Pope Allotment - # 0848

Rangeland Health Standards Assessments (RHSA)



A view of the Pope Allotment (#0848) showing the large lava slide areas in the allotment. (Picture taken September 12, 2006).

Introduction/Background

The Pope Allotment is located on Stukel Mountain south of Klamath Falls, near Merrill, Oregon. The allotment is made up of three different parcels surrounded by private land. It is listed in the Klamath Falls ROD/RMP as 1044 acres in size; the ESI tallied acres indicated 681 acres. Part of the allotment (320 acres) was sold in 2005, resulting in the acres listed in the ROD/RMP being significantly more than the ESI tallied acres.

The base property for the Pope Allotment is owned by Pope Ranches, Inc., and the grazing rights are leased to Edwin Gilman under a continuing series of ten year base property leases. The oldest actual grazing lease in the grazing file dates back to September 18, 1950 to E. Hammond. A case history found in the grazing file indicates this allotment was originally leased by Kandra from 1936 to 1939. It was then transferred to Dennis Murphy and Hammond until 1950, and Murphy and Hammond then transferred their lease rights to Pope Ranches, Inc.

One observation common to all of Stukel Mountain is that the area's vegetative composition is very jumbled and variable both naturally and artificially. The area is naturally a mix of different ecological sites due to the varying slopes, aspects, and soil depths which allow an array of different ecological sites to express themselves in fairly close proximity. It is also a fragmented landscape with lots of private lands intermingled with (and usually unfenced from) BLM lands. Another factor adding to the ecological complexity of the area is that much of it has been undergoing active juniper control over the past few years (apparently with more to come).

The current grazing lease for the Pope Allotment is for 16 cattle from 5/1 to 7/31 (48 AUM's). The suggested grazing season of use listed in the KFRA ROD/RMP is 5/1-6/15. The current season of use is longer than the season of use listed in the ROD/RMP/RPS,

and authorized AUM's are less than those listed in the ROD/RMP/RPS (due to the land sale in 2005), and is considered appropriate for the allotment.

Due to its low priority status, this allotment has had no rangeland monitoring information collected on it. Ecological Site Inventory (ESI) was completed on the allotment during the summer of 2006. This Assessment is largely based on an evaluation of the ESI information, supplemented with the limited other existing resource information, to determine if current livestock grazing management is meeting the Standards for Rangeland Health and LUP objectives.

The Pope Allotment had no "Identified Resource Conflicts/Concerns" noted in the ROD/RMP (Appendix H, page H-44).

The allotment ranked as a "C" category allotment. Categorization of grazing allotments has been required by Bureau policy since the early 1980's in order to direct limited manpower and funding to resource problem areas that are most in need of it and where the probability of success is good. A brief summary of the allotment specific categorization efforts follows as it is indicative of the relative resource concerns on this allotment – past and present. ("I" or "Improve" allotments have the highest priority resource concerns, "M" or "Maintain" allotments are moderate to low priority; and "C" or "Custodial" allotments are the lowest resource priority, usually due to small size and/or lack of ability to make significant change. See the ROD/RMP Appendix H, pages H-69-70 for further information on the allotment categorization - "Selective Management" – process.)

1982 Ranking (Pope)

1 – Range Condition: Satisfactory ("M" ranking)

2 - Forage Production Potential: Low potential and present production is near potential ("M" ranking)

- # 3 Resource Use Conflicts: Limited conflicts or controversy may exist ("C" ranking)
- #4 Economic Returns: No opportunity for positive economic returns or no developments proposed ("C" ranking)
- # 5 Present Management: Satisfactory or is only logical practice ("C" ranking)

Because of a lack of significant problems or resource concerns, and/or ability to effect real change, the allotment was ranked as in the "C" management category due to low management potential and the small BLM acreage compared to the large private acreage. It was carried forward in the "C" management category during the RMP process in the early 1990's and is so listed in the 1995 KFRA ROD/RMP.

Additional Assessment Process Notes

Bureau policy and direction articulates a preference that RHSA's be done at the watershed scale, unless "compelling" reasons dictate a different assessment boundary. Watershed analysis has been completed for the KFRA's Westside and more recently for the entire Gerber Block. Since no other watershed analyses are currently planned for the remaining portions of the KFRA, the un-assessed allotments will be assessed individually. Since grazing management – and changes to such – must be effected physically at the allotment level and administratively at the permit/lease level, some type of evaluation and assessment

at an allotment scale is appropriate and usually unavoidable. Typically, cattle use stops/begins at an allotment boundary fence. This assessment process is also in accordance with current direction and policy guidance, including the recently issued Rangeland Health Standards Handbook (H-4180-1).

Some of the information discussed under one Standard may be discussed under one (or more) of the other Standards. This is partially due to the same monitoring or observational information being discussed in the first Standard because the allotment is upland in nature and the first Standard on upland functionality makes a convenient location for most of the analysis.

The condition or degree of function of an area in relation to the Standards and its trend toward or away from a Standard is determined through the use of reliable and scientifically sound indicators – known as "Indicators of Rangeland Health". The H-4180-1 Handbook defines an "indicator" as: "Components of a system whose Characteristics (presence or absence, quantity, distribution) are used as an index of an attribute (e.g. rangeland health attribute) that are too difficult, inconvenient, or expensive to measure". Though the Handbook encourages the use of "...dissimilar indicators..." for each Standard, there is rarely enough information available to have unique indicators for each of the five Standards. Examples of indicators can include ecological condition ratings, plant cover and productivity, different erosional attributes, and many other potential ones. In this Assessment area there has been little historical grazing related information collected due to its low priority status. Thus, there are very few quantitative and qualitative indicators that can be used for the Standards assessment, outside of the recent ESI information. The indicators and studies used are explained in the assessment that follows. (Note: The brief description of the Standard in bold, is quoted from the approved "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington – August 12, *1997"*.)

The "Guidelines for Livestock Grazing Management" comprise a set of concepts to consider when evaluating the current or proposed grazing management of an area against the five Standards. To quote the 4180 Handbook, a "guideline" is: "A practice, method, or technique used to ensure that standards can be met or that significant progress can be made toward meeting the standard. Guidelines are tools such as grazing systems, vegetative treatments, or improvement projects that help managers achieve standards. Guidelines may be adapted or modified when monitoring or other information indicates the guideline is not effective, or a better means of achieving the applicable standard becomes appropriate." The actual Oregon/Washington Guidelines for Livestock Grazing Management are not included with this assessment, though are available at the Klamath Falls Resource Area office.

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STANDARD 1 – WATERSHED FUNCTION – UPLANDS

(Upland soils exhibit infiltration and permeability rates, moisture storage and stability that are appropriate to soil, climate, and land form.)

The primary information to be used in evaluating this Standard is the information from a recent Ecological Site Inventory and the general ESI related observations; miscellaneous

information and observational notes from the grazing files; and the professional judgment of BLM personnel who have worked in the area for many years. The indicators that this information helps address are: plant cover, litter, composition, production, age class, and community structure; level of erosion and overland flow, and apparent trend. Some of these indicators are implicitly addressed with the ecological condition rating and others with the variety of ESI related observations (e.g. SSF, OAT).

Ecological Site Inventory (ESI):

An ESI was completed for the Pope Allotment during the late summer of 2006 by Molly Juillerat. The details and observations of this survey were documented in notes entitled *Pope Allotment 0848 and Rajnus 0849 Ecological Site Inventory Notes.* The ESI resulted in the preparation of an assortment of "Rangeland Inventory – Ecological Status Worksheets" covering 8 different Site Write-up Areas or SWA's. A SWA is a distinct zone of vegetation that is relatively homogeneous within the SWA, but different than the other SWA's.

The following is a summary of the ESI information which is keyed to the SWA numbers on the ESI maps located in the Pope file. All of the referenced ecological sites are in MLRA (Major Land Resource Area) 021X – *Klamath and Shasta Valleys and Basins*. The pertinent ecological sites, which were created by and are administered by the NRCS, are found on-line at this URL: <u>http://esis.sc.egov.usda.gov/Welcome/pgReportLocation.aspx</u> A copy of a KFRA specific (slightly modified for local conditions) 021X ecological site guide is located in the KFRA office in the "range" area. This modified guide is what was used to do the actual condition ratings.

SWA#	SWA%	Ecological Site Name	Worksheet #	Acres	Condition	Trend
P1	100	Juniper Claypan 12-16"	MJ-01-06	64	PNC	Up
P2	100	Juniper Claypan 12-16"	MJ-02-06	49	Late	Static
P2b	100	Juniper Claypan 12-16"	MJ-06-06	33	Early	Static
P3	100	Juniper Claypan 12-16"	MJ-03-06	64	Late	Up
P4	100	Juniper Dry Pine 12-16"	MJ-04-06	104	Late	Up
P5	100	South Slopes 14-18"	MJ-05-06	137	Mid	Static
P6	100	Shrubby Loam 16-20"	MJ-08-06	104	Early	Static
P7	100	Shrubby Loam 16-20"	MJ-07-06	126	Mid	Up

Pope (0848) Allotment

The overall condition of the Pope Allotment by condition class and weighted by acres (681 acres total) is summarized in the following table (Note: The ESI calculated acres were 681, which is less than the 1044 listed in the RMP due to rounding and calculation variations and the fact that 320 acres of the allotment was sold in 2005):

Condition	Acres	Percent of Allotment
PNC	64	9%
Late Seral	217	32%
Mid Seral	263	39%
Early Seral	137	20%

As the information in the table above shows, the area is in reasonably good condition with 41% of the allotment classifying as late seral to PNC and 80% in mid-seral or better. The ESI process assesses the present conditions against other ecological site descriptions, or ecological reference areas. These areas exhibit ecological processes that are functioning within a normal range of variability and plant communities that possess adequate resistance to and resiliency from most disturbances.

The elevated conditions found on a large portion of the allotment indicates that the overall area is within appropriate ecological site description parameters for functionality relative to the three major attributes of rangeland health – *Soil/Site Stability, Hydrologic Function,* and *Integrity of the Biotic Community.* A proper vegetation management objective for the allotment would be to at least maintain the current conditions ratings in the areas that are late seral or PNC. (See the "*Management Recommendations*" section later in this document.)

There was only one SWA (P-1) that rated out as PNC, and this area was juniper treated (but not utilized) several years ago. This demonstrates how juniper encroachment is affecting the ecological state of the allotment, and how juniper treatment can dramatically influence ecological processes in a positive way.

All of the recorded early/mid seral vegetation areas found within the allotment have been largely disturbed by activities other than grazing sometime in the past. The only early seral areas in the allotment were located in SWA's P2b and P6. SWA P2b has been invaded by juniper, and combined with a southerly aspect, it has a high percentage of cheatgrass. SWA P6 has also been invaded by juniper, and combined with heavy utilization due to its close proximity to private land, the site is suffering ecologically.

The areas that rated out as mid-seral were areas that have either been burned in the past, or have reduced shrub and grass components due to juniper invasion. Many areas in the allotment are in need of juniper reduction/removal. However, utilization (or more particularly dragging/yarding utilization) of the cut juniper would most likely ecologically set back the areas that are in mid-seral condition.

SWA's P2, P2b, P3, P4, P6, and P7 are all exhibiting heavy juniper encroachment. This has led to a good portion of the allotment rating out as mid-seral. However, there are no downward trend ratings assigned to the allotment.

Other Monitoring/Observational Information

No other monitoring information has apparently ever been collected on the allotment due to its relatively low priority; thus the utility or even necessity of doing the ESI which was discussed above. During that survey, two additional resource condition observations are made at each write-up area – trend (Observed Apparent Trend or OAT) and soil erosion (Soil Surface Factor or SSF).

Pope Allotment: The OAT for the 8 pertinent worksheets indicated four upward trend areas, four static (or not apparent) areas, and no downward trend areas. The significant amount of upward trending sites indicates that the area is improving in condition. The four

static areas are most likely static because of juniper encroachment, and are in need of juniper treatment. Complimenting the condition ratings, the SSF ratings for Pope were all within the "stable" erosion condition class.

Forage Allocation & Use History:

Based on a review of the older grazing files, the section 15 grazing lands in the old Lost River Resource Area (which is now a large part of the current KFRA) were converted from acres based to AUM based leasing in 1968-1970. (The section 15 lands are essentially all the KFRA administered lands outside of the Gerber Block – Oregon Grazing District #1.) These section 15 lands were usually converted at the ratio of 7 to 10 acres equaling one AUM, e.g. a 100 acre lease of BLM land would be leased at 10-14 AUM's. These conversions were not based on any type of specific range survey or monitoring information, but were instead converted based on allotment acreage and an estimate of the forage capabilities of the area. Given the elevation and climatic regime of our area (13"-18" precipitation) and the vegetation communities that this precipitation can support, a rating of 7-10 acres per AUM can be an acceptable maximum allocation though in many areas a lower rating (more acres per AUM) is warranted if topography, condition, or other factors limit the availability or usability of forage. Unfortunately, no specific information on past forage capacities was found for the allotment.

Pope Allotment: Grazing history for this allotment is limited at best. The lessee's file (Pope Ranches, Inc) indicates that this allotment has had 48 AUM's licensed to it since 2006, when 320 acres of the allotment was sold. Prior to a portion of the allotment being sold, 70 AUM's were licensed each year dating back to 1982. The grazing lease is held by Pope Ranches, Inc. who leases to Edwin Gilman.

Utilization on this allotment as observed during ESI in 2006 indicates slight to light use in certain areas, to some heavy utilization in SWA P1, P6, and P7 (SWA's which make up 43% of the allotment). Heavy utilization occurred in areas adjacent to private land, where the fences between private and BLM lands are in poor shape. Given the relatively high ecological condition rating and the generally upward apparent trend, it can be assumed that the current grazing practices are for the most part appropriate and may, in any event, be unavoidable. (See #2 in the *Management Recommendations* section.)

Determination:

This Standard is currently being met.

Recent ESI and other observational information indicate that current conditions on the BLM administered lands are sufficient to at least minimally meet this Standard. One current condition issue is related to the poor condition of the fences between the Pope Allotment and neighboring private lands, which leads to use that can't be controlled by BLM. The other condition issues on the allotment are related to juniper encroachment, juniper density increases, or treatment of these juniper invaded areas. In the last few years, a large portion of BLM lands on Stukel Mountain have been treated (i.e. sheared, piled, and burned). Although in the short term this disturbance results in an increase of annual grasses and forbs, in the long term the removal of the juniper should lead to better ecological conditions, which is evidenced in the general upward trend of the allotment. In some areas of the Pope Allotment the juniper encroachment is hindering the ecological status by crowding out desirable species and increasing the amount of bare ground. Despite the fact that 41 percent

of the allotment rated out as late seral to PNC, it is in need of juniper treatment or inevitably the trend will shift downward. (See the "Management Recommendations" section.)

<u>STANDARD 2 – WATERSHED FUNCTION –</u> <u>RIPARIAN/WETLAND AREAS</u>

(Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and land form.)

The primary information, monitoring, and indicators to be used in evaluating this Standard are those listed under Standard 1.

There are no riparian/wetland areas on BLM administered lands within the Pope Allotment. Livestock watering areas are located on adjacent private lands.

Determination: This Standard is currently being met.

Given the good ecological conditions and the general observation that there appears to be no riparian or wetland problem areas, this Standard must be considered met.

STANDARD 3 – ECOLOGICAL PROCESSES

(Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and land form are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.)

The primary information, monitoring, and indicators to be used in evaluating this Standard are those listed under Standard 1.

Since the allotment is upland in nature, the analysis and information previously listed under Standard 1 is the basis for the determination under this Standard. The 2006 ESI found that outside areas recently treated with juniper removal, and areas subject to juniper encroachment, the allotment classified as 41% late seral or PNC, and exhibited low evidence of erosion. In the areas with mid-early seral ratings (only 39% or less for the allotment), the ecological conditions are generally good with predominantly stable to upward trends. These largely appropriate ecological conditions are considered as reliable indicators of proper functionality for all the processes noted in the Standard description above.

One further ecological issue needs some discussion: western juniper (*Juniperus occidentalis*) and its place in the ecosystem of this area. Most portions of the Klamath Basin, above the valley floor and below about 5500', have been experiencing varying degrees of the "juniper problem." This includes juniper encroachment into vegetation communities – particularly big sagebrush and bitterbrush – that previously had limited juniper and significant density increases in areas where juniper was and should be present, though in lesser quantity (see picture below). Though a native plant, in the absence of fire (a function of increased suppression and grazing related fine fuels reduction) and with the catalyst of heavy livestock grazing in the past reducing shrub and grass competition, juniper can increase to the point that the vegetation community is almost a juniper monoculture. This results in diminished

habitat capabilities for most native wildlife species, dramatically reduced forage production for all grazing animals, and frequently an environment conducive to the invasion of undesirable exotic plants.



Photo taken 9/12/06 in SWA P-2 (write-up MJ-02-06) located in the Pope Allotment. This is a late seral condition Juniper Claypan site where the understory is suffering due to a higher than appropriate density of juniper.

On the Pope Allotment, juniper encroachment has been an ever increasing problem with many areas having juniper densities well in excess of historic levels as defined by the ecological site descriptions. This is particularly true in the *Juniper Claypan* 12-16", *Juniper Dry Pine* 12-16", and *South Slopes* 14-18" ecological sites. Fortunately, many of these areas are scheduled to be treated (sheared, piled, and burned) in the near future. Even though the BLM lands are currently in largely appropriate condition, many plant communities are nearing the stage where juniper will begin to crowd out the more desired understory species.

Determination: This Standard is currently being met.

As with the determination for the first Standard, the currently appropriate ecological state of vegetation communities on the allotment strongly indicates that Standard 3 is fully met. See Standard 1 for the data, evaluation, and determination information that is pertinent to this Standard. The juniper encroachment issue looms as a future problem, but is being aggressively pursued as a fuels reduction issue throughout the KFRA although funding for such appears to be waning. Since these areas with the encroachment problem are in good ecological condition, if they are treated they should be able to recover and surpass pretreatment conditions fairly quickly (as evidenced by areas in surrounding allotments such as Harpold Canyon that have been sheared approximately three to four years ago, and are already recovering), provided removal methods are ecologically appropriate. Livestock grazing at the currently permitted levels would be considered appropriate in maintaining current and predicted future conditions. (See the "*Management Recommendations*" section.)

STANDARD 4 – WATER QUALITY

(Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.)

There are no permanent surface waters located within the allotment and no listed quality impaired waters within or closely adjacent to these allotments. All of the allotment drainages are very widely disconnected from the nearest water body of concern – the Lost River– by extensive tracts of variably developed private lands. That river is Oregon 303(d) listed for an assortment of recognized water quality problems.

<u>Determination:</u> This Standard is currently being met (or is not applicable).

There are no listed water bodies in this allotment and the current grazing management on BLM administered lands is not contributing to off-site water quality problems. Given the dominant good overall ecological conditions and the lack of riparian or wetland areas this standard must be considered met.

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 land form.)

The primary information, monitoring, and indicators to be used in evaluating this Standard are those listed under Standard 1.

Animals: Good vegetation conditions (Standard 1) indicate that habitat conditions for all present wildlife species are good. The proposed juniper control activities will also enhance future conditions for all wildlife by restoring more "correct" ecological conditions over the next few decades, though of course, juniper will again begin to make inroads at some point in the future. The importance of the BLM lands in this area is due to their positioning as "islands" of wild lands in and adjacent to a "sea" of variably developed and altered private lands.

The juniper encroachment issue discussed under Standard 3 must be considered a wildlife habitat issue of ever increasing importance, and is very close to being critical in certain areas, where the trend is downward due to the encroachment.

Special Status Species: No special status species have been found on this allotment. However, the area is classified as deer winter range, and would greatly benefit from juniper management.

Plants: The Pope Allotment was systematically surveyed for botanical resources in July 1997. No special status plant or noxious weed populations were found during this survey. No populations were previously known or subsequently found to occur on the allotment.

<u>Determination:</u> This Standard is currently being met.

Standard 5 is considered fully met on the allotment. See Standards 1, 2, and 3 for the data, evaluation, and determination information that is pertinent to this Standard. The primary indicators of proper wildlife/plant habitat functionality are the elevated ecological conditions, the limited grazing related problems, and the planned juniper control activities which will likely increase the ecological conditions of treated areas over the next five to ten years and beyond. (See the "*Management Recommendations*" section.)

Management Recommendations:

The generally appropriate ecological condition on a large portion of the allotment indicates that livestock grazing – as currently permitted – is compatible with resource conditions. However, the chronic overuse due to poor fencing between adjacent private lands and the Pope Allotment is of some concern (see below). The following specific management recommendations reflect the findings of this Assessment:

Management:

1. The Klamath Falls Resource Area has a very proactive weed program which includes inventories and site treatments that consist of biological, chemical, and manual treatments. The treatment efforts are to contain weed sites, reduce population size, and eradicate weed sites where possible. This effort will continue to be pursued on this and all grazing allotments in the KFRA.

2. It is recommended that all or part of the BLM administered lands in the allotment be sold. Currently, all of the land in the allotment is listed as Zone 1, which is "Retain". Given the allotment's relatively small size in relation to the private land that surrounds it, as well as the poor fencing between BLM and private lands, it is difficult for the BLM to effect any change on the land. The recommendation for the currently ongoing plan revision has the southeastern portion of the allotment zoned as "Exchange", and the northwestern portion of the allotment zoned as "Retain".

3. It is recommended that the current lease defined grazing season of use continue to be implemented on the allotment as long as the land remains under BLM administration.

4. Grazing on this allotment is predominantly slight to light, with a small portion of the allotment exhibiting heavy utilization (largely due to the proximity of these areas to private land). A large portion of the allotment (41%) is made up of functional late seral/PNC vegetation communities. Due to the good conditions and relatively low priority status of the Pope Allotment, the establishment of formal rangeland monitoring studies is not necessary in the foreseeable future. It is recommended that the allotment receive use supervision every one or two years during or just after the grazing use to ensure that no significant grazing related resource problems are occurring.

5. Plant community objectives for Pope:

• At least maintain indefinitely the current ecological condition rating for all of the different SWA's within the allotment as listed under the ESI section in Standard 1 (with the exception of early seral SWA's P-2b and P-6 which are heavily encroached

upon by juniper, and showed signs of heavy utilization in some areas, which we would want to improve over time).

• Reduce the young (<125 years old) juniper cover in areas where it is encroaching by at least 75% within the next 10-20 years. Much of this allotment is juniper invaded, including SWA's P-2, 2b, 3, 4, 5, 6, and 7. These areas are now experiencing (or have the potential for) undesirable levels of juniper encroachment and should be treated. A downward trend for much of the allotment will be inevitable if juniper levels are not controlled in the near future.

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Determination

- (X) Existing grazing management practices and/or levels of grazing use on the Pope Allotment (#0848) promotes achievement or significant progress towards the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management (Appendix 1).
- Existing grazing management practices and/or levels of grazing use on the Pope Allotment (#0848) 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 Guidelines for Livestock Grazing Management.

<u>/s/ Donald J. Holmstrom</u>	11-9-07
Field Manager, Klamath Falls Resource Area	Date



View of SWA P-1, taken 9/12/06. This is a Juniper Claypan site, and rated out as PNC with an upward trend. It is recovering well after mechanical juniper shearing, piling, and burning recently.