

Standards for Rangeland Health  
and  
Guidelines for Livestock Grazing Management  
for  
Public Lands in Oregon and Washington

UPDATE for  
O'Keeffe FFR (#00203)

May 2020

## Background

The O’Keeffe FFR Allotment (#0203) is comprised of three parcels (see map 1). The two large parcels are located approximately 15 miles southeast of Lakeview, Oregon and 5 miles north the Oregon/California state line. The third and smallest parcel (33 acres) is about 2.5 miles north of Adel, Oregon along the Adel to Plush Highway on the east side of the road and west of Pelican Lake. The allotment, totaling 5,391 acres<sup>1</sup>, is divided into three separate pastures and has one permittee; with 628 acres (12%) managed by the Bureau of Land Management (BLM) and 4,763 acres (88%) under private ownership. Since most of the public land lies along the edge of the allotment, on steep inaccessible rangeland, the allotment was categorized as “Custodial”. A “Custodial” allotment is defined as an allotment “where public lands produce less than 10 percent of the forage in the allotment or are less than 10 percent of the land area”<sup>2</sup>.

There are 48 Animal Unit Months (AUM) authorized for cattle forage during the spring (April 1 – April 30). Over the past 10 years an average of 48 AUMs have been foraged on the public land within the allotment. Water for livestock is limited to Pope Spring and Twenty Mile Creek, which is accessible on private land.

There are no monitoring plots on the O’Keeffe FFR Allotment.

A Rangeland Health Assessment (RHA) was originally completed in 1999. Standards 1 through 5 were met. This assessment is an update to the original RHA. Presented in Table 1 is a summary of both the original 1999 and updated assessments.

The same Ecological Site Inventory (ESI) data was used in both RHAs; however, since the ESI data was first collected, the data has had refinements which were finalized in 2005 for the Lakeview District. Therefore, the ESI data between the previous RHA and the current RHA differ slightly.

**Table 1. Summary of Rangeland Health Assessments for the O’Keeffe FFR Allotment (#00203)**

Standard	2018 Assessment	Comments 2017	2002 Assessment	Comments 1999
<b>1. Watershed Functional – Uplands</b>	MET	Visits to the allotment in 2017 for PFC and use supervision found the public land to be in the same or better condition than in 1999. A Rangeland Health Quality (RHQ) assessment in 2018 in plant communities accessible to grazing found soil and hydrologic attributes slight to moderate departure from reference sites and therefore concluded the watershed was functioning as expected. The exclosures continue to protect Twentymile Creek and Pope spring, thus limiting	MET	The north parcel is part of the lakebed associated with Pelican Lake and the flat terrain is periodically flooded, so the water erosion hazard is slight. In the west parcel the public land portion of Twentymile Creek is excluded from grazing. Therefore, the vegetation cover and litter necessary to protect from accelerated erosion is present. In the east parcel the BLM land is on steep rocky slopes and any erosion that occurs is part of the natural process. The Soil Surface Factor (SSF)

		erosion potential in those areas. Most of the remaining public land is on steep slopes and any erosion occurring is natural (Map 2) The slight erosion category reported for SSF in 1999 (Table 2) appears to be the same in 2018.		determined during the Ecological Site Inventory (ESI) in 1987 determined all but 1 acre (Table 2) of the BLM land in the east and west parcels of the allotment are in the slight erosion condition class category. The allotment is grazed for a short period in the spring (April) and the trend is static or upward for the plant communities in this allotment (Table 3).
<b>2. Watershed Function – Riparian/ Wetland Areas</b>	MET	<p>Lentic –All two acres of lentic riparian habitat were determined to be at PFC in 2017.</p> <p>Lotic - Twentymile Creek has not been grazed since 1981. PFC (Proper Functioning Condition) site inventories were completed in 1996 on Twentymile Creek, and all of the reaches in the allotment were rated as PFC. All existing information indicate that Twentymile Creek remains at PFC.</p>	MET	<p>Lentic - The 18 lentic riparian acres in the allotment have not been analyzed for Proper Functioning Condition.</p> <p>Lotic - PFC (Proper Functioning Condition) site inventories were completed in 1996 on Twentymile Creek. All of the reaches in this allotment were rated as PFC. Twentymile Creek has not been grazed since 1981. Prior to that, the lower reaches had very limited use, due to the steep, rocky nature of the channel. The upper reach received some use prior to 1981 but has been excluded since.</p>
<b>3. Ecological Processes</b>	MET	<p>In 2018 the Standard is still being met as vegetation communities present and intact in 1999 are still present and intact in 2018. The Observed Apparent Trend (OAT) reported in 1999 (Table 3) with about 63% of the public land static and 37% improving, still appears accurate in 2018.</p> <p>A Rangeland Health Quality (RHQ) assessment in 2018 in plant communities accessible to grazing found hydrologic and biotic indicators with slight to moderate departure from reference sites.</p> <p>Therefore, BLM concluded the vegetation communities were healthy, productive and diverse and the ecological processes, nutrient cycling, energy flow and hydrological cycle were functioning as expected. The wildlife</p>	MET	<p>This standard is being met, according to the plant and animal communities, as well as the monitoring completed in the riparian areas of the O'Keeffe FFR Allotment. The allotment supports most of the terrestrial animals common to the sagebrush steppe in the Great Basin. The allotment provides habitat for huntable populations of mule deer, pronghorn antelope, and sage grouse. There is currently no major competition between wildlife and domestic livestock for forage, either early green-up grasses and forbs or winter browse, such as antelope</p>

		habitat reported in the 1999 RHA is still being provided in 2018 with no major competition between wildlife and domestic livestock.		bitterbrush and curl-leaf mountain mahogany
<b>4. Water Quality</b>	NOT MET	This standard is not being met. Twentymile Creek does not meet state standards for temperature, from the mouth to the headwaters. Current management of livestock (exclusion from grazing since 1991) is resulting in significant progress towards meeting the goal and is not a significant factor in not meeting the standard.	NOT MET	This standard is not being met. Twentymile Creek does not meet state standards for temperature, from the mouth to the headwaters. Because of changes in grazing to better manage riparian vegetation, it is felt that the current management of livestock is resulting in significant progress towards meeting the goal and is not a significant factor in not meeting the standard.
<b>5. Native, T/E, And Locally Important Species</b>	MET	The Warner sucker is listed as a Threatened Species under the Endangered Species Act. There is occupied habitat on the lower reaches of Twentymile Creek. Because no grazing occurs on Twentymile Creek, it was determined that grazing in this allotment has no effect on Warner Sucker. Warner Redband Trout, a Bureau Sensitive Species, is found in the lower reach of Twentymile also.	MET	The Warner sucker is listed as a Threatened Species under the Endangered Species Act. There is occupied habitat on the lower reaches of the stream. Because no grazing occurs on Twentymile Creek, it was determined that grazing in this allotment has no effect on suckers. Warner red-band trout, a Bureau Sensitive Species, is found in the lower reach of Twentymile also.

**Standard 1. Watershed Function-Uplands: Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.**

This standard is being met on the allotment. The indicators used to evaluate this standard are Soil Surface Factor (SSF), which documents accelerated erosion; plant community composition, which indicates root occupancy of the soil profile. Inferences can be made based on the soil types, percent slope, soil texture, and other soil characteristics.

- 1) North Parcel (Lake subwatershed): This parcel lies in a lakebed; therefore, due to gentle slope, water erosion hazard is slight (Map 3). This area was unsurveyed, so vegetation and soils information are absent. A site visit to the area in 2017 with a PFC team found the vegetation community to be a stable saltgrass community with no evidence of any soil erosion. The site is west of Pelican Lake, which often contains water, is located between ¼ and ½-mile away over flat terrain. The close proximity to a lakebed results in periodic flooding which supports a dominant and stable saltgrass community. The conclusion for the North Parcel was that the soils exhibit infiltration and permeability rates, moisture storage and stability appropriate to the site and therefore the standard 1 is being met.

- 2) West Parcel (Twentymile subwatershed): Slope is slight in most places, increasing in the extreme NW corner of the parcel. Twentymile Creek runs through the parcel, but the reach on BLM land is excluded from grazing and is rated in Proper Functioning Condition (PFC) (see Standard 2). Approximately half of the parcel consists of low sagebrush, with Idaho fescue and/or Sandberg's bluegrass and patches of western juniper. The other half is mountain big sagebrush, with Thurber's needlegrass and bottlebrush squirreltail (Map 2). An evaluation using the Indicators of Rangeland Health was conducted in 2018 on the BLM portion in the east part of the parcel that livestock can assess and do graze. The results are summarized in Appendix Tables 4 & 5. The results for the soil and site stability Indicators was that the Mountain big sagebrush/Thurber's needlegrass community was rated as slight to moderate departure from the reference site for this ecological site. The results for the low sagebrush/Idaho fescue community was also predominantly slight to moderate departure from reference site for this ecological site. The conclusions for these two communities were soils exhibit infiltration and permeability rates, moisture storage and stability appropriate to the site and therefore Standard 1 is being met.
  
- 3) East Parcel (Twentymile subwatershed): The east half is in a steep canyon of Twentymile Creek (Map 2), with medium to fine textured soils. Erosion would probably tend to be moderate to severe. Due to the extreme steepness of slope, the area is inaccessible to cattle. The remaining BLM land is along the western edge of this parcel and while not as steep it borders Twentymile creek on the northeast side and difficult access limits grazing to slight use. Therefore any erosion at this site is the result of natural geography and soils present.

**Standard 2. Watershed Function-Riparian/Wetland: Areas are in properly functioning physical condition appropriate to soil, climate, and landform.**

This standard is being met on this allotment for both the Lentic and Lotic riparian habitat.

Lentic – Field reconnaissance in 2017 found a total of two acres of lentic riparian habitat on BLM administered lands in the allotment, with all being at and near Pope Springs. All two acres of lentic riparian habitat were determined to be at PFC in 2017.

Lotic - PFC (Proper Functioning Condition) site inventories were completed in 1996 on Twentymile Creek. All of the reaches in this allotment were rated as PFC. Twentymile Creek has not been grazed since 1981. Prior to that, the lower reaches had very limited use, due to the steep, rocky nature of the channel. The upper reach received some use prior to 1981 but has been excluded since. All existing information, including photos (on file at Lakeview Resource Area), field reconnaissance, and professional judgement indicate that conditions at Twentymile Creek have continued to improve since the 1996 surveys and that Twentymile Creek remains at PFC.

**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.**

This standard is being met as the vegetation communities and wildlife populations are healthy and productive and support the ecological processes appropriate for these sites. The trend is static to upward and the current weed infestations are not affecting the ecological processes of the allotment.

- 1) North Parcel (Lake subwatershed): This parcel lies in a lakebed and area was unsurveyed, so vegetation and soils information are absent (Map 3). A site visit to the area in 2017 with a PFC team found the vegetation community to be a stable saltgrass community common along the edge of a lakebed. The site is west of Pelican Lake, which often contains water, is located between ¼ and ½-mile away over flat terrain. The close proximity to a lakebed results in periodic flooding which supports a dominant saltgrass community. The saltgrass community supports the ecological processes of nutrient cycling, energy flow and the hydrologic cycle appropriate for this site.
- 2) West Parcel (Twentymile subwatershed): Slope is slight in most places, increasing in the extreme NW corner of the parcel. Twentymile Creek runs through the parcel, but the reach on BLM land is excluded from grazing and is rated in Proper Functioning Condition (PFC) (see Standard 2). Approximately half of the parcel consists of low sagebrush, with Idaho fescue and/or Sandberg's bluegrass and patches of western juniper. The other half is mountain big sagebrush, with Thurber's needlegrass or bottlebrush squirreltail (Map 2). An evaluation using the Indicators of Rangeland Health was conducted in 2018 on the BLM portion in the east part of the parcel that livestock can access and do graze. The results are summarized in Appendix Tables 4 & 5. The ratings for the hydrologic and biotic indicators in the Mountain big sagebrush/Thurber's needlegrass community were slight to moderate departure from the reference site. The results for the low sagebrush/Idaho fescue community was also predominantly a slight to moderate departure from the reference site. The conclusion for these two communities was the vegetation present was healthy, productive and diverse and supports the ecological processes of nutrient cycling, energy flow, and hydrologic cycle.
- 3) East Parcel (Twentymile subwatershed): The east half is in a steep canyon of Twentymile Creek, consisting of big sagebrush/bluebunch wheatgrass (Map 2). Due to the extreme steepness of slope, the area is inaccessible to cattle. The remaining BLM land is a strip along the western edge of this parcel and consists of low sagebrush/Sandberg bluegrass on the northern half and juniper/big sagebrush/Thurbers needlegrass on the southern half. While not as steep as the eastern part, it borders Twentymile creek on the northeast side and the difficult access limits grazing to slight use.

**Trend**

The permittee, John O'Keeffe, has a grazing permit for 48 AUMs in the #00203 Allotment, with a spring use period from April 1 - April 30. Considering the plant communities and the small amount of time that the parcels are grazed, the allotment demonstrates a static, or even an upward trend.

## **Wildlife**

In the 1999 Rangeland Health Assessment this standard was met. The allotment provided habitat for terrestrial wildlife species, such as California bighorn sheep (*Ovis canadensis californiana*), Rocky Mountain elk (*Cervus elaphus nelsoni*), mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and Greater Sage-Grouse (*Centrocercus urophasianus*). No major competition between wildlife and domestic livestock for forage existed.

This standard is currently being met from the aspect of native wildlife populations, diversity, and sustainability with current environmental conditions. The majority of habitats within the allotment are in functional condition and support natural ecological processes typically found within sagebrush-steppe communities in the northern Great Basin. Habitat quality and population levels fluctuate over time, and generally represent natural trends in the ecosystem; however, some species may show erratic or negative trends. These trends are determined through monitoring of habitat and animal composition and community structure. The allotment provides adequate habitat for populations of mule deer (*Odocoileus hemionus*), and pronghorn (*Antilocapra americana*), California bighorn sheep (*Ovis canadensis californiana*) and Greater sage-grouse (*Centrocercus urophasianus*). Previously there were two AUMs allocated for wildlife which has since been updated to 11 AUMs allocated for wildlife. Portions of the allotment lie within ODFW Warner Big Game Management Unit for mule deer, elk, and pronghorn. Current populations are moving in an upward trend but are still below management objectives

## **Weeds**

Standard 3 as it relates to weeds is being met as the native vegetation is still intact and not being out-competed by invasive species. There are scattered noxious weeds and non-native invasive species scattered across the O'Keeffe 203 allotments. A total of fifty invasive species sites are documented with infestation sizes from single plants to 14 gross acres. The total documented gross acres in the O'Keeffe allotments is 537 gross acres. The total net acres across the 537 infested acres is 11.9 acres. The documented invasive plants consist of Cheatgrass, whitetop, bur buttercup, Canada thistle, bull thistle, Scotch thistle, Mediterranean sage, Russian thistle, Medusahead rye, North Africa grass and cocklebur. The invasive annual grasses have not been intensively documented across the parcels, however it is assumed that there are invasive annual grasses such as cheatgrass, Japanese brome and smooth brome lightly scattered across the allotment due to the elevation and vegetation types. All of the noxious weeds on the BLM lands within the allotment are being aggressively managed through the most updated IPM program and have been a high priority for removal due to the extensive amounts of restoration efforts taking place in the South Warner area. The weeds on the private property within the allotment are the responsibility of the private landowner, however coordinated treatments are used for borders and roads. The current infestations are not affecting the ecological process of the allotment.

**Standard 4. Water Quality: Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.**

This standard is not being met.

Twentymile Creek does not meet state water quality standards for temperature, from the mouth to the headwaters. Because of changes in grazing (exclusion from grazing since 1991) to better manage riparian vegetation, BLM finds that the current management of livestock is resulting in significant progress towards meeting the goal and is not a significant factor in not meeting the standard.

**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 5 is being met for native, T&E and locally important species such as Greater Sage-Grouse, as populations are healthy and productive or simply not present or being impacted by grazing.

**Fish**

The Warner sucker is listed as a Threatened Species under the Endangered Species Act. There is occupied habitat on the lower reaches of Twentymile Creek. Because no grazing occurs on Twentymile Creek, BLM has determined that grazing in this allotment has no effect on Warner Sucker. Redband Trout, a Bureau Sensitive Species, is found in the lower reach of Twentymile creek.

**Special Status Plants**

Two BLM Sensitive plant species occur or have the potential to occur in the parcels. Occupied habitat for *Plagiobothrys salsus* (salty popcornflower) is found just outside of the north parcel. Complete surveys of this parcel have not occurred, but habitat is unlikely to exist on the parcel. Therefore, livestock grazing is not likely to impact this species. The BLM administered lands in the east parcel contain occupied *Galium serpicum* ssp. *warnerense* (Warner Mountain bedstraw) habitat. However, this habitat is found on steep and rocky slopes that are generally avoided by grazing cattle. Therefore, livestock grazing is not likely to impact this species. If any impacts to these species or their habitat is documented in the future, the BLM will implement monitoring and mitigation measures to reduce negative impacts.

**Wildlife**

Standard 5 is being met for native, T&E and locally important wildlife species in the O’Keeffe FFR Allotment. The diversity of the wildlife and plant species is an indication of health and productivity found within the different habitats in the allotment.

Special status wildlife species and/or their habitats that are present within this allotment include: Bald Eagle (*Haliaeetus leucocephalus*), Golden Eagle (*Aquila chrysaetos*), Ferruginous Hawk (*Buteo regalis*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), long-eared myotis (*Myotis evotis*), western small-footed myotis (*Myotis ciliolabrum*), Greater sage-grouse, gray wolf (*Canis lupus*),



and pygmy rabbit (*Brachylagus idahoensis*). There are also species of high public interest, which include: mule deer, pronghorn, Rocky Mountain elk, and California bighorn sheep.

Migratory birds use a variety of habitats within the allotment for nesting, foraging, and resting as they make their yearly migrations. There have not been any formal surveys conducted for monitoring of migratory birds within the allotment. There are no known conflicts to have occurred for these species.

There is one known Golden Eagle nest located within the allotment. The nest is in the east parcel of the allotment, near Twentymile Creek. Bald and Golden Eagle foraging does occur throughout the allotment. Golden Eagles have been observed foraging within the allotment. No surveys have been conducted for Ferruginous Hawks; however, foraging habitat exists throughout the majority of the allotment.

Two Bureau Species of Concern are known to occur throughout the O’Keeffe FFR Allotment, of which, are classified either as BLM-Sensitive and/or Oregon-Sensitive Vulnerable. These include the western small-footed myotis and silver-haired bat. There are no known caves, outbuildings, adits, or shafts on BLM portions of the allotment that are available for winter hibernacula. There is a low potential for roosting/resting habitat within the allotment. Habitat use for these species is likely to be limited to foraging use.

Gray wolves are known to occur within the allotment and are a Bureau Sensitive Species and Oregon Sensitive Species, as well as, Federally Endangered Species. The O’Keeffe FFR Allotment is within the East Wolf Management Zone. Gray wolves occupy several varieties of terrestrial ecosystems, provided abundant prey resources. Gray wolves are currently, nor unlikely in the foreseeable future, in danger of extinction. There is the potential for conflicts to occur as more gray wolves move in the Lakeview Resource Area. Confirmed incidents of depredation have decreased during 2015 and the majority of depredation occurs on private land (ODFW 2016).

Pygmy rabbits are not known to occur within the allotment nor is there habitat that has been associated with pygmy rabbits in the area.

Mule deer inhabit the allotment year-round. The entire allotment is within identified mule deer winter range habitat. Conflicts between livestock and mule deer do not generally occur. Limiting early spring and fall livestock grazing reduces impacts to wintering mule deer and associated habitats. Western juniper (*Juniperus occidentalis*) encroachment may also hinder mule deer winter range conditions throughout the allotment.

Pronghorn habitat covers the northern portions of the southern parcels. The mapped habitat totals 1,015 acres (17%). Winter range habitat is critical for pronghorn (McInnis and Vavra 1987). Pronghorn use occurs in areas of low sagebrush or shorter Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*). Increasing encroachment of western juniper could potentially decrease available habitats for pronghorn in low sagebrush habitats within the allotment.

Bighorn sheep occur in the eastern portion of the allotment, along the rim features. There are approximately 3,544 acres of identified bighorn sheep habitat. Although some competition for forage grasses may occur between cattle and bighorn sheep, it is likely insignificant. Direct conflict with livestock is unlikely to occur at lambing sites because ewes tend to choose rugged steep terrain for parturition sites (Smith *et al.* 2015). These microsites used for lambing are unlikely to be frequented by cattle.

O’Keeffe FFR Allotment provides habitat capable of supporting varying mammal species, which include: gray wolves, coyotes (*Canis latrans*), jackrabbits (*Lepus ssp.*), cottontails (*Sylvilagus ssp.*), ground squirrels (*Uroditellus ssp.*), American badgers (*Taxidea taxus*), and other shrub-steppe mammal species, as well as, amphibians and reptiles such as: Columbia spotted frog (*Rana luteiventris*), sagebrush lizard (*Sceloporus graciosus*), Northern alligator lizard (*Elgaria coerulea*), Great Basin gopher snake (*Pituophis catenifer deserticola*), and Great Basin rattlesnake (*Crotalus viridis lutosus*).

It is determined that the O’Keeffe Allotment meets Standard 5 for the above mentioned wildlife and no major resource conflicts are present which may affect that conclusion. The allotment supports multiple successfully breeding pairs of Golden Eagles which require a healthy prey base to sustain them year after year. The allotment is sustainably providing adequate forage for ungulate populations to coexist with the livestock.

#### *Greater Sage-Grouse*

Greater sage-grouse have the potential to occur throughout the majority of the O’Keeffe FFR Allotment. Of the 5,391 total acres that make up the allotment, only 255 acres are considered Priority Habitat Management Area (PHMA). The acres identified as PHMA fall within the Beaty Priority Area of Conservation (PAC), no other portions of the allotment fall within any identified PAC. Although a small portion of the allotment falls within the Beaty PAC the allotment was assessed under the Warner-Tucker Fine Scale Assessment Area (BLM 2018). There are no known leks that occur within the allotment. There is one occupied lek within 1.2 miles of the allotment boundary two additional occupied leks within four miles of the boundary.

Sage-grouse are generally traditional in their seasonal movement patterns and select seasonal habitats within their respective home ranges, which include breeding, summer/late brood-rearing, and winter habitat. Bureau of Land Management field offices that manage sage-grouse habitat are required to incorporate the use of mid-, fine-, and site-scale indicators (Table 2-2 of ARMPA) and the habitat suitability rating process provided by the Sage-Grouse Habitat Assessment Framework (HAF; Technical Reference 6710-1, Stiver *et al.* 2015) when assessing habitat for a population or subpopulation or other biologically relevant area. The BLM Habitat Assessment Summary Report (BLM 2018) describes habitat suitability at the mid-scale (2<sup>nd</sup> Order), fine-scale (3<sup>rd</sup> Order) and site-scale (4<sup>th</sup> Order). The mid-scale is comprised of 11.7 million acres and represents sage-grouse subpopulations and PACs (Map #4). Areas with potential to provide habitat are identified and seasonal habitats and landscape indicators are mapped (BLM 2018). The Warner fine-scale assessment, which portions of the O’Keeffe FFR Allotment are located (Map 5), comprised of 1,327,944 acres and represents lek clusters and leks. Seasonal use

areas and connectivity between use areas are identified, and human disturbances are assessed (BLM 2018). The fine-scale analysis area is comprised of land cover types that provide existing or potential seasonal habitats for sage grouse. Sage-grouse require large tracts of connected habitat for viability. There is a high degree of connectivity (50-70%) within the fine-scale area among winter, breeding, and summer habitat, which extends well beyond the O’Keeffe FFR allotment itself. The mid-scale area was rated as suitable by an interdisciplinary (ID) team (BLM 2018). The team concluded that the fine-scale area was rated marginal because there are areas in the north where connectivity is disjunct and anthropogenic features that can disrupt seasonal movements or cause mortality are present throughout the fine-scale (BLM 2018).

Site-scale data is collected through the Habitat Assessment Framework (HAF) and Assessment, Inventory, and Monitoring (AIM) surveys. Site-scale habitat suitability assessments are summarized as a proportion of surveyed plots within the seasonal habitat range for two of the five seasonal habitat types, lek habitat and riparian summer/late brood-rearing habitat. The O’Keeffe FFR Allotment had no site-scale data collected within the allotment boundaries. Being a custodial allotment, the majority of the ownership is private (4,763 acres or 88%) with the public land being situated along the steep, sloped edges of the allotment boundary. For the other three seasonal habitat types; breeding habitat, upland summer/late brood-rearing habitat, and winter habitat, suitability assessments are summarized as a proportion of the seasonal habitat area within a known area of inference, calculated using sample design weights. The assessments are based on 79 AIM plots measured in the first and second years (2016 and 2017) of the five-year sample design across the fine-scale assessment area. Based on the assessment the O’Keeffe FFR allotment contains no seasonal habitat. There are portions of the allotment that do not support sage-grouse seasonal habitat due to plant structure characteristics. Currently, there are no known resource conflicts for this species.

**ID Team Members**

<b>Name</b>	<b>Title</b>
LeeAnn McDonald	Wildlife Biologist
Matt Lewis	Botanist
Grace Haskins	Weed Management Specialist
James Leal	Fisheries Biologist
Les Boothe	Assistant Field Manager
Paul Whitman	Planning and Environmental Coordinator

## 2020 Determination

( ) Existing grazing management practices on the O’Keeffe FFR Allotment promote achievement of, or significant progress towards the Oregon Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.

( ) Existing grazing management practices on the O’Keeffe FFR 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 applicable Guidelines for Livestock Grazing Management.



Jami Ludwig, Field Manager

6/23/2020  
Date

<sup>1</sup> "Allotment Categories", Bureau of Land Management, IM2009-018\_att1, found at:

[https://www.blm.gov/style/medialib/blm/wo/Information\\_Resources\\_Management/policy/im\\_attachments/2009\\_Par.81970.File.dat/IM2009-018\\_att1.pdf](https://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/im_attachments/2009_Par.81970.File.dat/IM2009-018_att1.pdf)

<sup>2</sup> All acreages within allotment derived from GIS layers located on G:\corp\BLMReplication\ORWA\_rep\_gdb\ and within the mxd file located at:

G:\lak\lvra\_local\Resource\_Area\_projects\range\Chigbrow\LX\_Ranch\_AllotmentInfo2017

<sup>3</sup> ESI polygon data based on current Oregon/Washington BLM GIS "slk veg" layer located on

G:\corp\BLMReplication\ORWA\_rep\_gdb\ and within the mxd file located at

G:\lak\lvra\_local\Resource\_Area\_projects\range\Chigbrow\LX\_Ranch\_AllotmentInfo2017

Appendix A. Monitoring Summaries

Table 1. Dominant Vegetation in the O’Keeffe Allotment (00203)

Vegetation Type	BLM Acres	Private Acres	Percent of Allotment
AGCR Crested Wheatgrass	0	81	2%
<b>Low sagebrush/Grass</b>			
ARAR-FEID Low sagebrush/ Idaho fescue	64	91	3%
ARAR-POSE Low sagebrush/Sandberg bluegrass	138	959	20%
<b>Low sagebrush/Grass TOTAL</b>	<b>202</b>	<b>1,050</b>	
<b>Big Sagebrush/Grass</b>			
ARTRT-AGSP big sagebrush/blue bunch wheatgrass	117	218	6%
ARTRT-POSE big sagebrush/Sandberg bluegrass	19	0	<1%
<b>Big Sage/Grass TOTAL</b>	<b>136</b>	<b>218</b>	
<b>Mountain Big Sagebrush/Grass</b>			
ARTRV-AGSP Mountain big sagebrush/blue bunch wheatgrass	2	27	1%
ARTRV-FEID Mountain big sage/Idaho fescue	0	12	<1%
ARTRV-POSE Mountain big sage/Sandberg bluegrass	43	352	7%
ARTRV-SIHY Mountain big sagebrush/bottlebrush squirreltail	0	204	4%
ARTRV-STTH Mountain big sage/ Thurber’s needlegrass	71	34	2%
<b>Mountain Big Sagebrush/Grass TOTAL</b>	<b>116</b>	<b>629</b>	
-			
-			
-			
-			
-			
-			
<b>Juniper/ Big Sagebrush/Grass TOTAL</b>	<b>37</b>	<b>1,803</b>	
-			
-			
<b>TOTAL VEGETATION</b>	<b>518</b>	<b>3831</b>	<b>14% is BLM</b>
Rockland/Rubble	1	23	<1%
Unknown	0	261	5%
Incomplete	36	35	1%
Inclusions**	73	613	13%
	<b>628</b>	<b>4763</b>	<b>5391</b>

<b>ALLOTMENT TOTAL</b>			
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\* The plant codes represent genus-species abbreviations adopted by USDA-NRCS; see also Plants Database available at <http://www.plants.usda.gov>.

\*\* Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different (often unknown or unmapped) vegetation communities.

**Table 2. Soil Surface Factor (SSF) in the O’Keeffe Allotment (00203) from ESI (1987)**

Vegetation Type	BLM Acres		
	Total	Erosion Condition Classes	
		Slight	Critical
<b>Low sagebrush/Grass</b>			
ARAR-FEID Low sagebrush/ Idaho fescue	64	64	0
ARAR-POSE Low sagebrush/Sandberg bluegrass	138	138	0
<b>Low sagebrush/Grass TOTAL</b>	<b>202</b>	<b>202</b>	
<b>Big Sagebrush/Grass</b>			
ARTRT-AGSP big sagebrush/blue bunch wheatgrass	117	117	0
ARTRT-POSE big sagebrush/Sandberg bluegrass	19	19	0
<b>Big Sage/Grass TOTAL</b>	<b>136</b>	<b>136</b>	<b>0</b>
<b>Mountain Big Sagebrush/Grass</b>			
ARTRV-AGSP Mountain big sagebrush/blue bunch wheatgrass	2	1	1
ARTRV-POSE Mountain big sage/Sandberg bluegrass	43	43	0
			0
ARTRV-STTH Mountain big sage/ Thurber’s needlegrass	71	71	0
<b>Mountain Big Sagebrush/Grass TOTAL</b>	<b>116</b>	<b>115</b>	<b>1</b>
- -			
- -			
- -			
- -			
<b>Juniper/ Big Sagebrush/Grass TOTAL</b>	<b>37</b>	<b>37</b>	<b>0</b>
- -			
<b>TOTAL VEGETATION</b>	<b>518</b>	<b>517</b>	<b>1</b>
Rockland/Rubble	1		
Unknown	0		
Incomplete	36		
Inclusions**	73		
<b>ALLOTMENT TOTAL</b>	<b>628</b>		

\* The plant codes represent genus-species abbreviations adopted by USDA-NRCS; see also Plants Database available at <http://www.plants.usda.gov>.

\*\* Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different (often unknown or unmapped) vegetation communities.

**Table 3. Observed Apparent Trend (OAT) in the O’Keeffe Allotment (00203) from ESI (1987)**

Vegetation Type	BLM Acres		
	Total	Observed Apparent Trend	
		Static	Upward
<b>Low sagebrush/Grass</b>			
ARAR-FEID Low sagebrush/ Idaho fescue	64	64	0
ARAR-POSE Low sagebrush/Sandberg bluegrass	138	138	0
<b>Low sagebrush/Grass TOTAL</b>	<b>202</b>	<b>202</b>	
<b>Big Sagebrush/Grass</b>			
ARTRT-AGSP big sagebrush/blue bunch wheatgrass	117	0	117
ARTRT-POSE big sagebrush/Sandberg bluegrass	19	19	0
<b>Big Sage/Grass TOTAL</b>	<b>136</b>	<b>19</b>	<b>117</b>
<b>Mountain Big Sagebrush/Grass</b>			
ARTRV-AGSP Mountain big sagebrush/blue bunch wheatgrass	2	1	1
ARTRV-POSE Mountain big sage/Sandberg bluegrass	43	0	43
			0
ARTRV-STTH Mountain big sage/ Thurber’s needlegrass	71	71	0
<b>Mountain Big Sagebrush/Grass TOTAL</b>	<b>116</b>	<b>72</b>	<b>44</b>
- -			
- -			
- -			
- -			
<b>Juniper/ Big Sagebrush/Grass TOTAL</b>	<b>37</b>	<b>3</b>	<b>34</b>
- -			
<b>TOTAL VEGETATION</b>	<b>518</b>	<b>323</b>	<b>195</b>
Rockland/Rubble	1		
Unknown	0		
Incomplete	36		
Inclusions**	73		
<b>ALLOTMENT TOTAL</b>	<b>628</b>		

\* The plant codes represent genus-species abbreviations adopted by USDA-NRCS; see also Plants Database available at <http://www.plants.usda.gov>.

\*\* Every Site Writeup Area (SWA) has a 10-15% portion of that area that is considered inclusions of different (often unknown or unmapped) vegetation communities.

**Table 4. Rangeland Health Quality Assessment**

**Mountain Big Sagebrush/Thurber's needlegrass**

Soil/Site Stability					Hydrologic Function					Biotic Integrity				
			11											
			10					11						
			9					10						17
			8					9						15
			7					8						14
			6					5						13
			5					4						12
			4					3						11
			2					2						9
			1				14	1						8
ET	ME	M	SM	NS	ET	ME	M	SM	NS	ET	ME	M	SM	NS

Average rating SM

Average rating SM

Average rating SM

Indicators

- 1: Rills
- 2: Water flow patterns
- 3: Pedestals and/or Terracettes
- 4: Bare ground
- 5: Gullies
- 6: Wind scour and/or Depositional areas
- 7: Litter movement
- 8: Soil surface resistance to erosion
- 9: Soil surface loss/degradation
- 10: Plant community relative to infiltration/runoff
- 11: Soil compaction layer(s)
- 12: Functional/Structural groups
- 13: Plant mortality/decadence
- 14: Litter amount
- 15: Annual production (not recorded)
- 16: Invasive plants
- 17: Reproductive capability of perennials

**Departure from Reference**

- ET is Extreme to Total
- ME is Moderate to Extreme
- Moderate
- Slight to Moderate
- None to Slight



**Table 5. Rangeland Health Quality Assessment**

**Low Sagebrush/Sandberg bluegrass**

Soil/Site Stability						Hydrologic Function						Biotic Integrity						
ET	ME	M	SM	NS		ET	ME	M	SM	NS		ET	ME	M	SM	NS		
			11															
			9														17	
			8						11								15	
			7					14	9								13	
			6					10	8								11	
		4	2					4	2							14	9	
		3	1	5				3	1	5						12	8	16
ET	ME	M	SM	NS		ET	ME	M	SM	NS		ET	ME	M	SM	NS		

Average rating SM

Average rating SM

Average rating SM

Indicators

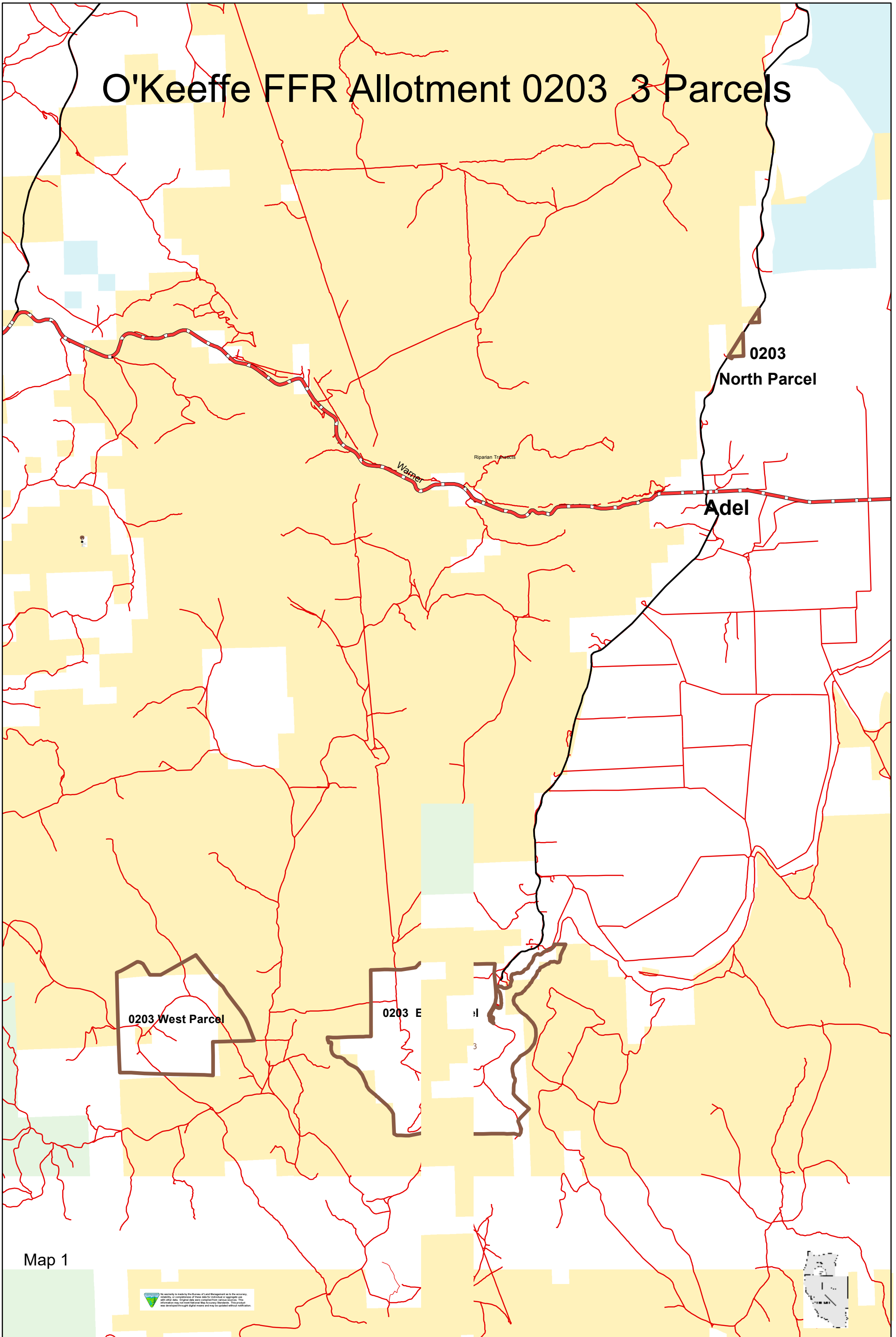
- 1: Rills
- 2: Water flow patterns
- 3: Pedestals and/or Terracettes
- 4: Bare ground
- 5: Gullies
- 6: Wind scour and/or Depositional areas
- 7: Litter movement
- 8: Soil surface resistance to erosion
- 9: Soil surface loss/degradation
- 10: Plant community relative to infiltration/runoff
- 11: Soil compaction layer(s)
- 12: Functional/Structural groups
- 13: Plant mortality/decadence
- 14: Litter amount
- 15: Annual production (not recorded)
- 16: Invasive plants
- 17: Reproductive capability of perennials

**Departure from Reference**

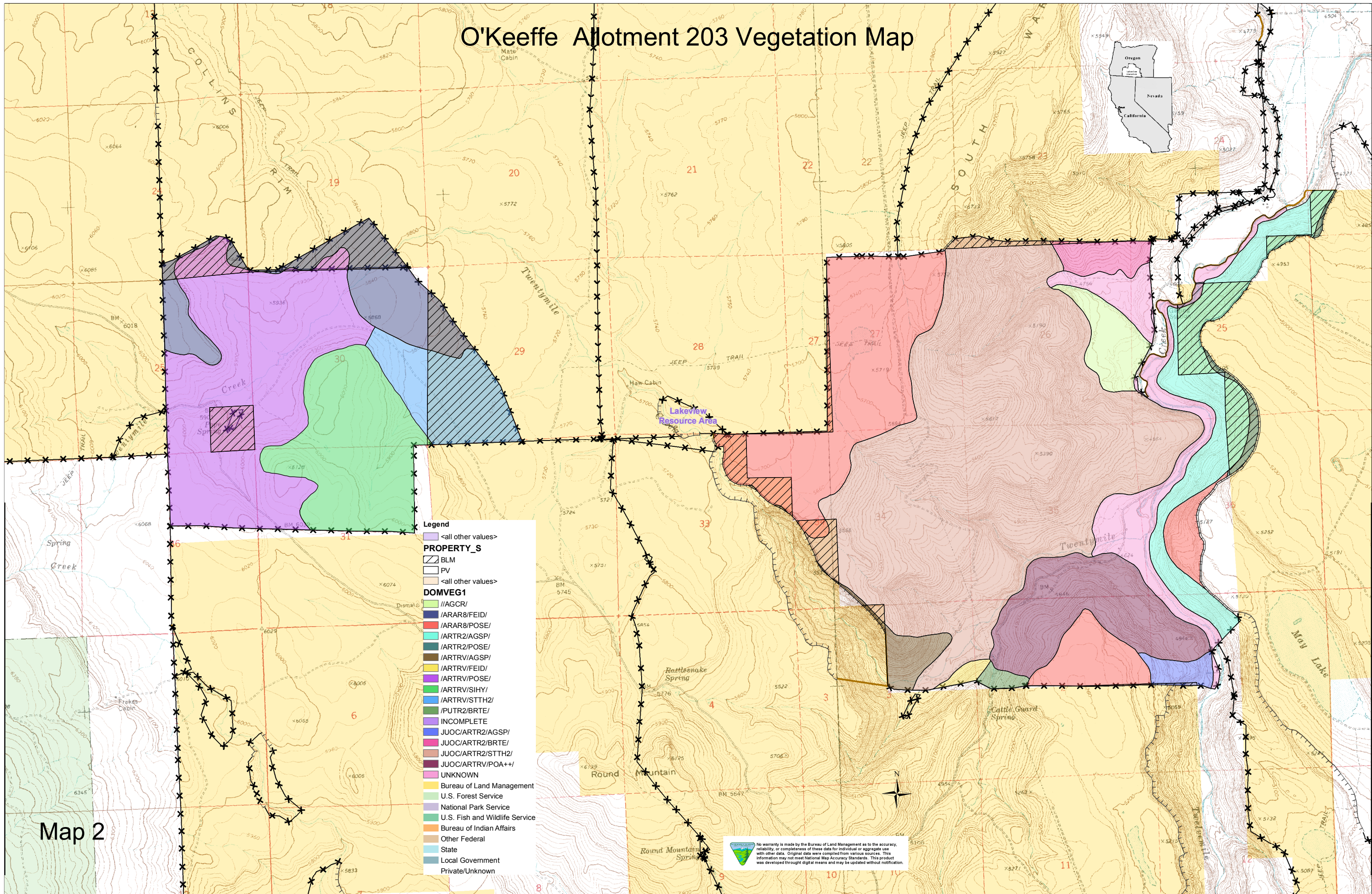
- ET is Extreme to Total
- ME is Moderate to Extreme
- Moderate
- Slight to Moderate
- None to Slight

## Appendix B. Maps

# O'Keeffe FFR Allotment 0203 3 Parcels



# O'Keeffe Allotment 203 Vegetation Map



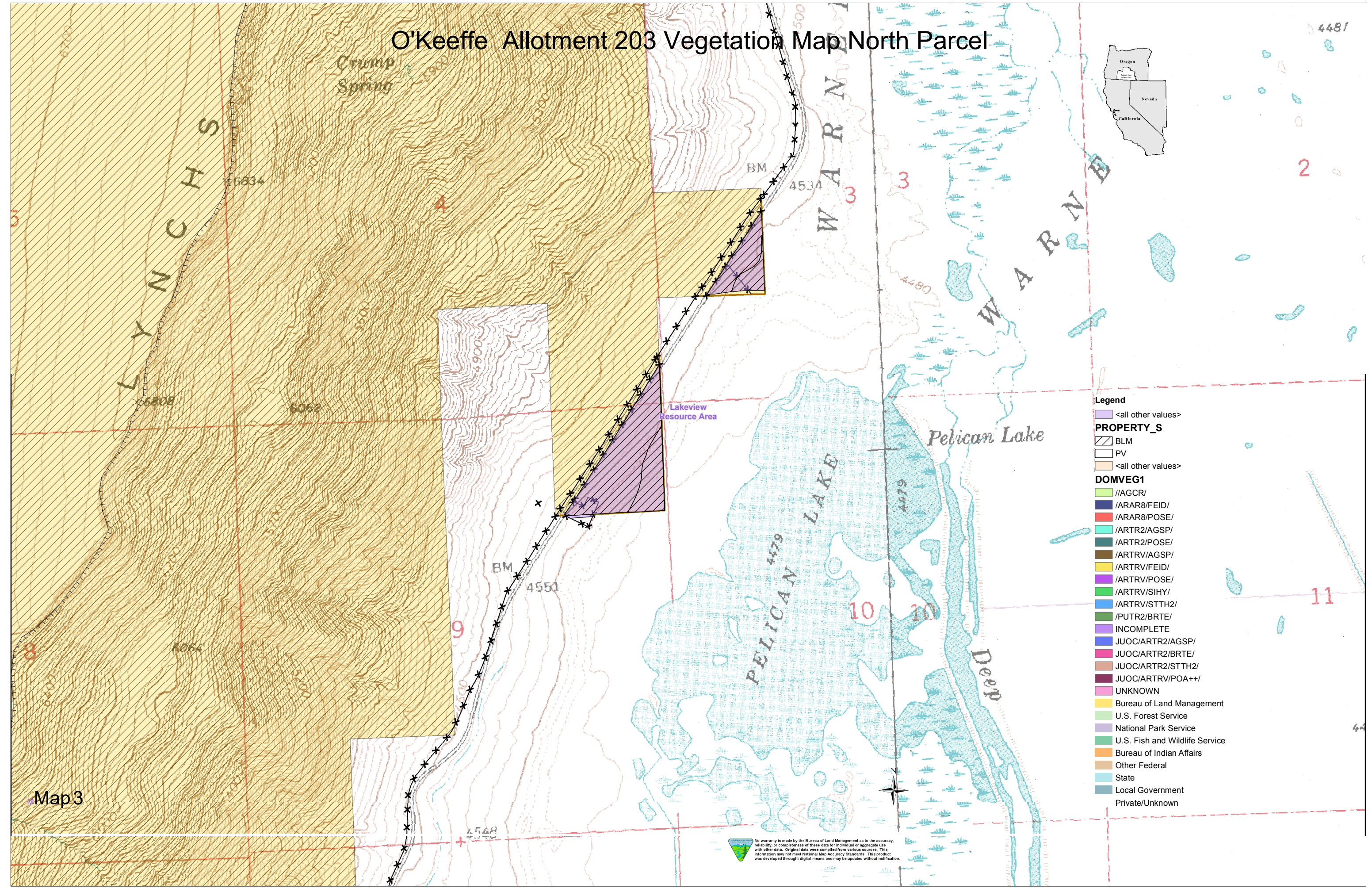
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  - PV
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  - /ARTRV/SIHY/
  - /ARTRV/STTH2/
  - /PUTR2/BRTE/
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  - JUOC/ARTR2/AGSP/
  - JUOC/ARTR2/BRTE/
  - JUOC/ARTR2/STTH2/
  - JUOC/ARTRV/POA++/
  - UNKNOWN
- Bureau of Land Management
- U.S. Forest Service
- National Park Service
- U.S. Fish and Wildlife Service
- Bureau of Indian Affairs
- Other Federal
- State
- Local Government
- Private/Unknown

Map 2

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

# O'Keeffe Allotment 203 Vegetation Map North Parcel



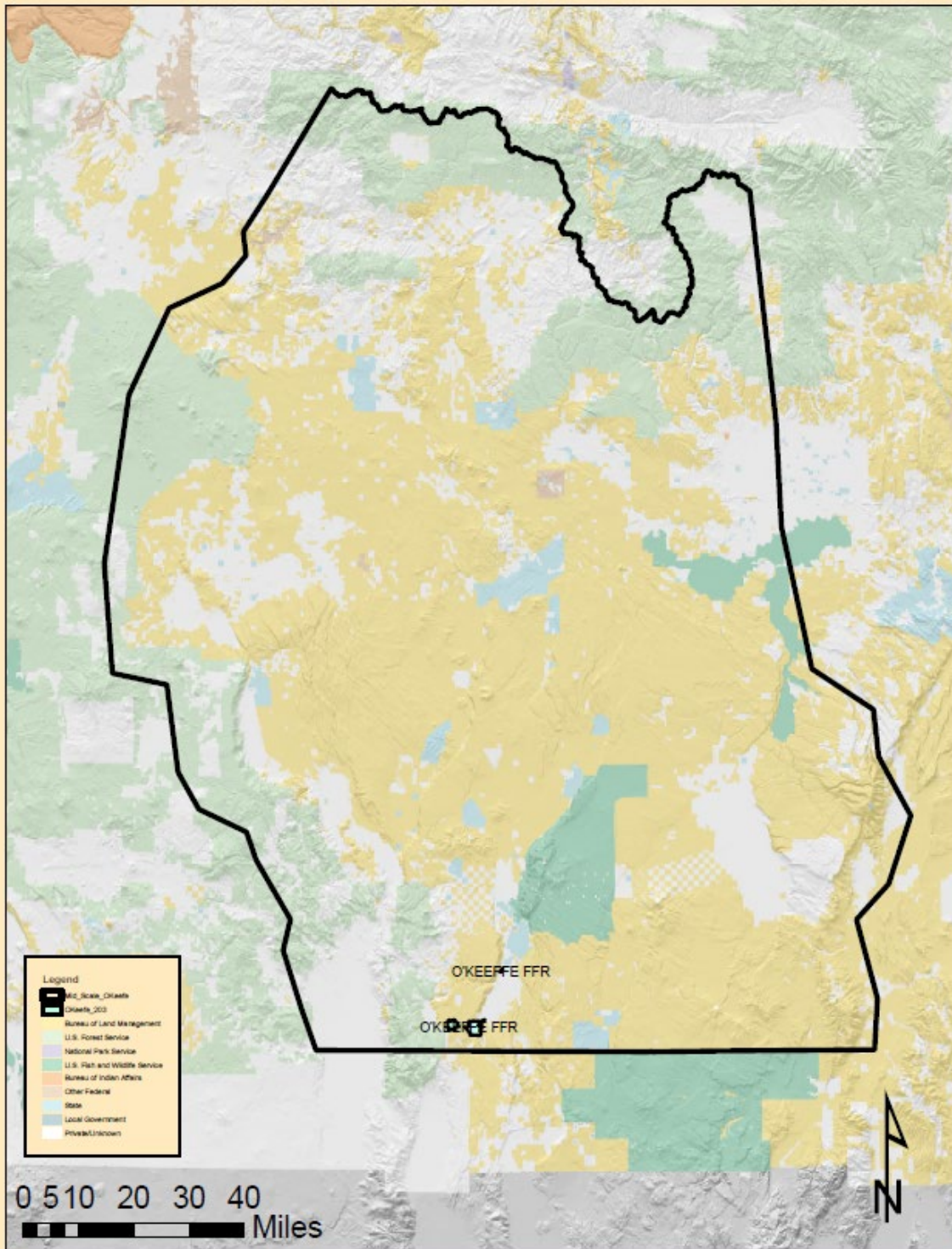
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- <all other values>
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  - JUOC/ARTR2/AGSP/
  - JUOC/ARTR2/BRTE/
  - JUOC/ARTR2/STTH2/
  - JUOC/ARTRV/POA++/
  - UNKNOWN
  - Bureau of Land Management
  - U.S. Forest Service
  - National Park Service
  - U.S. Fish and Wildlife Service
  - Bureau of Indian Affairs
  - Other Federal
  - State
  - Local Government
  - Private/Unknown

Map3

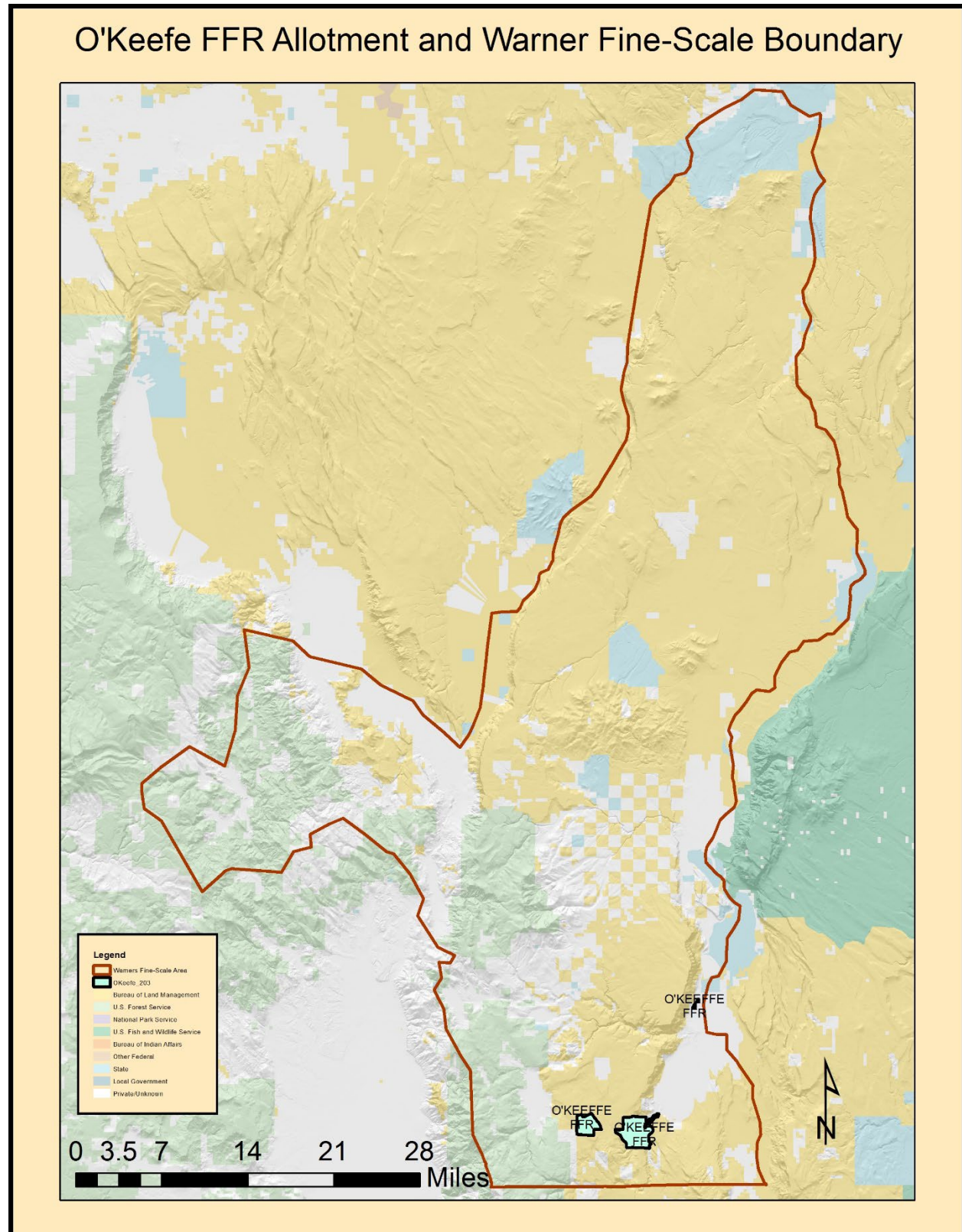
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 4. Mid-Scale Boundaries and O’Keeffe FFR Allotment

### O’Keeffe FFR Allotment and Warner Mid-Scale Boundary



Map 5. Warner Fine-Scale Boundaries and the O’Keeffe FFR Allotment



## Appendix C. References

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