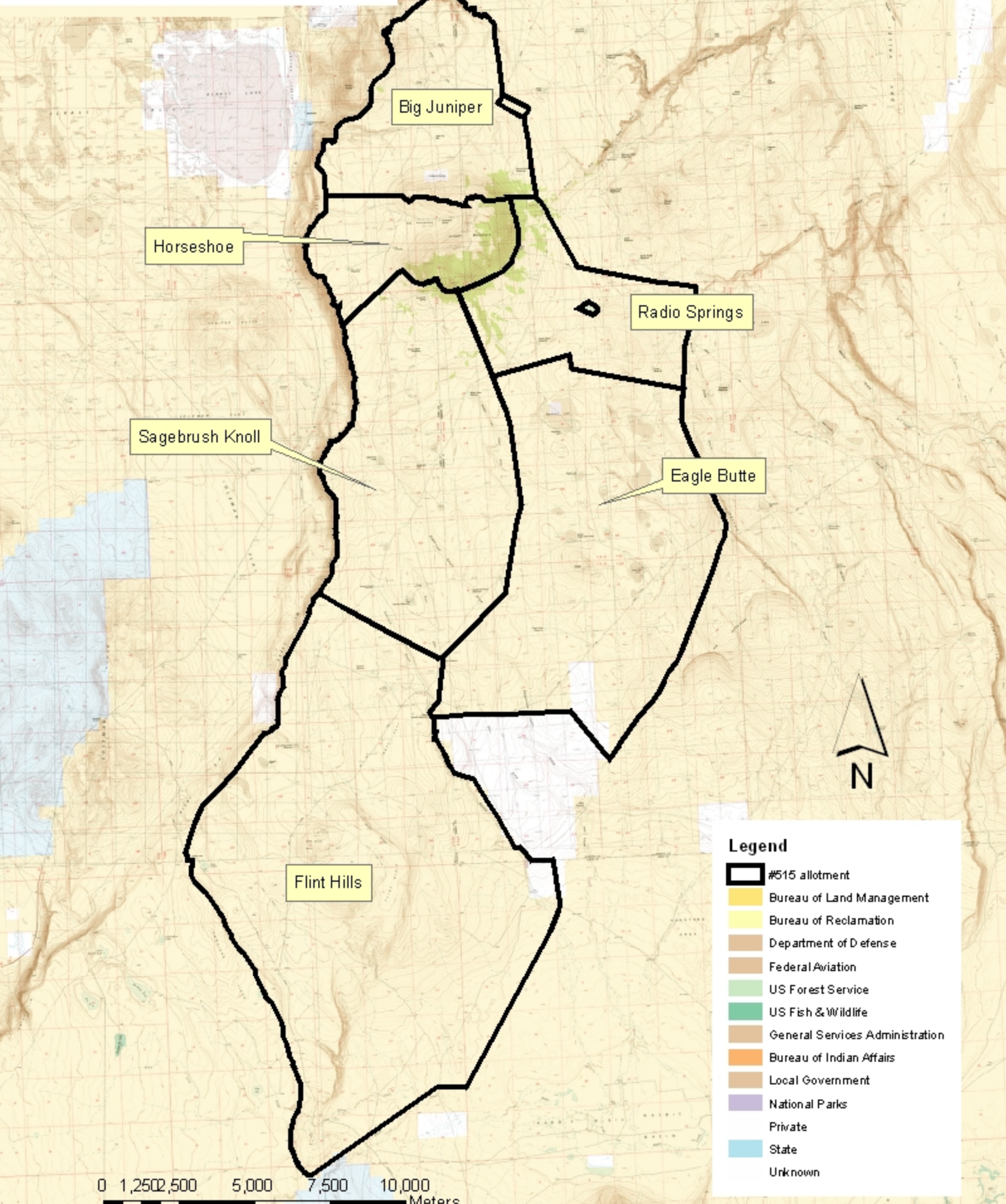
Vegetation Type	Acres	Percent of Allotment
Grasses		
PSSPS Bluebunch wheatgrass	237	<1%
BRTE Cheatgrass	8	<1%
Grasses TOTAL	245	<1%
Shrubs/Grasses		
ARAR8	15	<1%
ARAR8-FEID Low sagebrush/Idaho fescue	1,554	1%
ARAR8-POSE Low sagebrush/Sandberg bluegrass	14,752	17%
ARAR8-PSSPS Low sagebrush/bluebunch wheatgrass	156	<1%
ARAR8-STTH2 Low sagebrush/Thurber needlegrass	13,218	16%
Low sagebrush/Grass mix TOTAL	29,695	35%
ARARN-ELEL5 Black sagebrush/bottlebrush squirreltail	223	<1%
ARARN-POSE Black sagebrush/Sandberg bluegrass	1,379	1%
ARARN-PSSPS Black sagebrush/bluebunch wheatgrass	68	<1%
Black sagebrush/Grass mix TOTAL	1,670	2%
ARCA13 Silver sagebrush	615	<1%
ARCA13-ELELOC Silver sagebrush/spike sedge	15	<1%
ARCA13-PONE3 Silver sagebrush/bluegrass	47	<1%
Silver sagebrush/Grass mix TOTAL	677	<1%
ARTRT Basin big sagebrush	2,834	
ARTRT-BRTE Basin big sagebrush/cheatgrass	106	<1%
ARTRT-ELEL5 Basin big sagebrush/bottlebrush squirreltail	766	<1%
ARTRT-LECI4 Basin big sagebrush/basin wildrye	30	<1%
ARTRT-PSSPS Basin big sagebrush/bluebunch wheatgrass	120	<1%
ARTRT-STTH2 Basin big sagebrush/Thurber needlegrass	11,139	<1%
Basin big sagebrush/Grass mix TOTAL	14,995	13%
ARTRV-FEID Mountain big sagebrush/Idaho fescue	817	1%
ARTRV-PSSPS Mountain big sagebrush/bluebunch wheatgrass	316	<1%
ARTRV-STTH2 Mountain big sagebrush/Thurber needlegrass	135	<1%
Mountain big sagebrush/Grass mix TOTAL	1,268	1%
ARTRW Wyoming big sagebrush	839	1%
ARTRW-ELEL5 Wyoming big sagebrush/bottlebrush squirreltail	6,946	8%
ARTRW-FEID Wyoming big sagebrush/Idaho fescue	53	<1%
ARTRW-POA Wyoming big sagebrush/bluegrass	93	<1%
ARTRW-POSE Wyoming big sagebrush/Sandberg bluegrass	1,850	2%

ARTRW-PSSPS Wyoming big sagebrush/bluebunch wheatgrass	553	<1%
ARTRW-STTH2 Wyoming big sagebrush/Thurber needlegrass	15,768	19%
Wyoming big sagebrush/Grass mix TOTAL	26,102	31%
CHVI8-BRTE Green rabbitbrush/cheatgrass	52	<1%
CHVI8-BRTE-DESCU Green rabbitbrush/cheatgrass/tansy mustard	41	<1%
CHVI8-BRTE-SIAL2 Green rabbitbrush/cheatgrass/tumble mustard	15	<1%
CHVI8-ELEL5 Green rabbitbrush/bottlebrush squirreltail	132	<1%
CHVI8-POSE Green rabbitbrush/Sandberg bluegrass	308	<1%
CHVI8-PSSPS Green rabbitbrush/bluebunch wheatgrass	443	<1%
Green rabbitbrush/Grass mix TOTAL	991	1%
GRSP-ELEL5 Spiny hopsage/bottlebrush squirreltail TOTAL	215	<1%
SAVE-BRTE Greasewood/cheatgrass	7	<1%
SAVE-ELEL5 Greasewood/bottlebrush squirreltail	136	<1%
Greasewood/Grass mix TOTAL	143	<1%
Shrub/Grass Mix TOTAL	75,756	89%
Trees		
JUOC-ARAR8-POSE Western juniper/low sagebrush/bluegrass	2,737	3%
JUOC-ARTRV-ELEL5 Western juniper/mountain big sagebrush/bottlebrush squirreltail	145	<1%
JUOC-ARTRV-FEID Western juniper/mountain big sagebrush/Idaho fescue	489	<1%
JUOC-ARTRV-POSE Western juniper/mountain big sagebrush/bluegrass	683	<1%
JUOC-ARTRV-PSSPS Western juniper/mountain big sagebrush/bluebunch wheatgrass	311	<1%
Western juniper/Shrub/Grass mix TOTAL	4,365	5%
TOTAL VEGETATION	80,366	95%
Unknown	4,496	5%



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#515 allotment



0 1,250 2,500 5,000 7,500 10,000 Meters