Standards for Land Health Evaluation

and

Guidelines for Livestock Grazing Management

for

Public Lands in Oregon and Washington

Update for

Lane Individual Allotment (#00524)

September 2019

Background

The Lane Individual Allotment (#00524) is located approximately 24 miles east of Lakeview, Oregon (see map 1) north of Hwy 140 and the town of Adel. The allotment, totaling 3,054 acres[1], is all one pasture and has one permittee; with 2,365 acres (77%) managed by the Bureau of Land Management (BLM) and 689 acres (23%) are under private ownership (see map 2). Since most of the public land produces a low amount of forage and lies along very steep sloped rangeland which is most inaccessible, the allotment was categorized as "Custodial". A "Custodial" allotment is defined in the glossary (page 120) of the Lakeview Resource Management Plan and Record of Decision (2003) as one of selective management categories.

There are 65 Animal Unit Month's (AUM) authorized for cattle forage during the spring and summer (April – September). Over the past 10 years the average use was 55 AUM's. Water for livestock is limited to waterholes and two small waterbodies totaling 23 acres, which can be dry during years of low precipitation.

There are no monitoring plots on the Lane Individual Allotment.

A Lane Individual Allotment Rangeland Health Assessment (RHA) was originally completed in 2002. 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 2002 and updated assessments.

The same Ecological Site Inventory (ESI) data was used in both RHA's; however, since the ESI data was first collected, the data has had revisions 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 Lane Individual Allotment (#00524)

Standard	2019 Assessment	Comments 2019	2002 Assessment	Comments 2002
1. Watershed Functional – Uplands	Met	The allotment is lightly grazed and much of it is inaccessible to livestock, therefore there has been no impacts from livestock grazing since 2002. The plant communities required to protect the soil remain intact and stable.	Met	Twenty nine percent of soil is rated as having stable to slight erosion potential and having a stable to upward ecological trend. Majority of allotment is unknown. Vegetation community and range condition data were consistent with plant composition for the identified soils and climate.
2. Watershed Function – Riparian/ Wetland Areas	Met	Two intermittent wetlands (24 acres) were rated as PFC. Livestock use having very little impact on wetland conditions.	Met	Two ephemeral wetlands were rated as PFC. Livestock use had no impact on wetland conditions.
3. Ecological Processes	Met	The main vegetation communities are composed of western juniper-big	Met	The allotment is managed under a grazing system maintaining plant health and

		sagebrush and big sagebrush-bluebunch wheatgrass. These are the natural communities expected for this site and have remained stable and in intact since 2002 The allotment provides habitat for terrestrial wildlife species, and no major competition between wildlife and domestic livestock for forage exists.		current vegetative communities appropriate to these soils and climate. Current grazing management is maintaining sufficient vegetation cover and litter for nutrient cycling.
4. Water Quality	Not Applicable	This standard is not applicable. There are no perennial or major intermittent streams in this allotment. No water quality problems have been identified.	Met	Two ephemeral wetlands were rated as PFC. Livestock use had no impact on wetland conditions.
5. Native, T/E, And Locally Important Species		The diversity of plant and wildlife species are consistent with productive juniper/sagebrush and sagebrush steppe communities. There are no special status plants or fish habitat in this allotment. The allotment is outside any habitat management area for Greater Sage-Grouse. There are no conflicts between livestock grazing and Special status wildlife species or deer, antelope and big horn sheep.	Met	The diversity of plant and wildlife species are consistent with productive sagebrush steppe communities. A large population of the special status species dwarf lousewart (*Pedicularis centranthera*) occurred within the allotment. While the allotment is adjacent to allotments with sage grouse leks and habitat, currently no leks are on the Lane Individual Allotment.

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

In the previous RHA in 2002, this standard was met. In 2019 this standard is still being met. Available data (Appendix A - Monitoring Summaries) from the seven Lane Individual Allotment ESI Geographic Information System (GIS) polygons[3] (polygons are derived from ESI transect data) present the known vegetation and soil communities (see maps 3 & 4). The dominant soils are Loamy and North slopes (map 3) and they are associated with the three dominant vegetation communities. These vegetation communities include western juniper-big sagebrush-Sandberg bluegrass (18% of the allotment), western juniper-mountain big sagebrush (10% of the allotment) and big sagebrush-bluebunch wheatgrass *(25% of the* allotment*). R*ockland occupies 12% of the allotment with the remaining 35% unknown.

The revised Soil Surface Factor ratings (SSF) (Table 2b) for the allotment show 1,622 acres (53%) were classified as being stable with 367 acres (12%) as rockland and 1,066 acre (35%) as unknown. The revised ratings for Observed Apparent Trend (OAT) (Table 2c) indicate 317 acres (10%) were trending

upward, with a static rating for 1,305 acres (43%), with the remaining 367 acres as rockland and 1,066 acres (35%) are unknown as stated earlier. Based on the plot data available, there is adequate vegetation cover, litter, and community structure to facilitate infiltration, moisture storage, and soil stability appropriate for the soils found on the Lane Individual Allotment in conjunction with the climate regime for this region.

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

In the 2002 RHA this standard was met, and is currently being met in 2017. Two ephemeral wetlands, totaling 24 acres were determined to be at PFC in 2002, and again in 2017. Livestock were not negatively impacting these wetlands in 2002, which is consistent with the 2017 findings. There are no intermittent or perennial streams within 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.

This standard was met in 2002 and is still being met in 2019. Potential Natural Community (PNC) data were used to determine the percent of the allotment in each of its seral stages. Observed Apparent Trend was also used and is the same as reported in Standard 1. High elevations, within the allotment, consist of steep, rocky cliffs which exhibit limited or no use by livestock. Mid-level elevations appeared to have good ecological health, containing a variety of bunch grasses with some cheatgrass (*Bromus tectorum*) spread throughout. Lower elevations are where the majority of grazing occurs and contains the majority of private land which had an upward trend determined by OAT.

<u>Wildlife</u>

In the 2002 RHA this standard was met. The allotment provided habitat for terrestrial wildlife species, such as California bighorn sheep (*Ovis canadensis californiana*), mule deer (*Odocoileus hemionus*), and pronghorn (*Antilocapra americana*). No major competition between wildlife and domestic livestock for forage existed.

This standard is currently being met from the aspect of natural wildlife populations, diversity, and sustainability with current environmental conditions. The majority of ecosystems in the allotment are within 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, pronghorn, and California bighorn sheep. Previously there were 65 AUMs allocated for livestock grazing which has since been updated to add 90 AUMs allocated for wildlife. Portions of the allotment lie within

ODFW Warner Big Game Management Unit for mule deer and elk. Current populations are moving in an upward trend, but still below management objectives. The allotment contains crucial over-wintering habitat for mule deer and California bighorn sheep.

Vegetation

This standard is being met for vegetation. The main vegetation communities are composed of western juniper-big sagebrush and big sagebrush-bluebunch wheatgrass. Other vegetation includes low sagebrush and antelope bitterbrush (*Purshia tridentata*) shrubs; with perennial grasses, such as, Idaho fescue and Thurber's needlegrass (*Achnatherum thurberianum*). Within the playas of the wetland areas are healthy populations of mat muhly (*Muhlenbergia richardsonis*). Cheatgrass is spread throughout the lower to mid elevations.

Ecological Site Index seral stage data (Table 2d), indicated late-seral stage was 2 acres (< 1%), mid-seral stage was 1,620 acres (53%), 367 (12%) acres were rockland and 1,066 acres (35%) were unknown. Overall, there is adequate vegetation cover, litter, and community structure to facilitate ecological processes of nutrient cycling, energy flow and the hydrologic cycle appropriate for the soils and landform found on the Lane Individual Allotment.

Actual use

Actual use (Table 3) has been collected since 2005, while utilization has not been collected since the allotment is listed under the "Custodial" management category. The average actual use between the years 2005 to 2018 was 57 AUM's. Actual use has only been recorded exceeding the permitted 65 AUM's twice during 2011 and 2015 when the AUM's were 66. This allotment is primarily used in the spring.

Weeds

Scotch thistle (*Onopordum acanthium*) was treated, while Mediterranean sage (*Salvia aethiopis*) and Russian knapweed (*Rhaponticum repens*) occurred in the area and could possibly spread into 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 applicable. There are no perennial or major intermittent streams in this allotment. No water quality problems have been identified. There are no streams listed as Water Quality Impaired in the Allotment.

Standard 5. Native, T&E, and Locally Important Species: Habitats support healthy, productive and diverse population and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate and landform.

In the 2002 RHA, this standard was met. A healthy, mega population of dwarf lousewart (*Pedicularis centranthera)* was found on the allotment. This species was a BLM Bureau Tracking species which had limited distribution occurring in Lake and Harney counties, Oregon.

In 2002 livestock did not appear to limit wildlife habitat.

Special Status Plants

In 2018 there are no special status plants listed in the data base for this allotment. Dwarf lousewart, (*Pedicularis centranthera)* is no longer on any list of plants being tracked.

Fish/Fish Habitat

There are no fish or fish habitat in the Lane Individual Allotment. Although the allotment is generally tributary to Crump Lake, which contains occupied, designated critical habitat for Warner Sucker, there are no perennial or significant intermittent streams in the allotment. A BLM evaluation completed in 1995 concluded that grazing in the allotment would have no effect on Warner Sucker.

Wildlife/Wildlife Habitat

In 2002, this standard was met. The diversity of wildlife species was consistent with productive sagebrush steppe communities. Deer populations were healthy. Additionally, the allotment was used by wintering Golden Eagles and Peregrine Falcons.

Currently, Standard 5 is being met for native, T&E and locally important wildlife species in the Lane Plan Individual 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*), Peregrine Falcon (*Falco peregrinus*), Snowy Egret (*Egretta thula*), hoary bat (*Lasiurus cinereus*), fringed myotis (*Myotis thysanodes*), long-eared myotis (*Myotis evotis*), Yuma myotis (*Myotis yumanensis*), Townsend's Big-eared bat (*Corynorhinus townsendii*), California myotis (*Myotis californicus*), gray wolf (*Canis lupus*), and pygmy rabbit (*Brachylagus idahoensis*). There are also species of high public interest, which include: mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and California bighorn sheep (*Ovis canadensis californiana*).

There are four known Golden Eagle nests located within the allotment. The nests occur within the western and southern portions of the allotment. Bald and Golden Eagle foraging does occur throughout the allotment. No surveys have been conducted for Peregrine Falcons; however, foraging habitat exists throughout the allotment.

Six bat Bureau Species of Concern have the potential to occur throughout the Lane Plan Individual Allotment, of which, four are classified either as BLM-Sensitive and/or Oregon-Sensitive Vulnerable. These include hoary bat, fringed myotis, Townsend's Big-eared bat, Yuma myotis, silver-haired bat, and long-eared myotis. 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.

Lane Individual is outside of any PAC, the allotment is not considered any type of habitat management area for Greater Sage-Grouse. Currently, there are no known resource conflicts for this species.

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 a large portion of the allotment for use in wintering habitat. The entire allotment is within identified mule deer winter range habitat (99%). Conflicts between livestock and mule deer do not generally occur; however to further reduce any impacts to wintering mule deer and associated habitats, there will be no livestock grazing after September 29th. Western juniper (*Juniperus occidentalis*) encroachment will reduce antelope bitterbrush and this may hinder mule deer winter range conditions throughout the allotment. Mule deer depend on antelope bitterbrush during the winter season (Bergman et al. 2014).

Bighorn sheep occupy a large portion of the allotment with 2,827-acres (93%) identified as winter habitat. Mule deer wintering habitat overlaps with bighorn sheep habitat and there is potential for competition. Conflicts may occur between bighorn sheep and livestock during the lambing season (Wilson et al. 1978). Although some competition may occur between cattle and bighorn sheep, it is likely insignificant. Direct conflict with cattle on lambing grounds is unlikely to occur because ewes generally choose rugged terrain for parturition sites (Smith et al. 2015). These sites are unlikely to be used by cattle.

2017 Team Members

Name	Title
LeeAnn McDonald	Wildlife Biologist
John Klock	Botanist
Grace Haskins	Weed Management Specialist
Joe Chigbrow	Interdisciplinary Biologist
James Leal	Fisheries Biologist
Paul Whitman	Planning and Environmental Coordinator
Les Boothe	Assistant Field Manager

Recommendations

Juniper control to maintain the sagebrush /grass communities and the mountain mahogany/grass community.

2017 Determination

(X) Existing grazing management practices on the Lane Individual 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 Lane Individual 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 — Date: 9/27/19

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

[3] 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 2a. ESI dominant vegetation communities in Lane Individual Allotment

Vegetation Community		
Plant Code	**Scientific Name**	**Common Name**
ARAR8-ELEL5	*Artemisia arbuscula-Elymus elymoides*	low sagebrush-squirreltail
ARTR2-PSSPS	*Artemisia tridentata-Pseudoroegneria spicata*	big sagebrush-bluebunch wheatgrass
CELE3-ARTRV-POA	*Cercocarpus ledifolius-Artemisia tridentata ssp. vaseyana-Poa* species	curl leaf mountain mahogany-mountain big sagebrush-bluegrass species
JUOC-ARTR2-POSE	*Juniperus occidentalis-Artemisia tridentata-Poa secunda*	western juniper-big sagebrush-Sandberg bluegrass
JUOC-ARTRV-ELEL5	*Juniperus occidentalis-Artemisia tridentata ssp. vaseyana-Elymus elymoides*	western juniper-mountain big sagebrush-squirreltail
Rockland	N/A	N/A
Unknown*	N/A	N/A

* "Unknown" combines dominate vegetation labeled as "Unknown" + "Incomplete" along with the remaining allotment acres with no classsified vegetation communities.

Table 2b. ESI dominant vegetation communities in Lane Individual Allotment: Soil Surface Factor Acres

Vegetation Community	Acres	% of total	SSF Acres					
Plant Code		acres	Stable	Slight	Moderate	Critical	Severe	Unknown
ARAR8-ELEL5	2	< 1%	2	-	-	-	-	-
ARTR2-PSSPS	768	25%	768	< 1	-	-	-	-
CELE3-ARTRV-POA	2	< 1%	2	-	-	-	-	-
JUOC-ARTR2-POSE	537	18%	537	-	-	-	-	-
JUOC-ARTRV-ELEL5	313	10%	313	-	-	-	-	-
Rockland	367	12%	-	-	-	-	-	367
Unknown*	1066	35%	-	-	-	-	-	1066

* "Unknown" combines dominate vegetation labeled as "Unknown" + "Incomplete" along with the remaining allotment acres with no classsified vegetation communities.

Table 2c. ESI dominant vegetation communities in Lane Individual Allotment: Observed Apparent Trend Acres

Vegetation Community Plant Code	Acres	% of total acres	OAT Acres			
			Upward	Static	Down	Uknown
ARAR8-ELEL5	2	< 1%	2	< 1	-	-
ARTR2-PSSPS	768	25%	-	768	-	-
CELE3-ARTRV-POA	2	< 1%	2	-	-	-
JUOC-ARTR2-POSE	537	18%	-	537	-	-
JUOC-ARTRV-ELEL5	313	10%	313	-	-	-
Rockland	367	12%	-	-	-	367
Unknown*	1066	35%	-	-	-	1066

* "Unknown" combines dominate vegetation labeled as "Unknown" + "Incomplete" along with the remaining allotment acres with no classsified vegetation communities.

Table 2d. ESI dominant vegetation communities in Lane Individual Allotment: Acres within Seral Stage

Vegetation Community Plant Code	Acres	% of total acres	Acres within Seral Stage				
			PNC	Late	Mid	Early	Unknown
ARAR8-ELEL5	2	< 1%	-	2	-	-	-
ARTR2-PSSPS	768	25%	-	-	768	-	-
CELE3-ARTRV-POA	2	< 1%	-	-	2	-	-
JUOC-ARTR2-POSE	537	18%	-	-	537	-	-
JUOC-ARTRV-ELEL5	313	10%	-	-	313	-	-
Rockland	367	12%	-	-	-	-	367
Unknown*	1066	35%	-	-	-	-	1066

* "Unknown" combines dominate vegetation labeled as "Unknown" + "Incomplete" along with the remaining allotment acres with no classsified vegetation communities.

Table 3. Lane Individual Allotment (#00524) Actual Use Data by Year

Year	Lane Individual AUM's
2018	65
2017	65
2016	28
2015	66
2014	65
2013	65
2012	59
2011	66
2010	65
2009	65
2008	65
2007	Rested
2006	65
2005	60
Recent 10 year Average	61
Overall Average	57

Note: Utilization not recorded for the Lane Individual Allotment since the allotment has a "Custodial" categorization.

Appendix B. Literature Cited

Bergman, E.J., C.J. Bishop, D.J. Freddy, G.C. White, and P.F. Doherty, Jr. 2014. Habitat management influences overwinter survival of mule deer fawns in Colorado. The Journal of Wildlife Management 78: 448-455.

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Smith, J.B., T.W. Grovenburg, and J.A. Jenks. 2015. Parturition and bed site selection of bighorn sheep at local and landscape scales. The Journal of Wildlife Management, 79(3): 393-401.

Wilson, L.O., A. Polenz, J. Blaisdell, A. Sands, and W. VanDyke. 1978. California bighorn sheep (*Ovis canadensis californiana*) habitat management. Bureau of Land Management, Idaho, USA.