

**NOTICE OF PROPOSED DECISION
GRAZING PERMIT RENEWALS FOR THE
ALKALI WINTER (001001), PIKE RANCH (00425), COLEMAN SEEDING
(00432), AND XL (00427) ALLOTMENTS**

I. INTRODUCTION AND BACKGROUND

The Lakeview Resource Area, Bureau of Land Management (BLM) has completed an environmental assessment (EA# DOI-BLM-OR-L050-2014-0010-EA) documenting the potential effects of renewing term grazing Permit #3601487 and #3602231 for a ten-year period, as well as implementing several range improvement and vegetation treatment projects. Permit #3601487 addresses grazing management within three pastures (West Venator, Ryegrass, and Hutton Springs) of the Alkali Winter (01001) Allotment, Pike Ranch (00425) and Coleman Seeding (00432) Allotments. Permit #3602231 addresses grazing management in two pastures (Middle and North Abert) of the XL (00427) Allotment. The four allotments are located between 8 and 30 miles north of Valley Falls, Oregon (see Map 1 of the EA).

The renewal or initial issuance of a term grazing permit represents a Federal action to authorize livestock grazing on public land for a specified period of time and under a set of specified terms and conditions. The permittee submitted a permit renewal application to the BLM for consideration prior to the permits' expiration. The BLM is required to respond to a permit renewal application and consider whether or not to reissue or modify the permit(s) in accordance with 43 CFR Part 4130.

II. PROPOSED DECISION

My proposed decision is comprised of multiple components and consists of a modified version of Alternative 2, as described in the following section.

Permit Renewal

The BLM will issue one, 10-year grazing permit (#3601487), and one three-year grazing permit (#3602231) to authorize livestock grazing use on the Pike Ranch (00425) Allotment, Coleman Seeding (00432) Allotment, two pastures (West Venator and Ryegrass) of the Alkali Winter (01001) Allotment, and two pastures (Middle and North Abert) of the XL (00427) Allotment.

Permit Terms and Conditions

Table 1 shows the permit number, permit dates, forage amount in Animal Unit Months (AUMs), and grazing season or system which will be authorized for each allotment. Following the table are further descriptions of the grazing practices that will be authorized on each allotment.

Table 1. Livestock Use Authorized under Permits #3601487 and #3602231

Allotment Name/ Number	Permit Number	Number/Kind of Livestock	Use Period (MM/DD)	Active Use (AUMs)	Grazing Season or System*
Alkali Winter (01001)	3601487	508/Cows	11/1-2/28	2,005	Winter
Pike Ranch (00425)	3601487	16/Cow Calf Pairs	5/15-11/1	95	Spring, Summer, Fall
Coleman Seeding (00432)	3601487	169/ Cow Calf Pairs and/or Yearlings	11/1-6/1	1,189	Rest Rotation
XL (00427)	3602231	377/Cow Calf Pairs	2/1-6/1	1,500	Rest Rotation

* Refer to definitions in Appendix E5 of Lakeview RMP/ROD (BLM 2003, p. A-142 to A-148, as maintained).

Pike Ranch Allotment

The authorized period of use will be May 15th through November 11th. This is a change from the previous period of use which was from August 20th through November 15th. Authorize 95 AUMs of forage removal to be grazed under a spring, summer, fall grazing system.

Coleman Seeding Allotment

Implement a three pasture rest-rotation grazing management system. This rest-rotation grazing system will include the two existing pastures of the Coleman Seeding Allotment and adjacent state land (also used by the same permittee) will comprise the third pasture. Under this grazing system, each pasture will be grazed two years in a row followed by a year of rest (refer to Table 2, below). Each of the pastures will receive a full year of rest from grazing every third year. This rest rotation will begin in 2015, or the first grazing season following the final decision. The pasture rested during the first year of implementation could vary from what is shown in the Table 2 below, if the rest cycle starts with a different pasture.

Table 2. Coleman Seeding – Three-Year Rest Rotation Grazing Management System

Year	Triangle Pasture	South Pasture	State Land Pasture
One	Rest	Graze	Graze
Two	Graze	Rest	Graze
Three	Graze	Graze	Rest

The authorized period of use will be November 1st through June 1st. This is a change from the previous period of use which was from February 1st through June 1st. Increase the permitted use from 920 AUMs to 1,189 AUMs. Authorize forage removal of the entire 1,189 AUMs only in those years when the Triangle and South Pastures of the Coleman Seeding Allotment are both grazed in the same year (i.e., every third year). During each of the other two years, authorized forage removal is limited to 651 AUMs in the South Pasture and 538 AUMs in the Triangle Pasture.

XL Allotment

Continue to authorize a period of use from February 1 through June 1 and to allow 1,500 AUMs of forage removal. Graze under the existing rest rotation grazing system.

Standard Terms and Conditions

Standard terms and conditions will be applied to the new permits for the four allotments. These include:

- 1) Grazing permit or lease terms and conditions and the fees charged for grazing use are established in accordance with the provisions of the grazing regulations now or hereafter approved by the Secretary of the Interior (see 43 CFR Part 4100).
- 2) Permits/leases are subject to cancelation, in whole or in part, at any time because of:
 - a. Noncompliance by the permittee/lessee with rules and regulations.
 - b. Loss of control by the permittee/lessee of all or part of the property upon which it is based.
 - c. A transfer of grazing preference by the permittee/lessee to another party.
 - d. A decrease in the lands administered by the BLM within the allotment(s) described.
 - e. Repeated willful unauthorized grazing use.
 - f. Loss of qualifications to hold a permit or lease.

- 3) Permits/leases are subject to the terms and conditions of allotment management plans, if such plans have been prepared. Allotment management plans must be incorporated into permits or leases when completed.
- 4) Those holding permits or leases must own or control and be responsible for the management of livestock authorized to graze.
- 5) The authorized officer may require counting and/or additional or special marking or tagging of the livestock authorized to graze.
- 6) The permittee's/lessee's grazing case file is available for public inspection as required by the Freedom of Information Act.
- 7) Grazing permits or leases are subject to the nondiscrimination clauses set forth in executive order 11246 of September 24, 1964, as amended. A copy of this order may be obtained from the authorized officer.
- 8) Livestock grazing use that is different from that authorized by a permit or lease must be applied for prior to the grazing period and must be filed with and the approved by the authorized officer before grazing use can be made.
- 9) Billing notices are issued which specify fees due. Billing notices, when paid, become a part of the grazing permit or lease. Grazing use cannot be authorized during any period of delinquency in the payment of amounts due, including settlement for unauthorized use.
- 10) The holder of this authorization must notify the authorized officer immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (cultural items), stop the activity in the area of the discovery and make a reasonable effort to protect the remains and/or cultural items.
- 11) Grazing fee payments are due on the date specified on the billing notice and must be paid in full within 15 days of the due date, except as otherwise provided in the grazing permit or lease. If payment is not made within that time frame, a late fee (the greater of \$25 or 10 percent of the amount owed but not more than \$250) will be assessed.
- 12) Members of Congress may not enter into a grazing permit or lease. 41 USC 6306 (2014). Further, no officer, agent, or employee of the Department of the Interior, other than members of Advisory committees appointed in accordance with the Federal Advisory Committee Act (5 U.S.C. App. 1) and Sections 309 of the Federal Land Policy and Management Act of 1976 (42 U.S.C. 1701 et. seq.) shall be admitted to any share or part in a permit or lease for grazing or derive any benefit to arise from a permit or lease for grazing.

Other Permit Terms and Conditions

Other terms and conditions will be applied to the new permits. These include:

- 1) The BLM may modify the terms and conditions of this permit or lease if additional information indicates that revision is necessary to conform with standards for Rangeland Health and Guidelines for Livestock Grazing Management (43 CFR 4180).
- 2) Each year, no later than 15 days after completing your permitted grazing use in all allotments, you must submit a certified actual grazing use report to the BLM Lakeview Office.
- 3) You must maintain range improvements for which you are responsible prior to livestock turnout, annually or as specified in signed cooperative agreement(s).
- 4) Grazing fees must be paid in a timely manner. Failure to pay fees within 15 days of the due date is subject to a late fee (see 43 CFR 4130.8-1(f)).
- 5) You may place livestock nutritional supplements, (i.e. salt or mineral blocks), on your allotments provided that they are placed at least one-quarter mile away from live water sources (see 43 CFR 4130.3-2(c)). In the

event that topography and/or available water sources do not allow for the one-quarter mile requirement, coordination will be necessary with BLM.

6) You must grant the BLM reasonable administrative access across your private and leased lands to BLM-administered lands for their orderly management and protection (see 43 CFR 4130.3-2(h)).

7) The Coleman Seeding Allotment will be used under a three-pasture rest rotation grazing system with one pasture in the rotation being adjacent state land. Each pasture will be rested every third year. You may graze up to 1,189 AUMs in the Coleman Seeding allotment only in the one year out of three where both the Triangle and South pasture are grazed. In that year you may graze up to 651 AUMs in the South Pasture and 538 AUMs in the Triangle Pasture.

Grazing Management Flexibility

Uncertainties exist in managing for a sustainable ecosystem. Therefore, the BLM may authorize grazing management changes each year during approval of the annual operating plan. Flexibility is dependent upon the demonstrated stewardship and cooperation of the permittee. The BLM may allow changes in scheduled livestock numbers and use periods within the limits of the permit dates and active permitted AUMs, so long as the changes would continue to meet resource objectives.

Livestock Movement Between Pastures and Allotments (Trailing)

During the course of the year, the permittee is allowed to herd cattle between allotments and pastures. In the XL Allotment, the permittee may drive cattle across portions of the North Abert Pasture to access the Middle Abert Pasture. When moving to and from the state land, Coleman Seeding, and Alkali Winter Allotments, the permittee may herd cattle across a portion of the Pike Ranch Allotment. When moving to and from the Ryegrass Pasture of the Alkali Winter Allotment, the permittee may drive cattle through other pasture of the Alkali Winter Allotment. Other organized livestock movements between allotments and pastures may occur during the course of the year depending on the circumstance and need without further notice to the BLM. Livestock movement events will typically be completed in one day, although an overnight stop may occur on occasion. This will also include other permittees trailing cattle across BLM-administered lands covered within this permit renewal. Cattle will be moved to and from surrounding allotments, and to livestock management facilities, such as catch pens and corrals.

Monitoring

Monitoring by BLM staff, in coordination with the livestock operator, of the success in meeting allotment-specific resource objectives will take place over the life of the permits. Pace 180° methodology (Technical Reference 4400-4; BLM 1985) and permanent photo points would be used to measure the relative frequency of occurrence of key forbs, shrubs, and perennial grass species, to assess trend in rangeland condition. Observed Apparent Trend would be assessed at each upland trend plot. Upland trend data would be collected and analyzed on 5 to 10-year intervals.

Annual utilization studies for each pasture grazed by livestock along with many use supervision reports will be collected by BLM staff. The Key Forage Plant Method (TR 4400-3; BLM 1984) or similar methodology would be used to measure utilization in each pasture. Target utilization levels for key forage plant species are shown in Table 3.

During each allotment visit, monitoring for noxious weed establishment would occur, as well as observations of overall rangeland condition. Adjustments to timing of grazing and pasture use sequence to ensure/promote achievement of Rangeland Health Standards, and to meet other resource objectives, may be implemented based on a review of this annual data.

Table 3. Key Forage Plants and Utilization Threshold Levels by Allotment

Pasture	Key Forage Plants	Utilization Threshold
Alkali Winter Allotment		
West Venator	Crested Wheatgrass	60%
Ryegrass	Thurber's needlegrass/bluebunch wheatgrass/squirreltail	50%
Pike Ranch Allotment		
Pike Ranch	Saltgrass/squirreltail	50%
Coleman Seeding Allotment		
South	Crested Wheatgrass	50%
Triangle	Crested Wheatgrass	50%
XL Allotment		
North Middle	Crested Wheatgrass	50%
Middle Abert	Crested Wheatgrass	50%

Weed and Invasive Species Treatments

The BLM will treat weeds and invasive species throughout the four allotments using the methods described in Alternative 2 of the EA to improve upland watershed function and ecological conditions, as well as make progress in meeting Rangeland Health Standards 1 and 3. The BLM will use an integrated weed management approach, including manual, mechanical, biological, prescribed fire, and herbicide control methods, where appropriate and in accordance with BLM's latest weed treatment plan.

This proposed decision approves the use of four new herbicide active ingredients (chlorsulfuron, clopyralid, imazapic, metsulfuron methyl, and sulfometuron methyl), along with continued use of four existing herbicide active ingredients currently approved for use by the BLM (2,4-D, dicamba, glyphosate, and picloram) for treating weeds and invasive species, including those legally designated as noxious weeds. Herbicide uses and applications would be constrained by the Standard Operating Procedures (SOPs) and other mitigation measures adopted in the ROD for the *Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States PEIS* and ROD for *Vegetation Treatments Using Herbicides on BLM Lands in Oregon* (BLM 2007, Appendix B; BLM 2010b, pages 12-15 and Appendix A). Some of these chemical formulations are not labeled for aquatic use and therefore, application will be restricted near water. The minimum distances from water will vary by application method as follows: 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray applications. All herbicides will be applied using ground-based methods such as wicks and wipers, backpack sprayers, ATV, UTV, truck-mounted or aerial (helicopters or fixed-wing aircraft) sprayers, as described in the *Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS* (BLM 2010a, pages 68-73).

Range Improvements

New Range Improvement Projects

Cooperative Agreement

A cooperative agreement between the permittee and BLM will be completed to address each partner's responsibilities for construction, labor, and/or supplies, as well as maintenance of all new range improvement projects prior to implementation.

Alkali Winter Allotment

The Hutton Pasture Division Fence will not be constructed and existing pasture acreages will not change.

Pike Ranch

The existing southern allotment boundary fence will be adjusted and extended out into Lake Abert to prevent unauthorized livestock movement onto adjacent BLM lands as described for Alternative 2. However, as a result of public comment the fence has been relocated closer to the property line (see revised Map 4 of the EA).

XL Allotment

The Hope Well Pipeline will be extended approximately 3.5 miles north and will include three additional troughs, as described under Alternative 2 (page 10 and Map 6).

Project Design Elements

The BLM and/or the permittee will incorporate the following project design elements into project implementation:

- (1) New Pipeline: To reduce surface contrast with the surrounding landscape, which may create an “industrial appearance”, the new pipeline will be buried, preferably in or adjacent to a roadway, where possible. In addition, the existing buried pipeline in the allotment resulted in large rock berms of bright white rock, which can be seen from several miles outside of the allotment. To minimize the potential for the new pipeline to cause the same visual effect, the project area would be smoothed, re-contoured, or scatter the rows or lines of large rocks or mounds that may be created by equipment.
- (2) New Water Tanks and Troughs: use paint color(s) which allows the new facilities to blend into the background. All new permanent facilities would be painted the same color(s).
- (3) The fence along the east shoreline of Lake Abert would be re-built with a smooth bottom and top wire and would include anti-strike markers to reduce potential impacts to wildlife.
- (4) There are known weed/invasive species within the allotments. The risk of new weed introduction or spread will be minimized by ensuring all equipment (including all machinery, ATV, UTV, and pickup trucks) is cleaned prior to entry to the area and completing follow-up monitoring, to ensure no new weeds become established.
- (5) Reseeding will take place in areas disturbed by construction/installation of rangeland improvement projects (new pipeline) and some weed treatment areas. Seed mixtures of non-native and native grass, forb, and shrub seed may be applied with ground-based methods. The mixture could include non-native species such as crested wheatgrass (*Agropyron cristatum*), and native species including, but not limited to Sandburg’s bluegrass (*Poa secunda*), squirreltail (*Elymus elymoides*), and native forbs. Crested wheatgrass may be used in the seed mix because it is drought tolerant, competitive with invasive species, has a long seed viability period, and aggressive germination characteristics. Seeding will likely occur in the fall/winter season using a 4-wheeler and/or hand seeder or rangeland drill. Areas within sage-grouse habitat identified within the allotments will be seeded with mixes that benefit sage-grouse.

Range Improvement Maintenance

Maintenance of all existing and new range improvements in all four allotments will occur as needed under the provisions of the Cooperative Range Improvement Agreement(s) or Range Improvement Permit(s) that originally authorized the improvement(s). Maintenance may not be needed on all developments over the 10-year life of the permits; however, it will likely be needed on some of these improvements sometime in the next 10 years. Waterhole maintenance will include, but not be limited to the cleaning (within the original area of disturbance) of the waterhole to ensure continued function. Trough maintenance will include, but not be limited to fixing and/or replacing leaking troughs or associated

fittings, replacing wildlife escape ramps, etc. Pipeline maintenance will include, but not be limited to replacing and/or repairing broken, damaged, or leaking sections of pipe, fittings, or storage tanks. In particular, the Hope Well storage tank will be repainted a neutral color to better blend in with the natural surroundings during the next maintenance cycle.

Vegetation Treatments in the XL, Coleman Seeding, and Alkali Winter Allotments

At this time, I am deferring making a final decision regarding the following proposed vegetation treatments as originally described as part of Alternative 2 in the EA:

- 1) Rehabilitating approximately 3,758 acres of the XL Allotment not currently meeting Rangeland Health Standards 1 and 3.
- 2) Treating up to 1,200 acres of the Coleman Seeding Allotment by mowing to remove decadent crested wheatgrass plants.
- 3) Treating the understory of approximately 1,500 acres in the Ryegrass Pasture of the Alkali Winter Allotment not currently meeting Rangeland Health Standards 1 and 3.

I am deferring my decision on these proposals pending completion of cultural resource surveys and obtaining the necessary funding for implementation. If funding is secured in the future, the cultural surveys would be completed and a separate decision(s) issued.

III. RATIONALE/AUTHORITY

Decision Factors

Decision factors are additional criteria used by the decision maker to choose the alternative that best meet the purpose and need for the proposal. These include:

- a) How well does the decision conform to laws, regulations, and policies related to grazing use and protecting other resource values?
- b) How well does the decision conform to the resource management and/or allotment management plans?
- c) How well does the decision promote maintenance of Rangeland Health Standards?
- d) How well does the decision conform with ODFW 2005 sage-grouse guidelines?
- e) How well does the decision conform with IM 2012-043 regarding interim Sage-grouse management?
- f) How well does the proposal conform to the existing integrated weed management plan (BLM 2004) and *Record of Decision for Vegetation Treatment Using Herbicides on BLM Lands in Oregon* (BLM 2010b)?

The following section addresses these decision factors as they relate to my proposed decision.

Conformance with Grazing Management Laws, Regulations, and Policies

Grazing permits are subject to issuance or renewal in accordance with the provisions of the Taylor Grazing Act (1934), Federal Land Policy and Management Act (1976), Public Rangelands Improvement Act (1978), and applicable grazing regulations at 43 Code of Federal Regulations (CFR) Part 4100.

The primary authority for this decision is contained in the BLM grazing regulations, which outline in pertinent parts: 43 CFR 4110.1 Mandatory qualifications, 4110.2-1 Base Property, 4110.2-2 Specifying permitted use, 4130.2 Grazing permits or leases, 4130.3(1) through 4130.3(2) Mandatory and Other terms and conditions, 4160.1 Proposed Decisions, and 4180.2 Standards and guidelines for grazing administration.

Grazing permittees who wish to graze livestock on public land must have a grazing permit or lease issued to them under the grazing regulations (43 CFR 4130.1(a)). Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the BLM that are designated as available for livestock grazing through land use plans (43 CFR 4130.2(a)).

The permit applicant controls the base property associated with the grazing preference on the allotments and has been determined to be a qualified applicant. Applicants for renewal of a permit or lease must have a satisfactory record of performance to qualify for renewal (43 CFR 4110.1(b)(1)). Based on my review of the applicant's performance between 2004 and 2013, I have determined that the applicant has a satisfactory record of performance associated with the past permit. Grazing permits are typically issued for a term of 10 years unless the applicant has leased the base property offered in support of the permit and the base property lease is less than 10 years, in which case the permit period shall coincide with the term of the base property lease (43 CFR 4130.2(d)(3)). The base property lease for permit #3601487 is August 1, 2013 through February 28, 2024, and will be renewed for a ten year period. The base property lease for permit #3602231 is August 7, 2013 through August 6, 2016, and will be renewed for a three-year period. (*Note:* The base property lease will automatically renew at the expiration of the term for subsequent three year term unless terminated in writing by either party. Therefore, livestock grazing associated with permit #362231 was analyzed in the EA for a period of ten years).

Conformance with Rangeland Health Standards and Guidelines for Grazing Administration (43 CFR 4180)

An ID team completed Rangeland Health Assessments for the four allotments in 2003, in conformance with the requirements of 43 CFR 4180, and determined that most standards on the allotments were being met (see Tables 46-50 in revised EA). In those areas not meeting standards, livestock grazing management was not a significant casual factor. The BLM completed a review and update of those Rangeland Health Assessments in 2014 and found that rangeland health standards were still being met on most of the allotments. The ID team determined that those portions of the allotments not meeting standards were due to a variety of reasons including the presence of poor soil conditions, unhealthy perennial grasses, and weeds and invasive species. Current livestock grazing management was not a significant casual factor in failing to meet rangeland health standards. Therefore, current livestock grazing management on the allotments conforms with the rangeland health standards and guidelines (43 CFR Part 4180; see also Tables 46-50 in revised EA).

Under my proposed decision, continuing to authorize grazing in the XL Allotment under the terms and conditions (see Table 1 and accompanying text under the "Permit Terms and Conditions") section above is expected to result in soil, vegetation, wildlife habitat, and rangeland conditions remaining relatively stable or improving over time (see revised EA, Chapter 3 discussion of impacts associated with Alternative 2). The proposed adjustments in permit dates and implementing a grazing system in the Alkali Winter, Pike Ranch, and Coleman Seeding Allotments (see Table 1 above) is expected to result in soil, vegetation, wildlife habitat, and rangeland conditions remaining relatively stable or improving over time (see revised EA, Chapter 3 discussion of impacts associated with Alternative 2). Based on the analysis in the revised EA, the grazing management practices described in this proposed decision are expected to continue to meet all applicable standards and my proposed decision conforms with the requirements of 43 CFR Part 4180.

Long-term monitoring study plots have been established in the allotments and include pace 180° trend, photo trend, and utilization (see Monitoring discussion above and revised EA, Chapter 3 and Appendix B). These studies will continue in the future and be used to determine whether management objectives, including Rangeland Health Standards are continuing to be attained. If objectives are not being attained, this will be addressed through future grazing management modifications.

Conformance with the National Environmental Policy Act

Prior to issuing this proposed decision, a BLM inter-disciplinary (ID) Team prepared an environmental assessment (EA) and Finding of No Significant Impact (FONSI) in compliance with the National Environmental Policy Act of 1969. The EA analyzed the impacts of three alternatives including: (1) no action (continued grazing under the current permits' terms and conditions), (2) Permittee Proposal plus range improvements and vegetation treatments (renewing permits and implementation of projects), (3) no grazing (not renewing the grazing permits).

The results of the Rangeland Health Assessments (RHA) and updates for all four allotments were considered during this analysis. As noted in the FONSI, my proposed decision (modified Alternative 2) would not have any significant effects on the human environment.

Potentially interested public, agencies, tribes, and the permittee were provided a notice of a 30-day review period on the EA and FONSI. The BLM received five comment letters for consideration during that time. As a result of both external and internal comments, the EA was revised and has been re-posted on BLM's webpage at <http://www.blm.gov/or/districts/lakeview/plans/index.php>. In addition, commenters received written responses to their comments.

Conformance with Federal Land Policy and Management Act

The Federal Land Policy and Management Act (1976) requires that all management decisions be consistent with the approved land use plan (43 CFR 1610.5-3). The *Lakeview Resource Management Plan/Record of Decision* (RMP/ROD; BLM 2003b) and the *High Desert Management Framework Plan Amendment and Record of Decision for the Lake Abert Area of Critical Environmental Concern (ACEC) in Lake County, Oregon* (BLM 1996) are the governing land use plans for the area.

Renewing this permit, as described in my proposed decision, is in conformance with the following management goals and direction contained within the *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b; as maintained):

Lakeview RMP/ROD

Livestock Grazing Management Goal—*Provide for a sustainable level of livestock grazing consistent with other resource objectives and public land-use allocations* (Page 52, as maintained).

Management Direction:

The current licensed grazing levels (presented in Appendix E1) will be maintained until analysis or evaluation of monitoring data or rangeland health assessments identify a need for adjustments to meet objectives. Applicable activity plans (including existing allotment management plans, agreements, decisions and/or terms and conditions of grazing use authorizations) will be developed, revised where necessary, and implemented to ensure that resource objectives are met. The full permitted use level for each allotment has been and continues to be analyzed through individual allotment assessments, such as rangeland health and livestock grazing guidelines allotment evaluations, allotment management plans, watershed analysis, and implementation of biological opinions. It is through these assessments that any changes in forage allocation will be made, where needed, on an allotment specific basis” (Page 52-53, as maintained).

Range improvement projects will be constructed.... Standard implementation procedures for construction of rangeland improvements will follow BLM Handbook H-1741-1 and -2 (BLM 1989, 1990) and BLM and FS (1988). Rangeland improvement projects will be implemented to meet

resource objectives” (Page 53, as maintained).

Land Use Plan Conformance:

All public land within the 4 allotments have been identified as available for, or open to livestock grazing use (see Table 5, Page 48 as maintained; Appendix E1, Pages A-121, A-53, A-60, A-55, as maintained; Map G-3). Table 5 and Appendix E1 also specified the initial forage allocation, period of use, grazing system, and management objectives for the allotments. Additional clarification of this initial grazing management direction has been provided through periodic plan maintenance conducted in accordance with 43 CFR 1610.5-4 (see *Lakeview Resource Management Plan Maintenance – Appendix E1* (2013) and *Lakeview Resource Management Plan Maintenance – Table 5* (2013) posted on <http://www.blm.gov/or/districts/lakeview/plans/lakeviewrmp.php>). This management direction also allowed for making modifications or changes to grazing management, including changes to forage allocation, in the future.

For these reasons, renewing the permit (#3602231) for the XL Allotment under the same terms and conditions; and, renewing permit # 3601487, adjusting the livestock use periods on the Coleman Seeding, Pike Ranch, and Alkali Winter Allotments, and implementing a grazing management system and forage allocation increase on the Coleman Seeding Allotment, as described in my proposed decision, are consistent with the above livestock grazing management direction.

In addition, the proposed range improvements are also consistent with this management direction, as they will help maintain or improve vegetation communities in the four allotments and meet other resource management objectives (see Chapter 3 of revised EA).

Plant Communities – Shrub Steppe Management Goal – *restore, protect, or enhance the diversity and distribution of desirable vegetation communities, including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles* (Page 28, as maintained).

Management Direction:

Upland native shrub steppe communities will be managed to attain a trend toward the desired range of conditions based on management objectives and site potential (Page 28, as maintained).

Prescribed and wildland fire use will be implemented to rehabilitate or vegetate plant communities that do not meet desired conditions due to dominance by annual, weedy, or woody species...but mechanical, chemical, and biological methods could also be used... Priority will be placed on the rehabilitation of shrub steppe vegetation communities at risk due to dominance by annual species... (Page 29, as maintained).

Land Use Plan Conformance:

The proposed weed/invasive species treatments are consistent with this vegetation management direction, as they will help restore the diversity and distribution of desirable vegetation communities, as well as meet other resource management objectives (see Chapter 3 of revised EA).

Noxious Weeds and Competing Undesirable Vegetation Management Goal – *control the introduction and proliferation of noxious weeds and competing undesirable plant species, and reduce the extent and density of established populations to acceptable levels* (Page 37, as maintained).

Management Direction:

Weeds will be controlled in an integrated weed management program that includes prevention education and cultural, physical, biological, and chemical treatments... Mechanical and manual control methods and burning treatments will (be used to) physically remove noxious weeds and unwanted vegetation; biological controls will introduce and cultivate agents such as insects and pathogens that naturally limit the spread of noxious weeds; and chemical treatments using approved herbicides will be applied where mechanical and/or biological controls are not feasible (Page 37, as maintained).

Selection of the appropriate control method will be based on such factors as the growth characteristics of the target species, size of the infestation, location of the infestation, accessibility of equipment, potential impacts to non-target species, use of the area by people, effectiveness of the treatment on target species, and cost... these methods may be used individually or in combination and may be utilized over several years... for a period of 10 or more years (Page 37, as maintained).

Land Use Plan Conformance:

Treating weeds and other invasive species will assist in meeting the Noxious Weed and Competing Undesirable Vegetation Management Goal (see Chapter 3 of revised EA). For these reasons, the treatment methods specified in my proposed decision are consistent with this management direction.

Operation and Maintenance Actions

Management Direction:

Maintenance of existing and newly constructed facilities or projects will occur over time... Such activities could include, but are not limited to, routine maintenance of existing...water control structures..., reservoirs, wells, pipelines, waterholes, fences, cattle guards, seedings, ... and other similar facilities/projects (Page 100, as maintained).

Land Use Plan Conformance:

Conducting routine maintenance of existing and new range improvement projects conforms with this management direction.

Appendix E1 – Allotment Specific Management Direction (BLM 2003b)

Alkali Winter Allotment (Page A-121, as maintained)

Livestock distribution/management - *Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.*

Improve/maintain range condition - *Use management practices and/or better animal distribution; develop range improvements when appropriate: adjust permitted use as needed.*

Maintain/improve seeding conditions – *Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.*

Maintain/improve seeding conditions – *Maintain present management by continuing to authorize winter livestock grazing.*

Noxious weeds – *Implement the current Integrated Noxious Weed Management Plan.*

Special status animal species – *Follow the greater sage-grouse Livestock Grazing guidelines (pages 75-76; ODFW 2005), where appropriate.*

Wildlife habitat – *Monitor bighorn sheep population expansion to ensure that sufficient forage and habitat are available.*

Pike Ranch Allotment (Page A-53, as maintained)

Livestock distribution/management - *Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.*

Improve/maintain range condition - *Use management practices and/or better animal distribution; develop range improvements when appropriate: adjust permitted use as needed.*

Noxious weeds – *Implement the current Integrated Noxious Weed Management Plan.*

Cheatgrass - *Standard 1 is not being met on 7,400 acres that is dominated by annual cheatgrass and therefore, lacks plant diversity and is susceptible to soil erosion. Standard 3 is not being met on 7,400 acres that is dominated by annual cheatgrass and therefore, lacks plant productivity and diversity needed for healthy ecological processes. This cheatgrass dominance and the failure to meet these standards is the result of past wildfires and not current livestock grazing.*

Special status animal species – *Reinitiate expired memorandum of understanding with private land owner/permittee to benefit snowy plover.*

Special Management Areas – *Continue to implement Lake Abert ACEC management plan (USDI-BLM 1996); Maintain fences on the north end of the lake to protect relevant and important ACEC values.*

Coleman Seeding Allotment (Page A-60, as maintained)

Livestock distribution/management - *Improve livestock management and distribution through improved management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.*

Improve/maintain range condition - *Use management practices and/or better animal distribution; develop range improvements when appropriate: adjust permitted use as needed.*

Maintain/improve seeding conditions – *Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.*

Noxious weeds – *Implement the current Integrated Noxious Weed Management Plan.*

Decadent monoculture of crested wheatgrass – *A rangeland health assessment has been completed. Standards 1 and 3 are not being met because 1,200 acres of the allotment is a solid crested wheatgrass stand that has remained a decadent monoculture. Livestock grazing was not a contributing factor in the standards not being met.*

Special status animal species – *Follow the greater sage-grouse livestock grazing guidelines (page 75-76; ODFW 2005), where appropriate.*

XL Allotment (Page A-55, as maintained)

Livestock distribution/management - *Improve livestock management and distribution through improved*

management practices, installation of livestock management facilities (such as fences and water sources), and/or other actions as opportunities arise.

Improve/maintain range condition - *Use management practices and/or better animal distribution; develop range improvements when appropriate: adjust permitted use as needed.*

Maintain/improve forage production – *Continue to manage for forage production in seeded areas through season of use adjustments, possible vegetation treatments, fencing, water developments, and/or other actions.*

Noxious weeds– *Implement the current Integrated Noxious Weed Management Plan.*

Special status plant species – *Protect special status species/habitat from BLM-authorized activities, and implement plan for reintroduction of desert allocarya.*

Special status animal species – *Follow the greater sage-grouse livestock grazing guidelines (page 75-76; ODFW 2005), where appropriate.*

Wildlife habitat – *Monitor populations of bighorn sheep to ensure that sufficient forage and habitat are available.*

Special Management Areas– *Continue to implement Lake Abert ACEC management plan (USDI-BLM 1996); Maintain fences to protect relevant and important ACEC values around the northwest side of Lake Abert.*

Conformance with the Allotment-Specific Management Direction in Appendix E1

Renewing the grazing permits, making grazing management adjustments where appropriate, and implementing new range improvement projects is consistent with the livestock distribution and management direction described in Appendix E1 for the 4 allotments.

Implementing the mowing and reseeding treatments is consistent with the seeding, forage, or vegetation management direction in Appendix E1 for the Alkali Winter, Coleman Seeding, and XL Allotments.

Implementing the weed/invasive species treatments is consistent with the weed management direction in Appendix E1 for the 4 allotments.

Lake Abert ACEC Plan Amendment

The High Desert Management Framework Plan Amendment and Record of Decision for the Lake Abert Area of Critical Environmental Concern (ACEC) in Lake County, Oregon (BLM 1996) represents a land use plan amendment that governs management within ACEC portions of the Pike Ranch and XL Allotments. The following goals are applicable to the Lake Abert ACEC:

Goal 1 – *Maintain a viable, sustainable ecosystem within the lake (Abert) and surrounding area (prevent changes that would cause significant, adverse effects to ecological values.*

Goal 2 – *Maintain or enhance economic conditions consistent with other listed goals and existing laws, regulations, and policies.*

Goal 3 – *Maintain or enhance existing resource value for future generations.*

Goal 4 – *Continue current traditional and historic land and resource uses in the area.*

Goal 6 – *Maintain the present visual/aesthetic quality.*

Goal 8 – Maintain or enhance habitat quality and quantity for native plant and animal species, including special status species.

Land Use Plan Conformance

Renewing the grazing permits, making grazing management adjustments where appropriate, and implementing weed/invasive species treatments within the Pike Ranch and XL Allotments is consistent with goals 1, 2, 3, 4, 6, and 8.

Conformance with the ODFW Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (ODFW 2005)

A substantial portion of the ODFW (2005) strategy was adopted by the *Lakeview RMP/ROD* through plan maintenance. In particular, this strategy states “where livestock grazing management results in a level of forage use (use level) that is consistent with Resource Management Plans, Allotment Management Plans, Terms and Conditions of Grazing Permits or Leases, other allotment specific direction, and regulations, no changes to use or management are required if habitat quality meets Rangeland Health Standard and Guidelines.” The ODFW strategy also provides guidelines on how to construct or maintain range improvement projects to minimize impacts to sage-grouse habitat (see ODFW 2005, Pages 75-76).

Based on the analysis of potential impacts to soils, wetland vegetation, upland plant communities, wildlife habitat, and rangeland conditions contained in Chapter 3 of the revised EA, grazing, vegetation, and weed/invasive species management under Alternative 2 is expected to continue to meet or make significant progress towards meeting rangeland health standards 3 and 5 into the foreseeable future (see Chapter 3 of revised EA). For this reason, implementing my proposed decision also conforms with ODFW (2005) livestock management guidelines.

Conformance with Greater Sage-Grouse Interim Management Policies and Procedures (IM 2012-043)

This IM represents the current BLM Washington Office interim policy for sage-grouse habitat management until such time as plan amendments can be completed throughout the range of the species that provides a long-term, comprehensive conservation strategy. Management activities must be evaluated based on whether they fall within preliminary priority habitat (PGH) or preliminary general habitat (PGH). There is no sage-grouse ODFW core habitat or PPH occurring in any of the 4 allotments, therefore, none of the PPH interim management direction applies. Portions of Middle and North Abert Pastures of the XL Allotment, both pastures of the Coleman Seeding Allotment, and the Ryegrass, West Venator and Hutton Pastures within the Alkali Winter Allotment, fall within sage-grouse ODFW low density habitat or PGH. For this reason, my proposed decision addresses management activities within PGH.

Management Activities in PGH

- 1) When approving uses and authorizations, consider and analyze management measures that would reduce direct, indirect, and cumulative adverse effects on Greater Sage-Grouse and its habitat.
- 2) Consider deferring authorizations in PGH where appropriate, depending on local characteristics, new science and/or data (e.g., migratory corridors or habitat between PPH), and relative habitat importance if authorizations could result in Greater Sage-Grouse population loss in PPH.
- 3) Consider offsite mitigation measures in collaboration with state wildlife agencies and project proponents when authorizing activities.

4) Evaluate and address anticipated fence collision risks within 1.25 miles of leks and other seasonal habitats. Where NEPA analysis suggests that a deviation from this distance is warranted, modifications of this distance are acceptable.

Conformance with Interim Sage-Grouse Management Policy:

The EA analyzed a reasonable range of grazing management alternatives and addressed the potential direct, indirect, and cumulative impacts of permit renewal, grazing management changes, vegetation treatments, weed/invasive species treatments, and new range improvements on sage-grouse. Impacts to vegetation were adequately described and relied upon available ESI data (see Chapters 2 and 3 of revised EA).

The EA included an analysis of appropriate sage-grouse habitat data (see Chapter 3 of revised EA and Maps 8 and 9). The EA also addressed the potential impacts of “high-risk” fences, as well as the potential risk of water developments in promoting spread of West Nile virus. Existing and proposed troughs include wildlife escape ramps. Existing and proposed new water developments pose little to no risk of West Nile virus transmission as the virus has not been detected in Lake County and all existing and proposed new water troughs have been designed with shut-off valves to minimize the potential to create mosquito habitat. None of the existing or proposed new fences fall within 1.25 miles of a lek, pose a substantial collision risk to sage-grouse, or require the use of anti-strike markers. The proposed fence within the Pike Ranch Allotment would be constructed with a smooth bottom wire and anti-strike markers to allow big game passage and make the fence more visible to waterfowl and shorebirds (see Chapter 3 of revised EA).

Off-site mitigation was not deemed necessary for several reasons. First, none of the alternative analyzed had negative impacts on sage-grouse or their habitat that rose to the level warranting mitigation (either on-site or off-site) or were found to be beneficial (see Chapter 3 of revised EA). As stated earlier, my proposed decision conforms with ODFW (2005) livestock grazing management guidelines. Finally, the ODFW’s current sage-grouse plan (2011, page 79) “recognizes that livestock ranching operations which manage for ecologically sustainable native rangelands are compatible with sage-grouse conservation, and necessary management activities to maintain a sustainable ranching operation are not considered “development actions” under the application of the Mitigation Policy to sage-grouse habitat.” As a policy matter, ODFW does not consider issuing a grazing permit or associated range improvement projects to be actions that require mitigation.

Deferring action on the permit renewal is not appropriate as the existing permit has expired and an application is before the BLM for consideration at this time. Even if permit renewal was deferred, livestock grazing could continue on the allotments under the Appropriations Act “rider”.

Rationale for the Proposed Decision

Generally, implementation of Alternatives 1-2 would conform with most applicable laws, regulations, land use plan direction, allotment management plan direction, and applicable sage-grouse management guidance.

Alternative 1 (No Action) was considered within the EA analysis to comply with requirements of NEPA and provide a baseline for comparison of environmental effects. Alternative 1 would meet some of the desired ecological condition and management goals and objectives for the allotments, but would not improve upland watershed function/ecological conditions within those portions of the allotments that are currently failing to meet rangeland health standards 1 and 3. Further, Alternative 1 would not completely address the purpose and need for action.

Alternative 3 was considered within the EA analysis to provide a broader range of alternatives and comply with current grazing permit renewal guidance. However, implementation of Alternative 3 would only be appropriate if an analysis or evaluation of monitoring data or a rangeland health assessment identified a need for livestock reduction or removal to meet other management objectives. In this instance, removal of grazing for a ten-year period would not be consistent with the management goals and direction contained in the *Lakeview RMP/ROD*, as current livestock grazing management is conforming with the Fundamentals of Rangeland Health (43 CFR Part 4180). Further, the rangeland health assessments, recent assessment updates, and other monitoring data have not identified a resource conflict or problem on the allotments linked to livestock grazing that would justify removal of livestock. In addition, Alternative 3 would not control noxious weeds and other invasive species and would have a negative effect on vegetation, range, and ecological conditions over time (see revised EA, Chapter 3). For these reasons, BLM has no rational basis for adopting this alternative as the proposed decision.

Based on the analysis contained in the EA, a modified Alternative 2 was selected over Alternatives 1 and 3 because it represents the alternative that best meets the purpose and need for action (see revised EA, page 3). The grazing management proposed in the four allotments would meet the livestock grazing management goals, as well as the desired ecological/range condition, vegetation management, and weed management goals for the allotments. The alternative would increase livestock control, improve livestock distribution, and provide increased periodic rest. As noted earlier, this alternative is expected to continue to meet or make significant progress towards meeting rangeland health standards 3 and 5 into the foreseeable future (see Chapter 3 of revised EA). As an additional benefit, the permittee's livestock management flexibility would be improved.

This alternative will allow the use of more effective herbicides to be used to treat noxious weeds/invasive species with fewer negative effects compared to treatment methods available under Alternative 1. Using more effective chemical agents will assist in meeting desired ecological conditions over the long-term. This alternative will be more effective in meeting the RMP's "Noxious Weed and Competing Undesirable Vegetation Management Goal" compared to Alternatives 1 or 3, as well as make progress in meeting rangeland health standards 1 and 3.

The extension of the Hope Well Pipeline into the North Abert Pasture of the XL Allotment will increase livestock distribution within an existing crested wheatgrass seeding and reduce or eliminate the need for water hauling within the pasture. This will also improve flexibility for the permittee's livestock operation.

The Pike Ranch Fence has been redesigned and relocated closer to the property line. Map 4 in the EA has been revised to show this change. The fence will be relocated and/or extended out into Lake Abert to make this boundary more effective in preventing unauthorized livestock movement onto adjacent BLM lands. The BLM is cooperating with the private landowner/permittee in effort to prevent unauthorized use in the future.

The vegetation treatments originally proposed within the Alkali Winter, Coleman Seeding, and XL Allotments within Alternative 2 have not been included in this proposed decision because cultural resource surveys have not been completed and funding has not yet been secured for implementation. Should funding become available in the future, the cultural resource surveys will be completed and, based on the results of the survey, the treatment area boundaries will be adjusted to avoid cultural resources where necessary and a separate decision will be issued.

In addition, my proposed decision does not authorize construction of the proposed Hutton Pasture Division Fence, as originally described in Alternative 2 within the EA because:

- 1) The Alkali Winter Allotment is a common allotment with a total of four permittees. Though the pastures each permittee currently uses are informally agreed to “use areas”, they are not legally binding as no formal rangeline agreement has been signed. The other three permittees within this common allotment have reviewed the proposal and do not agree that it would be mutually beneficial or necessary to effectively administer or manage this common allotment (see comments and responses numbered 7-9 and 13-14 of the attached Comment Summary and Responses).
- 2) The proposal could have negative economic effects on another permittee. Permittee #3601283 would have to buy hay, lease private pasture, or adjust use into other pastures within the allotment to compensate for the AUMs of lost forage. Overall, the cost of fence construction and potential economic effects to another permittee outweigh the potential benefits to the proponent (refer to the Social and Economic Values section of Chapter 3 of the revised EA; see also comments and responses numbered 7-14 of the attached Comment Summary and Responses).
- 3) Utilization data within the West Venator Pasture has been within the light-moderate range over the last 15 years. Average utilization within the West Venator Pasture over the last 15 years has been 46% and the upper utilization limit is 60% (see Table B-3, Appendix B of the revised EA). This data indicates that the available forage or carrying capacity is higher than what has actually been used over the last 15 years. For this reason, permittee #3601487 should be able to obtain his full permitted level of use (2,005 AUMs) most years within the West Venator Pasture without exceeding the 60% utilization standard, even if the Ryegrass Pasture was not available. Furthermore, the Ryegrass Pasture remains available for use and provides additional AUMs.
- 4) Based on the analysis contained in the EA, the fence is not needed to manage the allotment to achieve rangeland health standards or other applicable land use plan goals or objectives.

RIGHT OF PROTEST AND/OR APPEAL

Any applicant, permittee, lessee or other affected interest may protest this proposed decision under Section 43 CFR 4160.1 and 4160.2, either in person or by writing to me at the following address:

Bureau of Land Management
Lakeview District Office
1301 South G Street
Lakeview, OR 97630

within 15 days after receipt of the decision. A written protest that is electronically transmitted (e.g., email, facsimile, or social media) will not be accepted. A written protest must be on paper. The protest should clearly and concisely state the reason(s) as to why the proposed decision is in error. Any protest received will be carefully considered and then a final decision will be issued. In the absence of a protest, the proposed decision will become my final decision without further notice, based upon the date of expiration of the protest period for the last recipient (as documented by certified mail receipts).

Any applicant, permittee, lessee, or other person whose interest is adversely affected by the final grazing decision may appeal the decision to an administrative law judge in accordance with 43 CFR 4.470 and 43 CFR 4160.3 and 4160.4. The appeal must be in writing and filed in my office, at the address above, within 30 days following receipt of the final decision, or within 30 days after the date the proposed decision becomes final. A notice of appeal that is electronically transmitted (e.g., email, facsimile, or social media) will not be accepted. A notice of appeal must be on paper.

The appellant must serve a copy of the appeal, by certified mail, to the:

Office of the Solicitor
U.S. Department of the Interior
805 SW Broadway, Suite 600
Portland, OR 97205

The appellant must also serve a copy of the appeal on any person named in the decision or listed in the "copies sent to" section at the end of this decision.

The appeal must state the reasons, clearly and concisely, why you believe the final decision is in error, and comply with all other provisions of 43 CFR 4.470.

An appellant may also petition for a stay of the final decision by filing a petition for stay together with the appeal in accordance with the provisions of 43 CFR 4.471. Should you wish to file a petition for a stay, you must file within the appeal period. In accordance with 43 CFR 4.471, a petition for a stay must show sufficient justification based on the following standards:

1. The relative harm to the parties if the stay is granted or denied.
2. The likelihood of the appellant's success on the merits.
3. The likelihood of immediate and irreparable harm if the stay is not granted.
4. Whether or not the public interest favors granting the stay.

You bear the burden of proof in demonstrating that the decision is in error and that a stay should be granted.

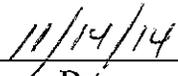
The petition for stay must be filed in my office, at the address above, and be served in accordance with the requirements of 43 CFR 4.473. A petition for stay that is electronically transmitted (e.g., email, facsimile, or social media) will not be accepted. A petition for stay must be on paper.

Any person named in the decision that receives a copy of a petition for stay and/or an appeal should refer to 43 CFR 4.472(b) for the procedures to follow should you wish to respond.

If you should have any questions regarding this decision, please contact me at 541-947-2177.



J. Todd Forbes, Field Manager
Lakeview Resource Area



Date

Copies sent to:

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Comment Summary and Responses

During the 30-day comment period five comment letters were received; four from permittees and one from the Oregon Department of Fish and Wildlife. The BLM reviewed all of the comments prior to issuing the proposed decision. Similar comments were categorized together for purposes of preparing responses. Some of the comments represented support or disagreement with various components of the proposed action and are not considered substantive comments that require a response or changes to the EA. Other comments were considered substantive and necessitated a direct response or resulted in a need to make minor changes or corrections to the EA. The revised version of the EA is available on BLM's webpage at www.blm.gov/or/districts/lakeview/plans/index.php. (A hard copy is available upon request).

Below is a summary of comments by topic that required a response or led to a need to make changes or corrections to the EA.

Wildlife Forage Allocations

Comment 1: *The Department requests a meeting with the range management and wildlife specialties to review and update big game and other wildlife species allotted AUMs (for the 4 allotments).*

Response 1: Existing forage allocations for both livestock and wildlife were made during the Lakeview Resource Management Plan (RMP) process in 2003 after consultation with the Oregon Department of Fish and Wildlife (ODFW) regarding their big game population management goals. The BLM also completed a carrying capacity analysis within these allotments which considered wildlife forage needs based on both ODFW's big game population goals and forage allocations established in the Lakeview RMP. The BLM would be happy to meet with the ODFW to discuss these allocations, but changes to these allocations would likely not occur until the next RMP amendment/revision process.

Wildlife Impacts

Comment 2: *The recent emergence of West Nile Virus (WNV) in the western U.S. and the lack of resistance in the sage-grouse immune system is a serious management concern. Outbreaks of the virus have been localized but sage-grouse have been documented with the disease in Oregon.*

Response 2: The EA addressed the potential risk of the spread of west nile virus associated with both existing and proposed new water developments in the allotments and found it to be low under all alternatives. In addition, the analysis was updated to incorporate your comments (see revised EA, Chapter 3).

Range Improvement Projects

Comment 3: *The ODFW recommends any native shrubs reestablishing in the Coleman Seeding Allotment be maintained to provide habitat diversity; and to replace the word "invade" with "reestablishing".*

Response 3: The BLM has clarified the description of the mowing project under Alternative 2 to leave islands of native shrubs within the Coleman Seeding Allotment. The EA was also updated to reflect the change regarding the word "invade" (see revised EA, Chapter 3).

Comment 4: *The Department recommends the fence to be built on the Pike Ranch to include additional wildlife specifications including bottom and top wire with anti-strike markers to reduce negative impacts to migratory shorebirds and waterfowl that utilize Lake Abert for foraging and nesting.*

Response 4: BLM agrees and this has been addressed in both the revised EA (Chapters 2 and 3) and in my proposed decision.

Comment 5: *One commenter felt the expense of constructing the proposed Hutton Pasture fence was not warranted.*

Response 5: No response needed.

Wild Horses

Comment 6: *The Department recommends the EA be revised to address the need to monitor feral horses within the XL Allotment and to remove any strays found within the allotment.*

Response 6: The BLM understands ODFW's concern; however, this issue is outside of the stated purpose and need and, therefore, falls outside of the scope of analysis of this particular EA. Further, this issue has already been addressed in BLM's 2009 Paisley Desert Herd Management Area Wild Horse Population Control and Gather EA (page 7). This document is available on BLM's webpage at <http://www.blm.gov/or/districts/lakeview/plans/nepa-details.php?id=1141>.

Livestock Grazing Management and Social and Economic Impacts

Comment 7: *Three commenters generally did not favor construction of the proposed Hutton Pasture Fence because they felt it would adversely affect another permittee by reducing the area available to grazing by the permittee who currently uses this pasture.*

Comment 8: *One commenter provided a characterization of the vegetation and forage conditions in the Hutton Springs Pasture and stated that the west half of the pasture contains the majority of the available forage. The commenter estimated that the proposed fence would result in the loss of 75% of the available AUMs to the current permittee.*

Comment 9: *The hay and private pasture price figures used in the Social and Economic Values section of the EA are too low. The current 2014 prices are higher than the 2013 figures used to calculate potential economic impacts. Further, the number of AUMs lost to the current permittee would be approximately 307 AUMs, rather than the 207 AUMs estimated in the analysis. The economic injury to the current permittee would be higher than estimated in the assessment.*

Response 7-9: The BLM has updated its analysis of the potential impacts of this proposed project to the other permittee, as well as the proponent, within both the *Livestock Grazing Management* and *Social Economic* sections of Chapter 3 of the revised EA.

Comment 10: *After the grazing system in Coleman Seeding is established and working the full increase should be available 2 of the 3 years, taking climatic condition into account.*

Response 10: BLM has conducted a carrying capacity analysis and determined that even under the new rest-rotation grazing system each pasture, used on its own, could not support the full increase of 269 AUMs without exceeding utilization standard of 50%. However, annual management

flexibility does exist and is described under actions common to all alternatives in Chapter 2 of the revised EA.

Comment 11: *Without the use of the Ryegrass Pasture, permittee #3601487 would receive use in approximately 11.5% of the Allotment. There is a BLM regulation that states that the feed in a common allotment is to be divided based on the percent of each permittee AUMs in the allotment. In which case, since permittee #3601487 has 32% of the AUMs, the permit should have 32% of the feed.*

Response 11: It appears that permittee #3601487 is trying to make a case supporting a need for a higher percentage of the area within the Alkali Winter Allotment to be allocated specifically to his grazing use based on a general reference to BLM regulations. However, the BLM grazing management regulations do not support such an area-based analysis. Further, the commenter failed to demonstrate that permit #3601487 is not, in fact, capable of using 32% of the available AUMs. It is important to note that forage availability is not equally dispersed across every acre of the allotment. Seeded areas have higher forage production than most native vegetation communities and some native communities are in better condition or produce more forage than others. So it does not logically follow that one needs 32% of the available acres in an allotment to be able to obtain 32% of the available forage.

The BLM grazing regulations 43 CFR Part 4110.2-2 (specifying permitted use) state "...Permitted livestock use shall be based upon the amount of forage available for livestock grazing as established in the land use plan, activity plan, or decision of the authorized officer under 4110.3-3 (Implementing reductions in permitted use)..." Table 5 and Appendix E-1 of the Lakeview RMP/ROD (2003, as maintained) list the Alkali Winter Allotment as having a total of 6,223 AUMs of forage allocated for livestock use. Historically, this use has been permitted in the allotment as follows:

<u>Permit #</u>	<u>AUMs</u>	<u>% of AUMs</u>
3601487	2,005	32
3601283	1,300	21
3601280	430	7
3601282	2,408	40
Total	6,223	100

If permittee #3601487 was unable to use the Ryegrass Pasture for some reason, the area available for his use would decrease to about 8,425 acres (10% rather than 11.5%) of the Alkali Winter Allotment. However, based on past actual use monitoring, the permittee has used between 805 and 2,209 (15-year average of 1,608) AUMs in the West Venator Pasture (see Table B-3). During this EA process the BLM examined carrying capacity in the West Venator Pasture and determined that, based on utilization monitoring, it could support the full permitted use (2,005 AUMs) without exceeding the appropriate utilization standard during most years.

Comment 12: *The statement on page 61 in the 1st paragraph that the proposal would also decrease the utilization levels in portions of the West Venator Pasture is false. Permittee #3601487 has not been getting full use of 2005 AUMs. If permittee #3601487 was able to get full use with the additional area utilization levels would stay the same or increase.*

Response 12: Clarifications were made to the revised EA (page 60).

Comment 13: *Page 61 second paragraph. "This would negatively impact another permittee's*

livestock operation.” This is a false statement. Permit 3601283 would not be affected in any way as he has far more feed available than permit #3601487. Again, refer to the Majors’ memo. Permittee #3601285 has 9,000 acres. Permittee #3601285 has 18.5 acres per AUM of which 3600 acres are seeded and Permittee #3601487 has 4.5 acres per AUM of the same seeded acres of 3600.

Comment 14: Page 68-As I have already gone over the disparity between the 3601487 and 3601283 users, the statement in reality would need to reduce permit 3601285 by 207 AUMs resulting in an effect on the other permittees operation which is also false. The permittee could easily get his 1300 AUMs of use without W. Hutton (Pasture). Permittee 3601487 would get the 207 AUMs of use which he is not getting now so that would add a positive economic benefit and also benefit the Coleman seeding allotment and the State Land. More use in Alkali Winter would lessen use for early spring in those areas.

Response 13-14: It is important to first clarify that the references to permit #3601285 in comments 13 and 14 above is a typographical error. These comments should have referenced permit #3601283 instead.

Based on these comments (and comment 9 from the affected permittee), the analysis in the EA has been revised to show that the forage loss and potential economic effects to permit #3601283 may vary from 0 to 307 AUMs depending upon whether or not permittee #3601283 would have to buy hay, lease private pasture, or shift use into other pastures within the allotment to make up for the forage lost in the Hutton Springs Pasture as a result of the proposed Hutton Springs Fence. Refer to both the *Livestock Grazing Management* and *Social Economic* sections of Chapter 3 of the revised EA.

Comment 15: BLM data states that utilization level for both permits #3601487 and #3601285 is light to moderate. How can that be correct? Either the BLM data is incorrect or Permittee #3601283 is not reporting his actual use accurately.

Response 15: It is important to first clarify that the references to permit #3601285 in comment 15 is a typographical error. This comment should have referenced permit #3601283 instead.

Utilization and actual use data monitor grazing use using separate methodologies. The EA describes the methodology used by the BLM to conduct utilization (pages 5-6) and the same methodology is used across the Lakeview Resource Area. Actual use data represents a record of the forage consumed during the grazing season as provided by the permittee. The permittee is responsible for ensuring that the report is complete and an accurate reporting of their grazing use (see pages 53-54 of the *Lakeview RMP/ROD*). In addition, it appears that this comment may be relying upon data/analysis contained in the A.K. Majors memo, which used data from a 14-year period prior to 2005. The average actual use for permittee #3601283 over the last 10 years has been about 1,202 AUMs (92% of permitted use)(see Table B-3 of the revised EA).

General Comments

Comment 16: ODFW provided a list of numerous typographical and suggested editorial corrections to the EA.

Response 16: The majority of these suggested edits and corrections have been made within the revised EA.

FINDING OF NO SIGNIFICANT IMPACT

GRAZING PERMIT RENEWALS FOR ALKALI WINTER, PIKE RANCH, COLEMAN SEEDING, AND XL ALLOTMENTS

DOI-BLM-OR-L050-2014-0010-EA

The Bureau of Land Management, Lakeview Resource Area (BLM), has analyzed several alternative proposals related to renewing two term grazing permits numbers 3601487 and 3602231 for the Alkali Winter, Pike Ranch, Coleman Seeding and XL Allotments for a 10-year period. The allotments are located north of Valley Falls, Oregon (see EA Map 1).

An environmental assessment (EA) was prepared that analyzed the potential direct, indirect, and cumulative environmental impacts of three alternatives. The alternatives included (1) No Action (continue current grazing), (2) Permittee Proposals plus Treatments (including proposed changes to permit dates, grazing systems, new range improvements and vegetation treatments), and (3) no grazing or vegetation treatments (see Chapter 3 of attached EA).

The Council on Environmental Quality (CEQ) regulations state that the significance of impacts must be determined in terms of both *context* and *intensity* (40 CFR 1508.27). The context of the proposed action is the Alkali Winter, Pike Ranch, Coleman Seeding and XL Allotments. For this reason, the analysis of impacts in the attached EA is focused appropriately at this scale. The CEQ regulations also include the following ten considerations for evaluating the intensity of impacts:

- 1) Would any of the alternatives have significant beneficial or adverse impacts (40 CFR 1508.27(b)(1))?
() Yes (X) No

Rationale: Based on the analysis contained in the attached EA, none of the alternatives would have either significant beneficial or adverse impacts on the human environment. There are no prime or unique farmlands, air quality, water quality, fisheries habitat, wild horse management areas, wild and scenic rivers, significant caves, fire/fuels management, designated wilderness areas, wilderness study areas, other areas with wilderness characteristics, special status plants, threatened or endangered species, riparian areas, hazardous waste sites, or low income or minority populations located in the project area. No measureable impacts would occur to climate, floodplains, hydrology, land status, mineral and energy resources, or recreation (see EA Table 3-1).

The potential impacts to existing soils, biological soil crust, upland vegetation, wetlands, weeds, wildlife, special status wildlife species, livestock grazing management, native American traditional practices, cultural resources, visual resources, ACECs, and social and economic values anticipated by the various alternatives have been analyzed in detail within the attached EA and found not to be significant (see Chapter 3).

- 2) Would any of the alternatives have significant adverse impacts on public health and safety (40 CFR 1508.27(b)(2))? () Yes (X) No

Rationale: None of the alternatives analyzed in detail in the attached EA would have significant impacts on public health or safety because the project area is not located near any populated rural or urban area. For this reason, there would also be no impacts to low income or minority populations. An historic chemical waste dump occurs within the Hutton Springs Pasture of the Alkali Winter Allotment. The perimeter of the dump site is fenced, and excluded from public access and livestock grazing. The chemical dump site would not be affected by any of the proposed alternatives. Therefore, it was not analyzed further in the EA. There are no surface drinking water sources located in the project area, nor would there be and impacts to air or water quality (see Chapter 3).

- 3) Would any of the alternatives have significant adverse impacts on unique geographic characteristics (cultural or historic resources, park lands, prime and unique farmlands, wetlands, wild and scenic rivers, designated wilderness or wilderness study areas, or ecologically critical areas (ACECs, RNAs, significant caves)) (40 CFR

1508.27(b)(3)? Yes No

Rationale: There are no park lands, prime or unique farmlands, wild and scenic rivers, significant caves, designated wilderness areas, wilderness study areas, or lands with wilderness character located in the project area (see Table 3.1). Potential impacts to Lake Abert ACEC and cultural resources have been analyzed in the attached EA and found not to be significant (see Chapter 3).

4) Would any of the alternatives have highly controversial effects (40 CFR 1508.27(b)(4)? Yes No

Rationale: The BLM has extensive expertise planning, analyzing impacts, and implementing range management actions such as those proposed by the alternatives addressed in the attached EA. The potential impacts of these range management actions on soils, biological soil crust, upland vegetation, wetlands, weeds, wildlife, special status wildlife species, livestock grazing management, native American traditional practices, cultural resources, visual resources, ACECs, and social and economic values can be reasonably predicted based on existing science and professional expertise. The attached EA analyzed these impacts (see Chapter 3). The nature of these impacts is not highly controversial, nor is there substantial dispute within the scientific community regarding the nature of these effects.

The public, other agencies, and native American tribes were given an opportunity to review and comment on the analysis of effects. During the 30-day comment period five comment letters were received. My staff reviewed all of the comments prior to signing this FONSI and issuing the proposed decision. None of the comments indicated there would likely be any highly controversial effects, as defined under 40 CFR 1508.27(b)(4). A summary of the comments and BLM's responses are attached to the proposed decision.

5) Would any of the alternatives have highly uncertain effects or involve unique or unknown risks (40 CFR 1508.27(b)(5)? Yes No

Rationale: The BLM has extensive expertise planning, analyzing impacts, and implementing management actions such as those proposed by the alternatives addressed in the attached EA. The potential impacts of these management actions on soils, biological soil crusts, upland vegetation, wetlands, weeds, wildlife, special status wildlife species, livestock grazing management, native American traditional practices, cultural resources, visual resources, ACECs, and social and economic values can be reasonably predicted based on existing science and professional expertise. The attached EA analyzed these impacts (see Chapter 3). The nature of these impacts is not highly uncertain, nor does it involve unique or unknown risks.

6) Would any of the alternatives establish a precedent for future actions with significant impacts (40 CFR 1508.27(b)(6)? Yes No

Rationale: The BLM has extensive expertise planning, analyzing impacts, and implementing management actions such as those proposed by the alternatives addressed in the attached EA. None of the alternative actions represents a new, precedent-setting range management technique or would establish a precedent for future similar actions with potentially significant effects.

7) Are any of the alternatives related to other actions with potentially significant cumulative impacts (40 CFR 1508.27(b)(7)? Yes No

Rationale: Based on the analysis contained within the Cumulative Effects section of the EA, none of the alternatives would have significant cumulative effects within the project area, even when added to the effects of other past, present, and reasonably foreseeable future actions (see Cumulative Effects section of Chapter 3).

8) Would any of the alternatives have significant adverse impacts on scientific, cultural, or historic resources, including those listed or eligible for listing on the National Register of Historic Resources (40 CFR 1508.27(b)(8)? Yes No

Rationale: The allotments are located within a broad area which was used historically by native Americans. However, there are no designated Traditional Cultural Properties or important plant collecting sites known within

the allotments. The 2 known religious sites would not be impacted by any of the alternatives analyzed. Potential impacts to cultural resources have been analyzed in the attached EA and found not to be significant (see Chapter 3).

9) Would any of the alternatives have significant adverse impacts on threatened or endangered species or their critical habitat (40 CFR 1508.27(b)(9)? Yes No

Rationale: There are no threatened or endangered species or designated critical habitat within the project area (see Table 3-1).

10) Would any of the alternatives have effects that threaten to violate Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)? Yes No

Rationale: All of the alternatives analyzed in the attached EA comply with all Federal, State, and local environmental laws or other environmental requirements, including the requirements of the National Environmental Policy Act, Clean Water Act, Clean Air Act, and Endangered Species Act.

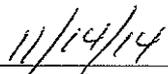
The Federal Land Policy and Management Act requires that any action that BLM implements must also conform with the current land use plan and other applicable plans and policies. The purpose and need for the proposed action conforms with the management direction contained in the *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b). The alternatives analyzed in the EA conform to the management direction requirements of this plan and the *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* (BLM 1997), and the grazing regulations (43 CFR Part 4100) in varying degrees (see Chapter 1 of EA). Conformance with this management direction has also been addressed in more detail within the proposed decision as it represents an important decision factor that I considered in making my decision (see also EA, page 4).

Finding

On the basis of the analysis contained in the attached EA, the consideration of intensity factors described above, and all other available information, my determination is that none of the alternatives analyzed would constitute a major federal action which would have significant adverse or beneficial impacts on the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) is unnecessary and will not be prepared.



J. Todd Forbes, Field Manager
Lakeview Resource Area



Date

**GRAZING PERMIT RENEWALS FOR
ALKALI WINTER (01001), PIKE RANCH
(00425), COLEMAN SEEDING (00432), AND XL
(00427)
ALLOTMENTS**

ENVIRONMENTAL ASSESSMENT

DOI-BLM-OR-L050-2014-0010-EA

Revised November 2014

Lakeview Resource Area
Bureau of Land Management
1301 South G Street
Lakeview, Oregon 97630

Note: additions and corrections are noted in underlined text

CHAPTER I: PURPOSE AND NEED FOR ACTION

Introduction

The Lakeview Resource Area, Bureau of Land Management (BLM) has prepared this Environmental Assessment (EA) to analyze the potential effects of renewing two term grazing permits (#3601487 and #3602231) for a ten-year period. Permit #3601487 addresses grazing management within three pastures (West Venator, Ryegrass, and Hutton Springs Pasture) of the Alkali Winter (01001) Allotment, Pike Ranch (00425) and Coleman Seeding (00432). Permit #3602231 addresses grazing management in two pastures (Middle and North Abert Pastures) of the XL (00427) Allotment. The allotments are located between 8 and 30 miles north of Valley Falls, Oregon (Map1)

This EA analyzes the potential direct, indirect, and cumulative impacts that may result with the implementation of the proposed alternatives. This EA also serves as the analytical basis for making the determination as to whether any significant impacts to the human environment would result from the proposal, in compliance with the National Environmental Policy Act of 1969 (NEPA).

Alkali Winter Allotment

Elevation across the allotment ranges from 4,208 feet to 5,233 feet above sea level. There are approximately 79,472 acres of BLM-administered lands and 845 acres of other lands within the allotment (Map 2). The allotment is divided into seven pastures: West Venator, East Venator, Hutton Springs, Common, Hotch-Leah North, Hotch-Leah South, and Ryegrass. Four permittees use this allotment under various permits. For the purposes of this EA, only the West Venator and Ryegrass Pastures, and a portion of Hutton Springs Pasture will be evaluated, and are referred to hereafter as the Alkali Winter Allotment. Other pastures within this allotment are grazed under separate permits that are not scheduled for renewal and are not addressed in this analysis. The current season of use for the allotment is from November 15 through April 15 with 2,005 Animal Unit Months (AUMs) of active use, and 0 AUMs suspended use.

Pike Ranch Allotment

Elevation across the allotment ranges from 4,260 feet to 4,585 feet above sea level. There are approximately 5,683 acres of BLM-administered lands and 1,789 acres of other lands within the allotment (Map 2). The current season of use is August 20 through November 15, with 95 AUMs of active use and 0 suspended use.

Coleman Seeding Allotment

Elevation across the allotment ranges from 4,467 feet to 5,386 feet above sea level. There are approximately 5,698 acres of BLM-administered lands and 5 acres of state lands within two pastures (South and Triangle; Map 2). The current season of use is February 1 through June 1, with 920 AUMs of active use and 0 AUMs suspended use.

XL Allotment

Elevation across the allotment ranges from 4,300 feet to 5,463 feet above sea level. There are approximately 42,671 acres of BLM-administered land and 3,507 acres of other land within the allotment. The allotment is divided into three pastures: North Abert, Middle Abert, and Cave Springs. Two grazing permits exist for this allotment; for the purposes of this EA, only the North and Middle Abert Pastures of the XL Allotment will be analyzed (Map 2), as well as the renewal of permit #3602231. The current season of

use for the allotment is from February 1 through June 1 with 1,500 AUMs) of active use, and 0 AUMs suspended use. Permit #3601419 is not scheduled for renewal at this time and will be analyzed in a separate EA in the future.

Purpose and Need for Action

The grazing permits expired at the end of February 2014. The permit renewal applications have been submitted for consideration by the permittee. At that time the BLM was unable to fully process the permit renewal; therefore, the permits were renewed under the authority of Section 415, Public Law 112-74, until such time as the permit could be fully processed.

The primary purpose of this analysis is to respond to the permittee's permit renewal application and consider whether or not to reissue or modify the 10-year term livestock grazing permits in accordance with 43 CFR Part 4130. When issued, grazing permits must also address appropriate terms and conditions designed to "achieve management and resource condition objectives for the public lands... and to ensure conformance with part 4180" (43 CFR Part 4130.3).

A secondary purpose of this analysis is to consider whether to implement several range improvement and vegetation treatment proposals (Maps 3-6).

A third purpose of this analysis is to consider treating noxious weeds and invasive species within the allotments using both approved integrated weed management methods described in the existing weed treatment plan (BLM 2004), as well as allowing the use of 4 additional herbicides for treatment consistent with the *Record of Decision (ROD) for the Vegetation Treatments using Herbicides on BLM Lands in Oregon* (BLM 2010b).

Decisions to be Made

The authorized officer will decide whether or not to renew the two grazing permits, and if so, under what terms and conditions. The authorized officer will also decide whether or not to implement range improvement projects, vegetation treatments, and weed/invasive species treatments, as well as determine which methods to use.

Decision Factors

Decision factors are additional criteria used by the decision maker to choose the alternative that best meet the purpose and need for the proposal. These include:

- a) How well does the decision conform to laws, regulations, and policies related to grazing use and protecting other resource values?
- b) How well does the decision conform to the resource management and/or allotment management plans?
- c) How well does the decision promote maintenance of Rangeland Health Standards?
- d) How well does the decision conform with ODFW 2005 sage-grouse guidelines?
- e) How well does the decision conform with IM 2012-043 regarding interim Sage-grouse management?
- f) How well does the proposal conform to the existing integrated weed management plan (BLM 2004) and *Record of Decision for Vegetation Treatment Using Herbicides on BLM Lands in Oregon* (BLM 2010b)?

Conformance with Land Use Plans

The *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b, as maintained) and the *High Desert Management Framework Plan Amendment and Record of Decision for the Lake Abert Area of Critical Environmental Concern (ACEC) in Lake County, Oregon* (BLM 1996b) are the governing land use plans for the area.

The *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b) provides goals and management direction for livestock grazing use and weed treatments. Conformance with this plan will be discussed further within the proposed decision.

The *High Desert Management Framework Plan Amendment and Record of Decision for the Lake Abert Area of Critical Environmental Concern (ACEC) in Lake County, Oregon* (BLM 1996b) also provides goals and management direction applicable within the ACEC portions of the Pike Ranch and XL Allotments. Conformance with this plan will be discussed further within the proposed decision.

Consistency with Laws and Regulations

This EA has been prepared in conformance with National Environmental Policy Act of 1969. Grazing permits are issued or renewed in accordance with the provisions of the Taylor Grazing Act (1934), Federal Land Policy and Management Act (FLPMA, 1976), Public Rangelands Improvement Act (1978), and applicable grazing regulations at 43 Code of Federal Regulations (CFR) Part 4100.

In order for an applicant to lawfully graze livestock on public land, the party must obtain a valid grazing permit or lease. The grazing regulations, 43 CFR 4130.2(a), state “grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans.” The *Lakeview Resource Management Plan/Record of Decision* has designated these allotments as available for livestock grazing (BLM 2003b). The permit renewal applicant (current permittee) owns and/or controls the base property associated with the grazing preference on the four allotments and has been determined to be a qualified applicant.

A performance review of the permittee’s past use was completed and BLM found the permittee’s record of performance, pursuant to 43 CFR 4110.1(b), to be substantially in compliance. This conclusion was based on: grazing utilization at acceptable levels, bills were paid on time, actual use information was turned in yearly, the majority of use was within permitted dates, the majority of forage consumption was within permitted AUMs, permit terms and conditions were adhered to, base property requirements were met, only one case of unauthorized use occurred. This performance review is available in the range administration files.

Consistency with Other Plans and Policies

The proposed decision must also comply with a number of other existing plans and policies including:

Standards for Rangeland Health and Guidelines for Livestock Management for Public Lands Administered by the BLM in the States of Oregon and Washington (BLM 1997a)

Integrated Noxious Weed Control Program, EA#OR-010-2004-03 (BLM 2004b)

Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (ODFW 2005)

Conformance with these plan/policies will be discussed further within the proposed decision.

CHAPTER II: ALTERNATIVES

Actions Common to Grazing Alternatives (1-2)

Grazing Management Flexibility

Uncertainties exist in managing for sustainable ecosystems. Therefore, changes may be authorized for reasons such as, but not limited to:

- Adjust the rotation/timing of grazing based on previous year's monitoring and current year's climatic conditions, within permitted AUMs and permitted season of use. An example of this would be; to turn livestock out later in the season on a year with a wet cold spring; or to bring livestock off the allotment early as conditions warrant this need.
- Drought causing lack of available water or forage in certain areas scheduled to be used. An example would be resting a pasture that had low water and shifting livestock use to the pasture that had water. Conversely in wet years, livestock could be moved to areas near less dependable water sources
- Changes in use periods to balance utilization levels per pasture. An example of this would be to shorten the time period or number of livestock in a pasture that had 65% average utilization and or increase the time period and number of livestock in another pasture that had 30% average utilization if the target utilization in both pastures is 50%.

Flexibility in grazing management would be authorized within the permit dates and within active permitted AUMs so long as:

- Changes in rotations would continue to meet resource objectives.
- Flexibility is dependent upon the demonstrated stewardship and cooperation of the permittee.
- Rangeland monitoring is a key component of flexibility in grazing management. As monitoring indicates changes in grazing management are needed to meet resource objectives, they are implemented annually working with the permittee.

Monitoring

Monitoring by BLM staff, in coordination with the livestock operator, of the success in meeting allotment-specific resource objectives would take place following implementation. Pace 180° methodology (Technical Reference 4400-4; BLM 1984) and permanent photo points would be used to measure the relative frequency of occurrence of key forbs, shrubs, and perennial grass species, to assess trend in rangeland condition. Observed Apparent Trend would be assessed at each upland trend plot. Upland trend data would be collected and analyzed on 5 to 10-year intervals.

Annual utilization studies for each pasture grazed by livestock along with multiple-use supervision reports would be collected by BLM staff. The Key Forage Plant Method (TR 4400-3; BLM 1984) or similar methodology would be used to measure utilization in each pasture. Target utilization levels for

key forage plant species are shown in Table 2-1.

Table 2-1. Key Forage Plants Species and Target Utilization Levels by Allotment

Alkali Winter Allotment		
Pasture	Key Forage Plant Species	Utilization Threshold
West Venator	Crested Wheatgrass	60% under Alt. 2 50% under Alt. 1
Ryegrass	Thurber's needlegrass/bluebunch wheatgrass/ squirreltail	50%
Pike Ranch Allotment		
Pike Ranch	Saltgrass/squirreltail	50%
Coleman Seeding Allotment		
South	Crested Wheatgrass	50%
Triangle	Crested Wheatgrass	50%
XL Allotment		
North Middle	Crested Wheatgrass	50%
Middle Abert	Crested Wheatgrass	50%

During each allotment visit, monitoring for noxious weed establishment would occur, as well as observations of overall rangeland condition. Adjustments to timing of grazing and pasture use sequence to ensure/promote achievement of Rangeland Health Standards, and to meet other resource objectives, may be implemented based on a review of this annual data.

Sixteen monitoring sites occur within the allotments. Two of these sites were established in the Ryegrass Pasture, one site in the Pike Ranch Allotment, and one in the XL Allotment in 2013. Two additional sites were established in the XL allotment in 2010. These monitoring sites would continue to be used in the future, and would be used to detect changes in range condition over time.

Terms and Conditions

Standard terms and conditions will be applied to the new permits for the four allotments. These include:

- 1) Grazing permit or lease terms and conditions and the fees charged for grazing use are established in accordance with the provisions of the grazing regulations now or hereafter approved by the Secretary of the interior.
- 2) They are subject to cancelation, in whole or in part, at any time because of:
 - a. Noncompliance by the permittee/lessee with rules and regulations.
 - b. Loss of control by the permittee/lessee of all or part of the property upon which it is based.
 - c. A transfer of grazing preference by the permittee/lessee to another party.
 - d. A decrease in the lands administered by the BLM within the allotment(s) described.
 - e. Repeated willful unauthorized grazing use.
 - f. Loss of qualifications to hold a permit or lease.
- 3) They are subject to the terms and conditions of allotment management plans if such plans have been prepared. Allotment management plans must be incorporated in permits or leases when completed.
- 4) Those holding permits or leases must own or control and be responsible for the management of livestock authorized to graze.
- 5) The authorized officer may require counting and/or additional or special marking or tagging of the livestock authorized to graze.
- 6) The permittee's/lessee's grazing case file is available for public inspection as required by the Freedom of Information Act.

7) Grazing permits or leases are subject to the nondiscrimination clauses set forth in executive order 11246 of September 24, 1964, as amended. A copy of this order may be obtained from the authorized officer.

8) Livestock grazing use that is different from that authorized by a permit or lease must be applied for prior to the grazing period and must be filed with and the approved by the authorized officer before grazing use can be made.

9) Billing notices are issued which specify fees due. Billing notices, when paid, become a part of the grazing permit or lease. Grazing use cannot be authorized during any period of delinquency in the payment of amounts due, including settlement for unauthorized use.

10) The holder of this authorization must notify the authorized officer immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (cultural items), stop the activity in the area of the discovery and make a reasonable effort to protect the remains and/or cultural items.

11) Grazing fee payments are due on the date specified on the billing notice and must be paid in full within 15 days of the due date, except as otherwise provided in the grazing permit or lease. If payment is not made within that time frame, a late fee (the greater of \$25 or 10 percent of the amount owed but not more than \$250) will be assessed.

12) Members of Congress may not enter into a grazing permit or lease. 41 USC 6306 (2014). Further, no officer, agent, or employee of the Department of the Interior, other than members of Advisory committees appointed in accordance with the Federal Advisory Committee Act (5 U.S.C. App. 1) and Sections 309 of the Federal Land Policy and Management Act of 1976 (42 U.S.C. 1701 et. seq.) shall be admitted to any share or part in a permit or lease for grazing or derive any benefit to arise from a permit or lease for grazing.

Other Permit Terms and Conditions

Other terms and conditions will be applied to the new permits. These include:

1) The BLM may modify the terms and conditions of this permit or lease if additional information indicates that revision is necessary to conform with standards for Rangeland Health and Guidelines for Livestock Grazing Management (43 CFR 4180).

2) Each year, no later than 15 days after completing your permitted grazing use in all allotments, you must submit a certified actual grazing use report to the BLM Lakeview Office.

3) You must maintain range improvements for which you are responsible prior to livestock turnout, annually or as specified in signed cooperative agreement(s).

4) Grazing fees must be paid in a timely manner. Failure to pay fees within 15 days of the due date is subject to a late fee (see 43 CFR 4130.8-1(f)).

5) You may place livestock nutritional supplements, (i.e. salt or mineral blocks), on your allotments provided that they are placed at least one-quarter mile away from live water sources (43 CFR 4130.3-2(c)). In the event that topography and /or available water sources do not allow for the one-quarter-mile requirement, coordination will be necessary with BLM.

6) You must grant the BLM reasonable administrative access across your private and leased lands to BLM-administered lands for their orderly management and protection. 43 CFR 4130.3-2(h).

7) The Coleman Seeding Allotment will be used under a three-pasture rest rotation grazing system with one pasture in the rotation being adjacent state land. Each pasture will be rested every third year.

8) You may graze up to 1,189 AUMs in the Coleman Seeding allotment only in those years where both the Triangle and South pasture are grazed (up to 651 AUMs in the South Pasture and 538 AUMs in the Triangle Pasture).

Livestock Movement Between Pastures and Allotments (Trailing)

During the course of the year, the permittee would be allowed to herd cattle between allotments and pastures. In the XL allotment, the permittee would drive cattle across portions of the North Abert Pasture to access the Middle Abert Pasture. When moving to and from the state land, Coleman Seeding, and Alkali Winter Allotments, the permittee would herd cattle across a portion of the Pike Ranch Allotment. When moving to and from the Ryegrass Pasture of the Alkali Winter Allotment, the permittee would drive cattle through other pasture of the Alkali Winter Allotment. Other organized livestock movements between allotments and pastures would occur during the course of the year depending on the circumstance and need without further notice to the BLM. Livestock movement events will typically be completed in one day, although an overnight stop may occur on occasion. This would also include other permittees trailing their cattle across BLM administered lands covered within this permit renewal. Cattle will be moved to and from surrounding allotments, and to livestock management facilities, such as catch pens and corrals.

Range Improvement Maintenance

Maintenance of existing water troughs, wells, pipelines, waterholes, and fences would be a component of both Alternatives 1 and 2. Maintenance may not be needed on all existing developments; however, it would likely be needed sometime in the next 10 years. Waterhole maintenance would include the cleaning (within the original area of disturbance) of the waterhole to ensure continued function. Trough maintenance would include fixing and/or replacing leaking troughs or associated fittings. Pipeline maintenance would include replacing and/or repairing broken, damaged, or leaking sections of pipe or fittings.

Hope Well is located in the Middle Abert Pasture, with the storage tank located within the Cave Springs Pasture of the XL Allotment. Hope Well consists of a well/pad, storage tank, pipeline and troughs. The storage tank is a vertical tank that is painted an off white color, and is visible for miles because the area lacks topographic or vegetative screening. The water tank would be repainted a neutral color that would blend in with natural surroundings during the next maintenance cycle.

Alternative 1 - No Action

The No Action Alternative would consist of renewing the existing livestock grazing permits #3601487 and #3602231 for a period of 10 years, continuing the current grazing management, and continuing the current permitted season of use, and forage allocations shown in Table 2-2. The permits would be issued with the same terms and conditions as the expiring permits. This definition for the No Action Alternative serves as the baseline for the comparison of impacts in Chapter 3 and is consistent with BLM (2000) and CEQ (1981) guidance.

Table 2-2. Current and Proposed Livestock Grazing

Allotment Name/ Number	Permit Number	Existing Permit Dates (Alt. 1)	Proposed Permit dates (Alt. 2)	Active Use (AUMs) (Alt. 1)	Proposed AUM Increase (Alt. 2)	Existing Grazing System (Alt. 1)	Proposed Grazing System (Alt. 2)
Alkali Winter (01001)	3601487	11/15-4/20	11/1-2/28	2005	0	Winter	Winter
Pike Ranch (00425)	3601487	8/20-11/15	5/15-11/1	95	0	Spring, Summer, Fall	Spring, Summer, Fall
Coleman Seeding (00432)	3601487	2/1-6/1	11/1-6/1	920	269	Winter, Spring, Summer	Rest Rotation
XL (00427)	3602231	2/1-6/1	2/1-6/1	1500	0	Rest Rotation	Rest Rotation

Alkali Winter Allotment

Livestock grazing within the Alkali Winter Allotment is defined in the *Lakeview RMP/ROD* as a winter grazing system (Table 5, page 48, as maintained). The Ryegrass and West Venator Pastures in the Alkali Winter Allotment would continue to be used every year during the winter. While the current permit dates for this allotment are 11/15 to 4/20, use over the last 10 years has not extended into the spring season.

Pike Ranch Allotment

Livestock grazing within the Pike Ranch Allotment is defined in the *Lakeview RMP/ROD* as a spring/fall grazing system (Table 5, page 48, as maintained). In general, the Pike Ranch has been grazed from the first of June through mid-November, rather than a more typical spring/fall grazing system.

The implementation of the Paisley Adjudication agreement states that the Coleman Seeding and Pike Ranch Allotments would be managed as whole units, and that Coleman Seeding would be used to manage Pike Ranch to improve management flexibility. While the Coleman Seeding Allotment has not been recently used to manage the Pike Ranch Allotment, this is still a management option. This means a total of 1,015 AUMs are available in the unit together, and the AUMs can be shifted between allotments.

Coleman Seeding Allotment

Livestock grazing within the Coleman Seeding Allotment is defined in the *Lakeview RMP/ROD* as a rest rotation grazing system (Table 5, page 48, as maintained). However, the Coleman Seeding Allotment has not been managed under a rest rotation grazing system due to the presence of only two pastures. In general, the Coleman Seeding has been grazed from the first of February through the first of June annually.

The Coleman Seeding has not been recently used to manage the Pike Ranch Allotment. However, this would remain a management option under this alternative (See discussion under the Pike Ranch Allotment above).

XL Allotment

Livestock grazing within the XL Allotment is defined in the *Lakeview RMP/ROD* as a rest rotation grazing system (Table 5, page 48, as maintained). Each of the three pasture of the XL Allotment would be grazed two years in a row followed by a year of rest. Each of the pastures would receive a full year of rest from livestock grazing every third year.

Alternative 2 - Permittee Proposals plus Treatments

Permit Renewal

This alternative would include renewing the permits (#3601487 and #3602231) and adjusting the season of use (permit dates) for three of the four allotments. Table 2-2 shows the proposed permit dates for the allotments in comparison to the existing permit dates. If adopted as the final decision, the *Lakeview RMP/ROD* (BLM 2003b) would be updated through plan maintenance to reflect these management changes.

Proposed Grazing Systems

Alkali Winter Allotment

The permit dates would be extended two weeks earlier into the fall to start on 11/1, but would end on 2/28.

The Alkali Winter Allotment would continue to be used under a winter grazing system with the same active AUMs as Alternative 1.

Pike Ranch Allotment

The Pike Ranch Allotment would be used during the spring/summer/fall each year, but the permit dates would be changed from 5/15 to 11/1. Active AUMs would be the same as Alternative 1.

Coleman Seeding Allotment

Grazing management within the Coleman Seeding Allotment would be changed to a three pasture rest rotation grazing system with the adjacent state land (also used by the same permittee) being incorporated into the rotation. Under this proposed grazing system, each pasture would be grazed two years in a row followed by a year of rest. Each of the pastures would receive a full year of rest from grazing every third year. This rest rotation would begin in 2015, or the first grazing season following the final decision. The pasture rested within the rest rotation grazing system may vary from what is shown in the Table 2.3 below, with the rest cycle starting with a different pasture.

Table 2.3. Alternative 2 – Three-Year Rest Rotation Grazing Management System

Year	Triangle Pasture	South Pasture	State Land Pasture
One	Rest	Graze	Graze
Two	Graze	Rest	Graze
Three	Graze	Graze	Rest

The permit dates for the Coleman Seeding Allotment would also be extended from 11/1 to 6/1. This would extend the season of use within the allotment to incorporate fall use and include more winter use.

This alternative would include increasing active preference in the Coleman Seeding Allotment up to 269 AUMs, totaling 1,189 AUMs. The full increase would only be available the one year out of three when both the Triangle and South Pastures are scheduled to be grazed.

XL Allotment

The XL Allotment would be used with the same permit dates (2/1 to 6/1), AUMs, and rest rotation grazing system as described under Alternative 1.

Proposed Weed Treatments

Non-native invasive plant species and noxious weeds would be managed using authorized herbicides, along with manual, mechanical, and biological control methods, prescribed fire, as part of an integrated vegetation management approach. Where herbicide applications would be determined to be the most appropriate treatment, application would be in conformance with label instructions. Herbicide uses and applications would be constrained by the Standard Operating Procedures (SOPs) and other mitigation measures adopted in the 17-States PEIS ROD and Oregon FEIS ROD (BLM 2007, 2010b) and any additional measures adopted by the final decision associated with this EA.

Herbicides would be applied using ground-based methods such as wicks and wipers, backpack sprayers, ATV, UTV, truck-mounted and aerial (helicopters or fixed-wing aircraft) sprayers, as described in the Oregon FEIS (BLM 2010a: p. 68-73). In addition to the currently approved suite of products (2,4-D, dicamba, glyphosate, and picloram), four (4) supplementary herbicides analyzed in the Oregon FEIS (BLM 2010a) would be used to treat noxious weeds and non-native invasive species. These supplementary herbicides include chlorsulfuron, clopyralid, imazapic, and metsulfuron methyl applied as follows:

1. Chlorsulfuron (Telar XP) at a typical rate 1.3 oz/acre (0.061 lbs/acre of active ingredient Chlorsulfuron) and would not exceed the annual maximum rate applied during the growing season. Chlorsulfuron would be used to treat mustards, thistles and halogeton. Application method would be using ground equipment with either low boom broadcast application or spot sprayed.
2. Clopyralid (Transline) at 1.33 pt/acre (0.5 lbs/acre of active ingredient Clopyralid). Clopyralid would be used to control thistles and knapweeds. The herbicide application method will consist of either low boom broadcast application or hand sprayer spot application. Clopyralid could also be used as a tank mix including 2,4-D (typical rate 0.95lbs/acre active ingredient) or Chlorsulfuron (typical rate 1.3 oz/acre of active ingredient).
3. Imazapic (Plateau) at 6oz/acre (0.178 lbs/acre of active ingredient Imazapic) applied in the fall to treat medusahead rye, ventanata, and cheatgrass. Application method would be by either low boom or aerial spray. Aerial spray treatments for medusahead rye would be used on upland infestations 100 acres or greater and/or on smaller infestations which ground equipment cannot access.
4. Sulfurmeturon methl (Escort) would be applied at a typical rate of 1.78 oz/acre (0.07 lbs/ acre of active ingredient sulfurmeturon) and will not exceed the maximum rate during the growing season. Sulfurmeturon would be used to treat mustards, thistles and halogeton. Application method would be using ground equipment with either low boom broadcast application or spot spraying. Sulfurmeturon would be used as a tank mix or as an annual rotation with Chlorsulfuron to prevent herbicide resistance.

Proposed Range Improvements

Alkali Winter Allotment

This alternative includes fencing the west side of the Hutton Springs Pasture and managing as part of the existing West Venator Pasture under permit #3601487. The proposed fence would increase acreage by approximately 7,859 managed within the West Venator Pasture under permit #3601487. This proposal would also remove the same amount of acreage managed within the Hutton Springs Pasture under permit #3601283. This proposed fence would be approximately 6 miles in length and would be a 3-strand barbed wire fence with steel posts, metal stays, rock cribs and/or H braces, built to BLM wildlife passage specifications (BLM 1989a). This fence would include approximately three gates, one at each end of the fence, and a gate where the proposed fence crosses the road (Map 3).

The understory of approximately 1,500 acres (not meeting Rangeland Health Standards 1 and 3) in the Ryegrass Pasture of the Alkali Winter Allotment would be rehabilitated by seeding or a combination of seeding and invasive species treatment (see general project design element 3).

Pike Ranch

This alternative includes extending the existing allotment boundary fence out into Lake Abert to prevent unauthorized livestock movement onto adjacent lands. Due to public comment, the proposed fence has been relocated closer to the property line. Map 4 has been revised to show this change. The fence would be built to BLM wildlife passage specifications (BLM 1989a) (see general project design element 5).

XL Allotment

Hope Well Pipeline would be extended approximately 3.5 miles north under this alternative. There is currently one trough located in the North Abert Pasture. The proposal would extend the pipeline from the existing trough in the North Abert Pasture further to the north, and would include three additional troughs (Map 6).

Approximately 3,758 acres of the allotment not meeting Rangeland Health Standards 1 and 3 in the XL Allotment would be rehabilitated by seeding or a combination of seeding (Map 6) and invasive species treatment (see general project design element 3).

Coleman Seeding Allotment

Under this alternative, up to 1,200 acres of the Coleman Seeding Allotment would be treated by mowing with a tractor pulling a brush beater to remove decadent crested wheatgrass plants and encourage new growth (Map 5). Within this area, islands of native shrubs would be flagged by BLM wildlife biologists prior to mowing and those islands would be retained to provide wildlife habitat diversity.

General Project Design Elements for Proposed Range Improvements:

- (1) There are known weed sites within the allotments, including hoary cress (*Cardaria draba* (L.) Desv.), musk thistle (*Carduus nutans*), bull thistle (*Cirsium vulgare* (Savi) Ten.), Canada thistle (*Cirsium arvense* (L) Scop.), Yellow starthistle (*Centaurea solstitialis*), Mediterranean sage (*Salvia aethiopsis* L.), and Halogeton (*Halogeton glomeratus* (m. Bieb) C.A.Mey). The risk of new weed introduction or spread would be minimized by ensuring all equipment (including all machinery, TV, UTV, and pickup trucks) is cleaned prior to entry to the area and completing follow-up monitoring, to ensure no new weeds become established.
- (2) Reseeding would take place in areas being rehabilitated, disturbed by construction/installation of rangeland improvement projects (the new pipeline), and areas following weed treatment. Mixtures of non-native and native grass, forb, and shrub seed may be applied to designated areas with ground-based methods. The mixture could include nonnative species such as crested wheatgrass (*Agropyron cristatum*), and native species including, but not limited to Sandburg's bluegrass (*Poa secunda*), squirreltail (*Elymus elymoides*), and native forbs. Crested wheatgrass may be used in the seed mix because it is drought tolerant, competitive with invasive species, has a long seed viability period, and aggressive germination characteristics. Seeding would likely occur in the fall/winter season using a 4-wheeler and/or hand seeder or rangeland drill. Areas within sage-grouse habitat within the allotments would be seeded with mixes that benefit sage-grouse.
- (3) Pipelines: To reduce surface contrast with the surrounding landscape, which may create an "industrial appearance", pipelines would be buried, preferably in or adjacent to a roadway, where possible. In addition, past buried pipelines in the allotment have produced large rock berms of bright white rock, which can be seen from several miles outside of the allotment. The proposed pipeline would be smoothed, re-contouring, or scattering large rows or lines of rocks or mounds created by equipment.
- (4) Color/paint water tanks and troughs: use paint color(s) which allows the facility to blend into the background. All new permanent facilities would be painted the same color(s).
- (5) Fence built along the shoreline of Lake Abert would be built with a smooth bottom and top wire, and would include anti-strike markers to minimize risk of wildlife collisions.

Additional Permit Terms and Conditions:

The permit would be issued for these allotments with similar terms and conditions as the No Action Alternative. However, additional terms and conditions would be added to the permit to incorporate management changes included in Alternative 2:

The Coleman Seeding Allotment would be used under a three-pasture rest rotation grazing system with one pasture in the rotation being adjacent state land. Each pasture would be rested every third year. The full 269 AUM increased would be available in the Coleman Seeding Allotment one of three years when both pastures are grazed. The permit dates for the allotment would be 11/1 to 6/1.

The permit dates for the Pike Ranch Allotment would be 5/15 to 11/1. In addition, the existing term and condition stating that the Pike Ranch and XL Allotments are to be used in accordance with the memorandum of understanding (MOU; dated October 2003) would be removed because the MOU expired.

The permit dates for the West Venator and Ryegrass Pastures, and the west side of the Hutton Springs Pastures of the Alkali Winter Allotment would be 11/1 to 2/28.

Alternative 3 -No Permit Renewals or Treatments

Under this alternative, the two permits would not be renewed. A total of 4,520 AUMs of livestock forage would not be authorized on public lands within 4 allotments. However, grazing would still continue on portions of two allotments (Alkali Winter and XL) under other grazing permits that are not currently subject to renewal at this time. In addition, owners of livestock grazing on private land in-holdings would be required to keep livestock off public land by either herding or constructing additional fences to prevent trespass.

Existing range improvements on BLM-administered lands within the interior of 2 of the allotments would no longer be maintained for livestock grazing management purposes. However, the allotment/pasture boundary fences could still be maintained in the future to allow livestock grazing to continue in surrounding allotments/pastures where livestock use is authorized and to keep cattle out of pastures where it is not authorized. This alternative is being considered to provide a full range of alternatives and comply with grazing management permit renewal guidance (BLM 2000, 2008b).

No weed or vegetation treatments would be implemented under this alternative. The biological control agent *phrydiuchus tau* (crown root weevil) that has been deployed in the past to control Mediterranean sage would remain, but no new agents would be released.

Alternatives Considered but not Fully Analyzed

Reduction in AUMs

The ID team considered an alternative that would have reduced AUMs within all four allotments by up to 50%. However, the majority of all four allotments are currently meeting all applicable Rangeland Health Standards under current grazing management. Those portions not meeting Rangeland Health Standards 1 and 3 are not due to current livestock grazing. The permittee has an adequate performance review in relation to compliance with the permit terms and conditions, as well as other compliance related criteria. Monitoring data for these four allotments reflects stable trends. For these reasons, the BLM would have no logical rationale for adopting this alternative. Further, the impacts of this alternative would fall within the range of other alternatives that are analyzed in detail in Chapter 3. For these reasons, this alternative was not carried forward for further analysis.

Increase of 269 AUMs in the Coleman Seeding Allotment

The permittee proposed increasing the active forage allocation for the Coleman Seeding Allotment by 350 AUMs from 920 to 1,270 AUMs as part of his application submittal.

BLM staff used 3 different methods of analyzing stocking levels to determine if this proposed level of forage increase could be supported in the allotment on an annual basis. These methods are described in further detail in the livestock grazing section in Chapter III. The amount of precipitation in a given year, or sequence of years, plays a critical role in forage availability. Based on the results of the analysis, BLM determined that over the last 20 years there have been only 8 years where precipitation has resulted in

forage production that exceeded 1,270 AUMs. Further, the allotment would not be able to support this level of increased use on below average precipitation or drought years without exceeding target utilization levels. The permitted level of use is based on a sustainable number of AUMs, and this level of increase would not be sustainable in low precipitation years. Grazing at this level would lead to a downward trend in range condition over time, thus the allotment would likely not achieve applicable Rangeland Health Standards in the future.

Based on the stocking level analysis, BLM staff estimated that a maximum increase of 269 AUMs would be sustainable across the allotment. This level of forage increase was addressed in Alternative 2. For these reasons, BLM did not address an alternative that increased forage allocation by 350 AUMs within the Coleman Seeding Allotment in further detail.

CHAPTER III: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section presents a description of the current environment within the allotments and a discussion of the potential changes resulting from implementation of the alternative management actions. An interdisciplinary (ID) team has reviewed and identified the resources values and uses that could potentially be affected by the alternative actions. Those resources or resource uses identified as “not affected” or “not present” are listed in Table 3.1 and will not be discussed or further analyzed in this EA. The remainder of this chapter describes the potential direct, indirect, and cumulative effects on resources and resource uses that may result from each alternative.

Climate

Affected Environment:

The climate in the vicinity of the allotments is variable, but typical of the Northern Great Basin. Mean annual precipitation ranges from 6-10 inches. Precipitation occurs mostly in the form of snow during December through March with spring rains common. The soil temperature regime is frigid. Mean annual air temperatures range from 40 to 43 degrees F. The frost-free time period is from 50 to 80 days. The period of optimum plant growth is from April through June.

Changes in greenhouse gas levels may affect global climate (Forster *et al.* 2007, NOAA 2010). However, the U.S. Geological Survey (USGS) has summarized the latest science on greenhouse gas emissions and concluded it is currently beyond the scope of existing science to identify a specific source of greenhouse gas emissions and designate it as the cause of specific climate impacts at a specific location (USGS 2008).

Environmental Consequences:

Effects Common to Alternatives 1-4

Livestock grazing results in methane emissions as a result of ruminant digestion. Methane is recognized as one source of carbon emissions. Emission rates from cattle vary widely and depend on many variables (Johnson and Johnson 1995; DeRamus *et al.* 2003). Livestock grazing can also affect rangeland carbon storage levels, through changes in plant community and changes in ecosystem processes, but the effects have been variable and inconsistent among the ecosystems studied (Schuman *et al.* 2009). Some studies have found that grazing can result in increased carbon storage compared to no grazing, because of increased plant turnover and changes in plant species composition (Follett *et al.* 2001). Many changes in rangeland

Table 3-1. Resources, Uses, or Issues that Are Not Analyzed in Detail

Elements of the Human Environment		Rationale
Air Quality (Clean Air Act)	Not Affected	None of the alternatives would have measureable impacts to air quality or significant discharges of regulated air pollutants.
Environmental Justice (Executive Order 12898)	Not Present	None of the alternatives would have disproportionately high or adverse effects on minority populations or low-income populations as such populations do not exist within the allotments.
Fire and Fuels Management	Not Affected	No fire or fuel treatments are being proposed in this EA.
Fisheries	Not Present	No <u>perennial water</u> or fish habitat exists within the pastures addressed in this EA.
Forest/Woodlands	Not Present	Not present within the allotments.
Flood Plains (Executive Order 13112) and Hydrology	Not Affected	No modifications of flood plains are proposed under any of the alternatives. Therefore, there would be no floodplain or related hydrologic impacts.
Riparian Vegetation	Not Present	There are no perennial streams or wetlands on BLM-administered lands within the allotments.
Hazardous or Solid Waste	Not Affected	A chemical waste dump occurs within the Hutton Springs Pasture of the Alkali Winter Allotment. The perimeter of the site is fenced to exclude both livestock and the public. The site would not be affected by any of the proposed alternatives. Therefore, this issue will not be analyzed further.
Lands	Not Affected	None of the alternatives analyzed would have any effects on current land status or land tenure.
Minerals and Energy	Not Affected	None of the alternatives analyzed would have any effects on mineral or energy resources or uses.
Prime or Unique Farmlands	Not Present	No such lands have been identified in the allotments.
Recreation	Not Analyzed	The allotments contain limited dispersed recreation opportunities, primarily associated with fall hunting, wildlife viewing, and OHV use. Based on similar analyses contained within several recent permit renewal EAs (BLM 2012c, 2012d, 2013a, 2013b, 2013c, 2014d, 2014e, 2014f), recreation uses and opportunities do not rise to the level of an issue that is likely to be significantly affected by any of the management alternatives or otherwise require detailed analysis.
Special Status Plants	Not Present	There are no known special status plants occurring within the assessment area, including federally listed threatened or endangered plants.
Threatened and Endangered Animals	Not Present	Hutton tui chub (<u>Threatened</u>) occurs within the Alkali Winter Allotment boundary; however, they exist in <u>two springs</u> on fenced private land outside the analysis area.
Wild Horses (Wild Horse and Burro Act)	Not <u>Affected</u>	The allotments are located outside of designated wild horse herd management areas.
Water Quality (Clean Water Act)	Not Affected	There are no perennial streams or municipal drinking water sources in the 4 allotments. Lake Abert (an alkaline waterbody) borders the XL and Pike Ranch Allotments. The western shore is excluded from livestock grazing. Very little grazing use occurs near the shore or playa on the north end of the lake due to lack of vegetation and fresh water. Some grazing occurs along the northeastern shore within the Pike Ranch Allotment. This level of use has no measureable effects on the overall water quality of Lake Abert.
Wild and Scenic Rivers	Not Present	There are no wild or scenic rivers within the allotments.
Wilderness Study Areas	Not Present	No wilderness study areas exist within any of the allotments.
Wilderness Characteristics	Not Present	BLM's original wilderness inventory did not find wilderness characteristics to be present within these allotments (BLM 1979a, 1979b, 1979c, 1980a, 1980b, 1989b, 1991). Since 2007, the BLM has been conducting wilderness inventory updates following current inventory guidance (BLM 2007a, 2008a, 2012c). In this process, an inter-disciplinary team reviewed the existing wilderness inventory information contained in the BLM's wilderness inventory files, previously published inventory findings (BLM 1979a, 1979b, 1979c, 1980a, 1980b) and citizen-provided wilderness information (ONDA 2005, 2007). BLM conducted field inventory, completed route analysis forms, made unit boundary determinations, and

Elements of the Human Environment	Rationale
	subsequently evaluated wilderness character within each inventory unit. BLM has completed wilderness character inventory updates for all lands within the allotments. While ONDA found wilderness characteristics to be present in portions of the XL and Alkali Winter Allotments (ONDA 2005; p. 35-46, 121-133), BLM did not find wilderness characteristics to be present in any of the allotments (BLM 2008c, 2012d, 2012e, 2012f, 2013a, 2013b). BLM hereby incorporates these findings by reference in their entirety. Based upon the results of these inventory updates, there would be no impacts to such values.

carbon from different grazing practices do not result in substantial changes in total ecosystem carbon, but rather simply redistribute carbon, for example, from aboveground vegetation to root biomass (Derner and Schuman 2007).

Based on the analyses contained in several recent permit renewal EAs, which analyzed between 0 and 4,633 AUMs of forage consumption annually, and are incorporated herein by reference in their entirety (BLM 2012c, 2012d, 2013c), the continued utilization of up to 3,692 AUMs of forage would result in extremely small levels of greenhouse gas emissions and net carbon storage/loss, and would be similar to the extremely small levels previously analyzed. These levels would have no scientifically verifiable effects on regional or global climate change, nor would they have any significant effects on either greenhouse gas emissions or carbon sequestration processes. Therefore, this issue will not be analyzed further.

Soils and Biological Soil Crusts

Affected Environment:

Biological soil crusts (BSCs) such as mosses, lichens, micro fungi, cyanobacteria and algae play a role in a functioning ecosystem. In addition to providing biological diversity, BSCs contribute to soil stability through increased resistance to erosion and nutrient cycling (Belnap *et al* 2001). Lichen species diversity is poorly known in the Pacific Northwest (Root *et al.* 2011). Further, identification of BSCs at the species level is not practical for fieldwork, as it is very difficult and may require laboratory culturing (Belnap *et al* 2001). For these reasons, BLM began collecting BSC cover data during the North Lake ESI process. Crust cover data was collected for the allotments and is summarized in Tables 3-2 and 3-3.

Table 3-2. Biological Soil Crust Cover Classes*

Allotment	% BSC 10	% BSC 8	% BSC 6	% BSC 5	% BSC 4	% BSC 3	% BSC 2
Alkali Winter	4	27	15	1	11	2	9
Pike Ranch	0	1	0	0	26	0	0
Coleman Seeding	0		.2	0	74	0	0
XL	.9	1.5	18	.1	3	1	2

- *0= no crust cover
- 1= clearly a crust is present
- 2= just Cyanobacteria present
- 4= lichens and mosses covering 1-5% of the ground
- 6= lichens and mosses covering 5-10% of the ground
- 8= lichens and mosses covering 10-20% of the ground
- 10= lichens and mosses covering greater than 20% of the ground

Long-Term trend monitoring studies have recorded percent cover BSCs on the majority of the allotments and are summarized in Table 3.3.

Table 3-3. Percent BSCs by Pasture and Year

Allotment	Pasture	Plot Number	Year/BSC cover
Alkali Winter	West Venator	AW-14	1985: 1%
			2009: 9%
	Ryegrass	AW-19	2012: 7%
Coleman Seeding	South	C-2	2007: 2%
			2009: 2%
	Triangle	C-5	2009: 6%
			2011: 3%
XL	North Abert	MA-2	2010: 8%
			2012: 4%
		XL-5	2010: 5%

Soil summaries were compiled from Ecological Site Inventory (ESI) data on file at the Lakeview District Office. This ESI data represents a combination of soil and vegetation data collected by BLM and NRCS. This data is herein incorporated by reference in its entirety and is summarized in this chapter and in Appendix B.

There are 36 soil complexes within the allotments with slopes ranging from 0 to 60%, depths ranging from shallow to deep, and drainage ranging from well-drained to poorly-drained. The RAZ-Brace complex (loamy), low ppt, 2-20% slopes comprises the largest portion of the area (33%). These soils are shallow to moderately deep and well-drained. The McConnel Complexes (loamy), 0-15% slopes, comprise approximately 10% of the assessment area (refer to Table B-1, Appendix B).

Environmental Consequences:

Effects Common to Alternative 1 and 2

A couple of studies have examined biotic soil crust cover and composition at several locations in central and eastern Oregon (Ponzetti 2000, Ponzetti and McCune 2001). One of the sites examined was the CCC enclosure, located about 19 miles north of the allotments. (This enclosure was built by the CCC in 1938 and has been used periodically as a rangeland study site. No authorized livestock grazing has occurred in the enclosure since 1938). The study compared species richness of biotic crusts inside and outside of several enclosures to provide a grazed-verses-ungrazed comparison. The studies found that all of the study sites had between one and six more taxa inside the enclosures than in the grazed pastures, with the exception of the CCC enclosure, which had three more species in the adjacent grazed transect. Generally, total crust cover was inversely related to vascular plant cover, as there was a positive relationship between crust cover and available soil surfaces. Ponzetti and McCune (2001) generally found a lower cover of biotic crusts, lichens, and species richness in grazed areas. However, they also found that the differences in crust cover and species composition between study sites were most strongly related to soil pH, electrical conductivity, and the relative calcium carbonate content of the soil. Thus, soil chemistry and climate differences appeared to be stronger factors affecting crust cover and species composition than livestock exclusion (or grazing). Generally, livestock do not graze on BSCs. The primary impact to BSCs from livestock is associated with hoof trampling. In this respect, the impacts to BSCs and soils are generally inter-related. Therefore, BLM assumes that, for purposes of this analysis, the impacts to BSCs can generally be described by quantifying the associated impacts to soils.

The impacts of livestock grazing on soils and BSCs within the Lakeview Resource Area were analyzed in the *Lakeview Proposed RMP/Final EIS* (BLM 2003a) and that analysis is incorporated herein by reference in its entirety. In summary, livestock use would continue to impact area soils and BSCs due to compaction around waterholes and along livestock trails (pages 4-35 to 4-36). However, the rest-rotation (XL) and

winter grazing systems (Alkali Winter) utilized in these two allotments are designed to reduce or mitigate these impacts. These existing grazing systems would continue under Alternatives 1 and 2.

Alternative 1: No Action

Soils and BSCs would continue to be impacted in livestock concentration areas near water sources and cattle trails (Map 7). Livestock tend to concentrate within a quarter of a mile around existing water sources (a quarter mile buffer around a water source represents approximately 120 acres). There are 22 existing water developments within the four allotments: 15 water troughs, 3 waterholes, and water haul locations with troughs. Therefore, approximately 2,640 acres (22 x 120 acres) around water sources would be impacted by concentrated grazing use under Alternative 1.

Cattle trails tend to be located along fence lines and near water sources. These trails are typically less than 5 feet wide. There are approximately 117 miles of allotment and pasture division fencing located within the four allotments. This equates to about 71 acres (117 mi. x 5 ft. x 5,280 ft. per mi./43,560 ft.² per acre) of disturbance associated with existing fence lines and livestock trailing. BLM does not have a quantifiable means of estimating disturbed acres associated with cross-country livestock trailing to water sources, but based on estimates associated with fencing, believes that it represents a very small percentage of the allotments.

In total, approximately 2,711 acres (4%) of the soils and BSCs within the four allotments would be impacted by concentrated livestock use. The effects of hoof action on soil and BSCs throughout the majority of the allotments (where lighter dispersed grazing use occurs) would remain relatively minor.

As the XL and Alkali Winter Allotments currently have a rest rotation grazing system, and winter grazing system respectively, soils and BSCs would have some time to recover through rest, deferment, and natural processes such as frost-heave and crust recruitment from adjacent areas. While the majority of the Coleman Seeding Allotment is meeting Standards 1 and 3, the current trend may decline in the long-term due to lack of periodic growing season rest. The majority of all four allotments are currently meeting Rangeland Health Standards 1 and 3, which relate to upland watershed health and ecological processes and are expected to continue to do so over the 10-year life of the permit. The areas not meeting Rangeland Health Standards 1 and 3 are not attributed to livestock grazing, and would continue to fail to meet these standards under this alternative.

Alternative 2: Permittee Proposals plus Treatments

The impacts of Alternative 2 would be similar to those described for Alternative 1. However, water locations and livestock use patterns would shift slightly under this alternative.

Under Alternative 2, there would be some additional surface disturbance to soils and BSCs from vehicle traffic during pipeline and fence construction and future maintenance of the proposed range improvements. The proposed pipeline would create 3 additional water sources in the North Abert Pasture of the XL Allotment, and add approximately 360 additional acres of concentrated livestock use around water sources to the 2,640 acres described under Alternative 1. Approximately 3,000 acres (4.7%) of the allotments would be negatively affected by concentrated livestock use around water sources. However, the additional water developments would also reduce the severity of hoof trampling impacts at any given existing watering location due to livestock being more evenly dispersed across more watering sites each year.

The proposed 4 miles of new fences would create approximately 2.4 acres of additional disturbance associated with construction and subsequent livestock trailing.

There would be an additional temporary disturbance associated with 3.5 miles of pipeline installation

amounting to approximately 4.2 acres (3.5 mi. x 10 ft. x 5,280 ft. per mi./43,560 ft.² per acre). Construction and installation of the pipeline involves trenching and burying of the pipeline within the existing crested wheatgrass seeding. Disturbed areas from pipeline installation would then be reclaimed with native and other suitable seed mix, including crested wheatgrass. Some of the disturbance associated with the pipeline would reclaim naturally over time and, therefore, would be considered temporary in nature. However, a user-created route is likely to remain adjacent to the pipeline for future maintenance. The permittee may also use this route to check livestock or placement of salt/mineral/protein blocks. The general public may also use this route for recreational purposes.

The total area of disturbance associated with concentrated livestock use under this alternative is estimated to be 3,078 acres (4.9%) of analysis area (2,640 acres around existing water developments, 360 acres around proposed water troughs, 4.2 acres associated with proposed pipeline, 71 acres associated with existing fence lines, 2.4 acres associated with proposed fence lines and livestock trailing).

The impacts to soils and BSCs from livestock grazing in the Alkali Winter and the XL Allotment would be the same as Alternative 1. The Coleman Seeding Allotment would be used on a three-year rest rotation grazing system, reducing impacts to soils and BSCs, compared to Alternative 1. During grazed years, livestock would still tend to congregate around water sources and trail along fence lines and between water sources, as described for Alternative 1. However, the total acres of impacted soils and BSCs would be reduced by about a third in any given year due to the rest provided to each pasture every third year. This rest would allow opportunity for some soil and BSC recovery in these disturbed areas through natural processes, including frost heaving and plant maturation and reproduction in the Coleman Seeding Allotment.

The effects of hoof action on soil and BSCs throughout the majority of the allotments (where light dispersed grazing use occurs) would remain relatively minor. Through proper range management the effects that occur in concentration areas (hoof divots, trails, etc.) would have some time to recover through rest, natural processes such as frost-heave, crust recruitment from adjacent areas, and annual adjustments such as salt and water placement in each pasture. The majority of all four allotments are currently meeting Rangeland Health Standards 1 (upland watershed health) and 3 (ecological processes) and would be expected to continue to do so over the 10-year life of the permit under this alternative. The portions of the allotments not meeting Rangeland Health Standards 1 and 3 are not due to livestock grazing, and would be improved under this alternative.

Portions of the areas not meeting Rangeland Health 1 and 3 were due to a lack of healthy perennial understory, dominated by cheatgrass, or had decadent crested wheatgrass with low vigor. Rehabilitating these areas by seeding or combination of seeding and invasive species treatment would increase perennial vegetation, thus increase root holding capacity and decreasing soil erosion potential. A healthy perennial understory would decrease the chance of weeds to become introduced and/or spread.

Weed/invasive species treatments would decrease the potential for weeds to spread, and would decrease the opportunity for weeds to become established in new locations. Treating weeds would decrease their ability to out compete perennial native vegetation. Perennial vegetation would have less resource competition, and would remain stable or improve across the allotments. A healthy perennial understory would increase root holding capacity, and decrease soil erosion potential. The potential effects of herbicide applications on soils and BSCs are summarized in Tables 3-5 to 3-9.

The proposed seedings would decrease the amount of bare ground and potential for weed/invasive species to become established or spread. Promoting a health perennial grass understory would decrease the risk of soil erosion and provide a more stable environment for BSCs within seeded areas.

Alternative 3: No Permit Renewal or Treatments

Under this alternative, little change to soils would occur on the allotments as a whole in the short-term (up to 5 years). Most of the concentrated livestock use areas (2,711 acres) associated with existing water sources and cattle trails would reclaim naturally with vegetation and BSCs from surrounding areas over the long term (5-10 years). Some of these trails may persist due to continued use by large wildlife such as antelope and deer. It is likely that interspace areas (bare spots between grass/shrub species) would be reduced across the allotments due the lack of grazing. However, this change would likely be undetectable over the short-term.

The majority of all four allotments are currently meeting Rangeland Health Standards 1 and 3 and would continue to do so over the 10-year analysis timeframe. Those areas currently not meeting Rangeland Health Standards 1 and 3 were not attributed to livestock grazing, and would not likely improve to the point of meeting these standards over the 10-year analysis timeframe.

The biological control agent *Phrydiuchus tau* (Mediterranean sage weevil) would continue to control Mediterranean sage within the four allotments to a limited degree, but would not be an effective method to control weeds within the allotment by itself. Without herbicide treatment, weed/invasive species would continue to spread and out-compete native vegetation. This would result in a continued loss of native perennial grasses, forbs, and shrubs would decrease the root holding capacity within the soil, increasing the chance of erosion. Compared to the other alternatives, the allotments would likely experience a downward trend in soil and BSC conditions over the 10-year analysis timeframe.

Wetland Vegetation

Affected Environment:

The only wetlands located within the specific pastures addressed in this EA occur within the Pike Ranch Allotment and are associated with Lake Abert (Tables 3-11 to 3-14). The Rangeland Health Assessment for the Pike Ranch Allotment (BLM 2003e) noted there were 301 acres of palustrine wetland in this allotment, most of which were identified as being in proper functioning condition (PFC). However, most of these acres are scattered along the shoreline and are associated with springs/seeps located on private lands. The National Wetland Inventory (NWI) dataset also identifies about two-thirds of the allotment as lake or lacustrine habitat. This area is typically inundated 1-2 years out of 10 and does not support wetland vegetation. During most years it represents unvegetated playa lakebed habitat.

In 2003, about 30 acres of wetlands near springs along the east side of the lake were rated as Functional at Risk with a downward trend due to livestock trailing and concentration around the springs. This area has since been excluded from livestock grazing and only experiences occasional use when lake levels are low and livestock are able to walk from private property around the boundary drift fence. About 29 acres now rates as PFC and less than an acre is rated as Functional at Risk with an upward trend; however these acres are now located outside of the allotment (due to the construction of the drift fence).

Alternative 1: No Action

The palustrine wetlands located in the Pike Ranch Allotment are in PFC. These wetlands would be expected to maintain their condition over time and continue to function at PFC over the life of the 10-year permit.

Alternative 2: Permittee Proposal plus Treatments

The effects of this alternative would largely be similar to Alternative 1 for palustrine wetlands within the

allotment boundary. However, the proposed fence would provide additional protection to the 30 acres of wetlands recently excluded from the allotment. Unauthorized livestock use would occur less frequently in this area and the 29 acres in PFC would continue in PFC. The one acre identified as Functional at Risk with an upward trend would improve more rapidly than Alternative 1.

Alternative 3: No Permit Renewal or Treatments

Under this alternative, the condition of palustrine wetlands within the allotment (as well as the 30 acres of palustrine wetland recently excluded from the allotment) would be expected to be maintained or improved over the 10-year analysis timeframe.

Upland Vegetation

Affected Environment:

Vegetation data was compiled from Ecological Site Inventory (ESI) data on file at the Lakeview District Office. The data for north Lake County was collected by BLM staff between the early 1990s and 2001. This data is herein incorporated by reference in its entirety and is summarized in this chapter and in Appendix B.

Approximately twenty percent of the four allotments are dominated by crested wheatgrass. Approximately fifteen percent of the allotments are dominated by greasewood with various understories, including cheatgrass, crested wheatgrass, bottlebrush, squirreltail, saltgrass, and basin wildrye. Approximately 13% of the allotments are dominated by Wyoming big sagebrush with various understories, including squirreltail, bluebunch wheatgrass, Thurber’s needlegrass, crested wheatgrass, Sandburg’s bluegrass, and cheatgrass. Table 3-4 shows the dominant vegetation within the allotments (refer also to Appendix B, Table B-2 and Map 8).

Table 3-4. Dominant Vegetation within the Allotments

Dominant Vegetation	Crested Wheatgrass	Wyoming Big Sagebrush	Shadscale Saltbrush	Green Rabbitbrush	Gray Rabbitbrush	Bud Sagebush	Basin Big Sagebrush
Percent (approximate) of the Allotments	20%	13%	2%	6%	2%	2%	6%

Alkali Winter Allotment

In 2014, long-term trend monitoring across the applicable pastures within the Alkali Winter Allotment show stable trends, and indicate that standards 1 (Watershed Function-Uplands) and standard 3 (Ecological Processes) are being met on the majority of the pastures. However, approximately 1,500 acres within the Ryegrass Pasture, and approximately 375 acres within the West Venator Pastures are not meeting standard in 2014; livestock grazing is not a causal factor. Grazing has occurred during the winter each year, allowing plants to complete their lifecycles on an annual basis. Recommendations, from the 2014 RHA update, to rehabilitate the 1,500 acres in the Ryegrass Pasture would include weed treatment and seeding. Rehabilitation of the 375 acres within the West Venator Pastures is not recommended due to the low productivity of the site, and small chance of success (BLM 2014a; Table 3-11).

Pike Ranch Allotment

In 2014, long-term trend monitoring across the Pike Ranch Allotment showed stable trends in upland vegetation communities, and indicated that standards 1 (Watershed Function-Uplands) and standard 3 (Ecological Processes) were being met on the entire allotment (BLM 2014b; Table 3-14).

Coleman Seeding Allotment

In 2014, long-term trend monitoring across the Coleman Seeding Allotment showed stable trends, and indicated that standards 1 (Watershed Function-Uplands) and standard 3 (Ecological Processes) were being met on the majority of the allotment.

The 2003 RHA found about 1,200 acres of the allotment was not meeting standards 1 and 3, but this was not attributed to livestock grazing. This area had decadent crested wheatgrass with low vigor. Recommendations from the 2003 RHA included a variety of treatments to remove decadent plant material, but as of 2014, no treatments have been completed and this area still does not meet standards. The recommendations from the 2014 RHA Update include implementing a rest rotation grazing system incorporating the adjacent state block into the rotation, where each pasture is rested one of three years, and shifting some of the use into the dormant winter season. In addition, salt and protein block placement was recommended to increase use in these areas. If unsuccessful, then mowing was recommended to encourage new growth, as funding and workload allow (BLM 2014b; Table 3-12).

XL Allotment

The original 2003 RHA found approximately 7,400 acres of the entire XL Allotment was dominated by cheatgrass and was not meeting Standards 1 and 3, but this was not attributed to livestock grazing. Approximately 4,146 acres of these acres are located in the Middle and North Abert Pastures. The cause of cheatgrass invasion was the Abert and Sharptop wildfires in the 1970s. This introduced, shallow-rooted annual species increases soil susceptibility to erosion. There has been no rehabilitation efforts conducted on this area since 2003, it is still dominated by cheatgrass, and it is still not meeting standards 1 and 3 in 2014, but this was not attributed to livestock grazing. A combination of noxious weed treatment and seeding was recommended in the RHA Update, as funding and workload allows (BLM 2014c; Table 3-13).

Environmental Consequences:

Alternative 1: No Action

As described in the soils section, about 2,711 acres (4%) of the upland vegetation communities would be impacted by concentrated livestock use and trampling around water sources and trailing along fences. Impacts to vegetation across the majority of the four allotments (96%) would be dispersed and much less concentrated.

Alkali Winter Allotment

The Alkali Winter Allotment would continue to be grazed during winter grazing system. The impacts of continuing grazing under such a system on the upland plant communities have previously been analyzed in the *Draft Lakeview RMP/EIS* and *Lakeview Proposed RMP/Final EIS* (BLM 2001, 2003a) and these analyses are incorporated herein by reference. In summary, key species composition would be maintained or improved by dormant season grazing (BLM 2003a; page 4-5). Continued growing season rest for plants would provide for adequate ground cover and maintenance of appropriate upland vegetation community composition. Photo and pace 180° analysis (Appendix B) indicates a stable trend across the majority of the pastures under current grazing. In the absence of active rehabilitation, about 1,875 acres of the allotment would continue to fail to meet standards 1 and 3. This trend would be expected to continue into the foreseeable future under this alternative. For these reasons, the majority of the pastures would continue to meet applicable Rangeland Health Standards over the 10-year life of the permit, but the 1,875 acres in need of rehabilitation would not.

Pike Ranch Allotment

The Pike Ranch Allotment would continue to be listed as a spring/summer/fall grazing system. The impacts of continuing grazing under such a grazing system on the upland plant communities have previously been analyzed in the *Draft Lakeview RMP/EIS* and *Lakeview Proposed RMP/Final EIS*. However, since the permittee would actually continue to graze the allotment primarily during the fall season, key herbaceous species would be maintained, but palatable woody vegetation would decrease (BLM 2003a; pages 4-5 and 4-9). Photo and pace 180° analysis (Appendix B) indicates a stable trend across the allotment under current grazing management. This trend would be expected to continue into the foreseeable future. The allotment would continue to meet applicable Rangeland Health Standards over the 10-year life of the permit.

Coleman Seeding Allotment

The Coleman Seeding Allotment would continue to be grazed under a winter/spring/summer grazing system. The impacts of continuing grazing under such a grazing system on the upland plant communities have previously been analyzed in the *Draft Lakeview RMP/EIS* and *Lakeview Proposed RMP/Final EIS*. Grazing during the winter dominant season would maintain or improve key species composition. However, grazing during the spring/summer growing season would likely decrease key species composition in concentration areas such as water sources, fences, and bottom lands (BLM 2003a; pages 4-5 and 4-9). Photo and pace 180° analysis (Appendix B) indicates a stable trend across the allotment under current grazing management. In the absence of treatments or other management changes, about 1,200 acres of the allotment would continue to fail to meet standards 1 and 3. This trend would be expected to continue into the foreseeable future. While the majority of the Coleman Seeding Allotment is meeting Standards 1 and 3, the current trend may decline over the 10-year life of the permit due to lack of periodic growing season rest. In addition, the 1,200 acre area in need of rehabilitation would continue to fail to meet these standards.

XL Allotment

The XL Allotment would continue to be grazed under a rest rotation grazing system. The impacts of continuing grazing under such a grazing system on the upland plant communities within have previously been analyzed in the *Draft Lakeview RMP/EIS* and *Lakeview Proposed RMP/Final EIS*. In summary, the vegetation composition of key species would be expected to improve over time (BLM 2003a; pages 4-5 and 4-9). Continued periodic growing season rest for plants would provide for adequate ground cover and appropriate upland vegetation community composition. Photo and pace 180° analysis (Appendix B) indicates a stable trend across the North and Middle Abert Pastures of the allotment under current grazing management. In the absence of active rehabilitation, the 4,146 acres of the 2 pastures dominated by cheatgrass would continue to fail to meet Standards 1 and 3. The trend would be expected to continue into the foreseeable future under this alternative. The majority of the North and Middle Abert Pastures would continue to meet applicable Rangeland Health Standards over the 10-year life of the permit, but those 4,146 acres dominated by cheatgrass would not.

Alternative 2: Permittee Proposals plus Treatments

Grazing Management

Since there would be very little change in grazing management (AUMs, season of use, grazing system) within these 2 allotments, the impacts of this alternative on upland plant communities would generally be similar to those described for Alternative 1.

Within the Pike Ranch Allotment, the permittee would shift some of the grazing use into the spring/summer growing season, which would result in a decrease in key species composition in heavy use concentration

areas such as water sources, fences, and bottom lands (BLM 2003a, pages 4-5 and 4-9)

The grazing system within the Coleman Seeding Allotment would be changed to a three-year rest rotation grazing system, reducing impacts to vegetation, compared to Alternative 1. During grazed years, livestock would still tend to congregate around water sources and trail along fence lines and between water sources, similar to Alternative 1. However, the rest provided to a pasture every third year would allow opportunity for vegetation recovery by promoting root growth, plant vigor, litter accumulation, and seed production. Overall, upland plant communities would improve in the composition of key species (BLM 2003a, pages 4-6 and 4-9).

Based on the carrying capacity analysis (discussed further in Livestock Grazing section), the Coleman Seeding Allotment could support an increased level of 269 AUMs of forage use without exceeding target utilization levels. Grazing at this level would be expected to maintain current upland vegetation trends and allow continued achievement of applicable Rangeland Health Standards.

Overall, the effects of grazing use and hoof trampling on upland vegetation throughout the majority of the allotments would remain dispersed and relatively minor. The effects that would occur in high concentration areas are described in the following section.

Range Improvements

There would be some additional short-term surface disturbance and associated impacts to upland vegetation from vehicle/equipment use during construction and future maintenance of the proposed range improvement projects and implementation of weed and seeding treatments.

There would be an additional disturbance associated with pipeline (North Abert Pasture of XL Allotment) installation amounting to approximately 4.2 acres (3.5 mi. x 10 ft. x 5,280 ft. per mi./43,560 ft.² per acre). The disturbed area would be reseeded with native or other suitable species. Most of the area would reclaim over time. However, a new user-created route is likely to remain adjacent to the pipeline for future maintenance. The proposed pipeline would create 3 additional water sources with approximately 360 additional acres of concentrated livestock use around the new water sources. However, this impact would be offset somewhat by reducing the severity of hoof trampling and grazing use impacts on upland vegetation near other existing watering locations within the allotment as livestock would be more evenly dispersed across more watering sites each year.

Approximately 1/2 mile of new fence would be constructed within the Pike Ranch Allotment and approximately 3.5 miles of new fence within the Alkali Winter Allotment. This would create an additional 2.4 acres of disturbance associated with fence construction and livestock trailing.

The total area of disturbance associated with concentrated livestock use under this alternative is estimated to be 3,077.6 acres (4.9%) of 4 allotments under this alternative. However, through proper range management, the effects that occur in most high concentration areas would have some time to recover through rest, natural processes, and annual adjustments such as salt and water placement.

Weed and Vegetation Treatments

Portions of 3 of the allotments failed to meet Rangeland Health Standards 1 and 3 for a variety of reasons including dominance by cheatgrass or presence of decadent crested wheatgrass with low vigor. Conducting treatments to rehabilitate most of these areas would decrease bare ground, increase perennial vegetation, provide more stable plant communities, improve root holding capacity, and decrease soil erosion potential. A healthy perennial understory would also decrease the chance of new weeds to become introduced or existing weeds to spread.

Weed treatments would also decrease the potential for weeds to spread, and would decrease the opportunity

for weeds to become established in new locations. Treating weeds would decrease their ability to out-compete perennial native vegetation. Refer to Tables 3-5 to 3-9 for additional discussion of potential impacts of herbicide treatments on upland vegetation.

Rangeland Health Standards

The majority of all four allotments are currently meeting Rangeland Health Standards 1 and 3 (which relate to upland watershed health and ecological processes) and would be expected to continue to do so over the 10-year life of the permit under this alternative. Those portions of 3 allotments not meeting Rangeland Health Standards 1 and 3 are not due to livestock grazing, and most of these areas would be expected to meet or make significant progress towards meeting these standards over time as a result of the treatments described above.

Alternative 3: No Permit Renewal or Treatments

Under this alternative, livestock grazing would be eliminated or reduced across the area. Wildlife would continue to use forage, but would not likely utilize all available forage on the allotments. Plant community shifts occur very slowly in the high desert climate without the influence of a major disturbance such as fire or other catastrophic event. There would be little or no noticeable difference in plant communities in the short-term (5-10 years) and only slight shifts in vegetation over the long-term (after 10 years) (Holecheck *et al.* 2006). Due to a lack of defoliation of grass species, older plant leaves would be favored, which function at a less than maximum photosynthetic level. Plant regrowth could be restricted by previous year's growth, causing decreased evapotranspiration rates (Manske 2001, McNaughton 1979).

There would be a gradual change in the structure of existing plant communities, including an increase in above-ground biomass (fuel loading). The majority of the allotments would continue to provide healthy, productive, and diverse plant communities during the 10-year analysis timeframe. However, the plant communities would likely to become more at risk to a future wildfire over the long-term (after 10 years), as biomass increases from ungrazed herbaceous material and woody shrubs.

No weed treatment would be implemented on the allotments. The biological control agent *Phrydiuchus tau* (Mediterranean sage weevil) would remain in the area and would continue to decrease infestations of Mediterranean sage to some degree. The presence of this biological control agent by itself would not be an effective method to control other weeds or invasive species within the allotments. For this reason, weeds would continue to spread and out-compete native vegetation. A loss of native perennial grasses, forbs, and shrubs would decrease the root holding capacity within the soil, increasing the chance of erosion. Compared to the other alternatives, some upland vegetative communities would likely experience a downward trend over the long-term.

The majority of the allotments are currently meeting Rangeland Health Standards 1 and 3 and would be expected to continue to do so over the 10-year analysis timeframe. Those areas not meeting standards 1 and 3 would continue to fail to meet those standards in the absence of active rehabilitation or weed treatment actions.

Weeds and Invasive Species

Affected Environment:

Invasive plants (or weeds) are non-native, aggressive plants with the potential to cause significant damage to native ecosystems and /or cause significant economic losses. They successfully compete with native plants for light, water, soil nutrients, and space with the potential to dominate existing plant communities and the displace native plants and the fauna that depends on them. Noxious weeds are a subset of invasive

plants that are State or federally listed as injurious to public health, agriculture, recreation, wildlife, or any public or private property. There are noxious weeds, non-native invasive plant species, and weed spreading vectors present within the allotments. The noxious weed species known to exist across the allotments are hoary cress (*Cardaria draba* (L.) Desv.), musk thistle (*Carduus nutans*), bull thistle (*Cirsium vulgare* (Savi) Ten.), Canada thistle (*Cirsium arvense* (L) Scop.), yellow starthistle (*Centaurea solstitialis*), Mediterranean sage (*Salvia aethiopsis* L.), and halogeton (*Halogeton glomeratus* (m. Bieb) C.A.Mey). Current known weeds have been summarized by allotment in Table 3-4.

Table 3-4. Existing Weed Infestations and Preferred Treatment Method by Allotment

Alkali Winter Allotment			
Known Weed Species	Estimated Acres	Proposed Herbicide	Type of Application
Hoary Cress	15 Acres	Chlorsulfuron/ Metsulfuron methyl (mixed with 2,4-D)	Ground Broadcast and Spot application
Bull thistle	5 Acres	Clopyralid	Ground Broadcast and Spot application

XL Allotment			
Known Weed Species	Estimated Acres	Proposed Herbicide	Type of Application
Mediterranean sage	15 Acres	Clopyralid, 2,4-D, or Picloram	Ground Broadcast and Spot
Musk thistle	10 Acres	Clopyralid	Ground Broadcast and Spot

Pike Ranch Allotment			
Known Weed Species	Estimated Acres	Proposed Herbicide	Type of Application
Canada thistle	5 acres	Clopyralid	Aerial or Ground Broadcast application
Yellow Starthistle	5 acres	Clopyralid or Tordon	Aerial or Ground Broadcast application
Mediterranean sage	15 acres	Clopyralid, 2,4-D, or Picloram	Aerial or Ground Broadcast application

Coleman Seeding Allotment			
Known Weed Species	Estimated Acres	Proposed Herbicide	Type of Application
Halogeton	5 acres	Metsulfuron methyl	Aerial or Ground Broadcast application
Mediterranean sage	15	Clopyralid, 2,4-D, or Picloram	Aerial or Ground Broadcast application

Medusahead rye, North African wiregrass, and cheatgrass

These winter annual grasses have a shorter life cycle than most grasses. These weedy grass species flower in the spring and are known to suppress other native grasses in rangeland. These species are fire promoters. Since they germinate so early they also mature and dry out earlier in the season as well. The lack of moisture in the plant material allows these species to allow fire to quickly rage across the rangelands. Approximately 4,146 acres of the Middle and North Pastures of the XL Allotment is dominated by cheatgrass. The Ryegrass Pasture of the Alkali Winter Allotment also contains cheatgrass. There are also small scattered infestations across the other allotments, mainly in past wildfires.

Hoary Cress

Hoary cress is an erect perennial. The species reproduces by both seeds and through vegetative means. One plant can produce from 1,200 to 4,800 seeds. The species also reproduce vegetatively, developing new shoots from their

extensive systems of vertical and horizontal roots. This is the primary method of spread. The roots can penetrate deep into the soil at depths well over 10 feet. Because of these large and deep underground systems, the three species form hard to control colonies. This species can completely displace desirable vegetation forming dense monocultures. Once established, they can be difficult to control. Hand-pulling is fairly impractical with hoary cress due to its extensive root and rhizome system. Mowing alone will not control *Cardaria* species due to its extensive root and rhizome system. Their roots can remain alive even when the top-growth has been eliminated for a year. Improper cultivation or disturbance can spread hoary cress by dispersing root fragment. Cattle tend to avoid eating them and those animals that consume it may have tainted milk. In addition, plants containing glucosinolates, which can form toxic compounds in cattle (DiTomaso *et al.* 2013, Page 76)

Bull thistle

Bull thistle is a biennial, but sometimes an annual or monocarpic perennial. It reproduced and spreads entirely from seeds. Under favorable conditions, plants can produce 100 to 300 seeds per flowerhead, with 1 to 400 flower heads per plant. Seeds have feathery pappus that detached at maturity, so seeds usually do not travel great distance by wind. Seeds germinate in fall or spring depending on soil moisture. Most seeds either germinate or die within the first year. Bull thistle is not palatable to livestock and reduces the forage potential of infested pasture and rangeland. Once established, it can out-compete native plants. Although common, bull thistle is generally not as problematic as musk or Scotch thistle (DiTomaso *et al.* 2013). Within the Alkali Winter Allotment there is approximately 5 acres of bull thistle.

Musk thistle

Weedy musk thistles are winter annuals or biennials. They form deep taproots. Reproduction is only by seed. Seeds typically fall near the parent plant or are dispersed to greater distance with wind. These thistles can tolerate a relatively wide range of soil types. These thistles can dominate sites and crowd out native species and forage plants. The spines inhibit grazing and discourage livestock and wildlife from entering infested areas (DiTomaso *et al.* 2013, Page 79).

Mediterranean sage

Mediterranean sage is a biennial, sometimes short-lived perennial. Plants produce only by seed and large plants may produce 50,000 to 100,000 seeds. Seed dispersal occurs when mature plants break near the soil surface and tumble in the wind, spreading seed for long distances. Little is known about seed longevity in the soil, but it is expected that the seeds survive for several years. Mediterranean sage has spread over 1.3 million acres in the western United States with new infestation occurring each year. Between the allotments the Lakeview BLM has estimated 45 acres of Mediterranean sage, with several hundred acres of Mediterranean sage surrounding the allotments. With small infestations, hand pulling or digging is feasible and effective. The root-feeding biocontrol weevil, *Phrydicuchus tau*, is present with in the allotments. This species is a promising long-term management strategy for Mediterranean sage. Areas near the allotment have enough *Phrydicuchus tau* available that the site is used as a nursery site for the State of Oregon. The *Phrydicuchus tau* larva feeding damages flower shoot buds and root crown. Adults can cause minor defoliation of rosette leaves. The biological control agent has been present near the allotments since the 1980s and would still continue to help manage the Mediterranean sage for all alternatives. The biological control agents work in a cycle. Therefore, are years where the Mediterranean sage populations grow and decline with the cycle of the biological control agents.

Canada thistle

Canada thistle is an erect perennial that grows forms patches or clumps. It has an extensive creeping root system that can reach depths of 6 to 15 feet making eradication difficult. Plants develop from seed and from vegetative shoots that generate from adventitious root buds. Canada thistle can produce between 1,000 and 5,000 seeds per stem. Most seeds fall near the parent plants or disperse short distances with wind. Birds and small mammals can consume and disperse some seeds. The seeds have been known to survive in the soil for up to 20 years. Canada thistle competes aggressively with native plant species. It causes extensive yield loss in crops by competing for nutrients, light and water. The productivity of pastures is significantly reduced because livestock avoid grazing Canada thistle and surrounding plants due to the spiny nature of the mature foliage (DiTomaso *et al.* 2013, Page 199).

Yellow Starthistle

Yellow starthistle is a winter annual or occasionally biennial. The taproot can extend deep into the soil (>6 ft.) allowing plants to utilize deep soil moisture not available to other annual species, particularly grasses. Yellow starthistle reproduce by seed only. Some seed is viable 8 days after flower initiation. Large flushes of seed typically germinate after the first rain, but smaller germination flushes can occur during winter and early spring. Seeds can survive for up to 10 years in the field under certain environmental conditions, but it appears that few seed survive beyond 4 years. Plants are highly competitive and typically develop dense, impenetrable stands that displace desirable vegetation. Yellow starthistle is considered one of the most serious rangeland weeds in the west. There is currently only 1 small site documented along the Highway near the Pike Ranch Allotment, but there would be a high potential for this species to rapidly spread to other allotments.

Halogeton

Halogeton is an erect winter or summer annual with small fleshy leaves. Plant reproduce only by seed, which are dispersed by seed-gathering ants, animals, and when dry, plants break off at ground level and tumble with the wind. Many seeds survive ingestion by animals. Seeds can imbibe water and germinate in less than 1 hour. Because seeds form small coiled embryos in fruit, they do not persist long in the soil. Halogeton plant tissue accumulates and leaches salt increasing topsoil salinity and encourages other halogeton establishment (DiTomaso *et al.* 2013, Page 200).

Environmental Consequences

Noxious weeds are currently being managed under an Integrated Noxious Weed Management Program (BLM 2004). Through this integrated weed management plan, only noxious weeds are currently being managed using four approved herbicides (2,4-D, Picloram, glyphosate and dicamba), biological control (*Phrydiuchus tau*), and manual control methods.

Effects Common to all Alternatives

Effects of Noxious Weeds and Invasive Species on other Resource Values

The noxious weeds and non-native invasive plants located within the allotments have characteristics that enhance their survival and out-compete native vegetation. Their structure and physiology is such that they use more moisture, provide less soil protection, alter soil chemistry, are unpalatable to wildlife and livestock, and have numerous other negative effects on the existing environment.

Invasive plants, including noxious weeds, have the ability to spread and enter the allotment from neighboring allotments, counties and states on off-road vehicles, camping and other recreational equipment, pack stock and livestock, in hay and other feed crops, on construction equipment, carried by wind, and on animals including within feces (BLM 1996c). Infestations of invasive species within these allotments are located on disturbed sites, such as along roads and trails, burned areas, and wildlife and/or livestock concentration areas. A busy right of way Highway 395 runs through the allotments and serves as a vector for species such as yellow starthistle. This highway is used as a corridor to haul hay from Idaho, California, and other neighboring states. Several of these states have a large amount of noxious weeds, which could easily be spread along the allotment boundaries by seeds dropping off the hay trucks. For this reason, the allotments have a relatively high risk of new noxious weeds and non-native invasive species invading. The species which are a growing concern include non-native invasive winter annual grass species. These species would include Medusahead rye (*Taeniatherum caput-medusae*), North African wiregrass (*Ventenata dubia*), and cheatgrass (*Bromus tectorum*).

Effects Common to Alternatives 1 and 2

Noxious weeds and non-native invasive species would continue to be surveyed and known sites monitored. Noxious weeds would continue to be managed under the existing Lakeview Integrated Noxious Weed Management Plan (BLM 2004) using manual, chemical, cultural, and biological methods. The potential effects of chemical control methods using the 4 currently approved herbicides (2,4-D, dicamba, glyphosate, and picloram) are discussed in Table 3-5.

Effects of Grazing Systems

Continued grazing would result in areas of high livestock use/concentration near water developments and fences. These areas would continue to have a moderate risk of weed invasion or spread from seed moved by cattle grazing.

Effects of Range Improvement Maintenance

The maintenance of the existing range improvements would continue under both alternatives. A small amount of annual ground disturbance would be associated with waterhole clean outs, fence mending, road blading, etc. These types of activities would increase the risk of new invasions or spread of existing weed infestations.

Alternative 1: No Action

Alkali Winter Allotment

The current grazing system in the Alkali Winter Allotment would remain as a winter use allotment (11/15-4/20). The timing of grazing would allow for winter annual grass species to be grazed while they are still palatable to livestock, but before they have a chance to flower, produce seed, or spread. Cheatgrass does have the ability to germinate several times a year, so continued grazing would assist in control, but other control methods would be needed for complete eradication. The known noxious weeds in the allotment (hoary cress and bull thistle) are known to exist near disturbed water developments and along roads. The current grazing system would not encourage spread of these weeds since they both bloom and seed in the early summer after the cattle have been removed from the allotment.

Pike Ranch Allotment

The current grazing system for the Pike Ranch Allotment would allow fall grazing use (8/20-11/15). This type of grazing system would likely allow the spread of existing weeds (Canada thistle and Yellow starthistle) since they would likely be seeding while the cattle are within the allotment. The yellow starthistle site would be a high priority for treatment; therefore, the species would likely be controlled before the cattle enter the allotment.

XL Allotment

This allotment currently has approximately 4,146 acres dominated with cheatgrass (*Bromus tectorum*). The current grazing system allows spring use (2/1-6/1). This grazing system would be preferable and would assist in preventing some of the cheatgrass from seeding in the spring. However, cheatgrass has the ability to germinate several times a year and would need additional control methods. There are two noxious weed species present in the allotment (musk thistle and Mediterranean sage). These species would flower and set seed after the cattle have been rotated out of the allotment. Therefore the spread of these noxious weeds by cattle would be low.

Table 3-5. Environmental Effects of Existing Herbicides

Resource	2,4-D	Dicamba	Glyphosate	Picloram
<p>Soils and Biological Crusts</p> <p>(BLM 2010a: p. 182-184)</p>	<p><u>2,4-D</u> would have a very short half-life that averages 10 days in moist soil. 2,4-D would be readily broken into simpler components soils which are typical on the allotments, but the break-down would be slower in acidic soils. Furthermore, most studies of the effects of 2,4-D on microorganisms concluded that the quantity of 2,4-D reaching the soil from typical applications would probably not have a serious negative effect on most soil microorganisms (Bovey 2001).</p>	<p><u>Dicamba</u> would be moderately persistent in soil. The half-life of dicamba in soil is typically 1 to 4 weeks. Under conditions suitable for rapid metabolism, the half-life would be less than 2 weeks. Metabolism by soil microorganisms would be the major pathway of loss under most soil conditions. The rate of biodegradation would increase with temperature and increasing soil moisture, and tends to be faster when soil is slightly acidic. Dicamba would slowly break down in sunlight. It would be stable to water and other chemicals in the soil. Dicamba does not bind to soil particles and would be highly soluble in water. It would therefore highly mobile in the soil.</p>	<p><u>Glyphosate</u> would binds tightly to soil particles. This binding would increase with increasing clay content, organic matter and decreasing soil pH. Glyphosate would be degraded by soil organisms and many use it as a source of carbon. Currently no information that indicates that glyphosate would be harmful to soil microorganisms and may benefit some (Busse <i>et al.</i> 2004).</p>	<p><u>Picloram</u> would break down primarily through photolysis and biodegradation mechanisms of dissipation (USDA 2000b). Picloram adsorbs to clay particles and organic matter, but if the soil contains little clay or organic matter, picloram would easily move by water. Picloram has been reported to remain active in soil at levels toxic to some plants for more than 1 year at typical application rates (SERA 2003b). The half-life of picloram in soil has been reported to vary from 1 month under favorable environmental conditions to more than 4 years in arid regions (USDA 2000b). Picloram can be persistent in plants. When plant parts containing picloram degrade, they may release it into the soil, where it can kill other plants.</p>
<p>Water Quality</p> <p>(BLM 2010a: p. 184-185)</p>	<p><u>2,4-D</u>: Some salt forms of 2,4-D are registered for use in aquatic systems. 2,4-D has been a known groundwater contaminant although potential for leaching into groundwater would be moderate by its being bound to organic matter and its short half-life.</p> <p>In terrestrial applications, most formulations of 2,4-D would not bind tightly with soils, and therefore would have a moderate potential to leach into the soil column and to move off site in surface or subsurface water flows (Johnson <i>et al.</i> 1995 cited in Tu <i>et al.</i> 2001</p>	<p><u>Dicamba</u> would only be used outside of the riparian areas.</p> <p><u>Dicamba</u>: has been a known groundwater contaminant, and has a high potential to leach into groundwater. The EPA has set health advisory concentration levels for dicamba (e.g., 300 µg/L for 1-day exposures.</p>	<p><u>Glyphosate</u>, registered for aquatic use, and would be applied to wetland and emergent aquatic vegetation. Strong adsorption to soil particles and organic matter slows microbial degradation, allowing glyphosate to persist in aquatic environments in bottom sediments (half-life of 12 days to 10 weeks) (Goldsborough and Brown 1993, Extension Toxicology Network 1996a, all cited in Tu <i>et al.</i> 2001).</p> <p>While glyphosate is very water soluble it would be unlikely to enter waters through surface runoff or subsurface flow because it binds strongly to soils, except when the soil itself would be washed away by runoff; even then, it would remain bound to soil particles and generally unavailable (Rueppel <i>et al.</i> 1977, Malik <i>et al.</i> 1989, all cited in</p>	<p><u>Picloram</u> can move off site through surface or subsurface runoff, and has been detected in the groundwater of 11 states (Howard 1991). Picloram does not bind strongly with soil particles and would not degrade rapidly in the environment (Tu <i>et al.</i> 2001). Concentrations in runoff have been reported to be great enough to damage crops, and could cause damage to certain submerged aquatic plants (Forsyth <i>et al.</i> 1997 cited in Tu <i>et al.</i> 2001).</p> <p>Picloram would only be used in the uplands where runoff into the stream would not be an issue, because of the potential negative effects described above.</p>

			Tu <i>et al.</i> 2001).	
Riparian Vegetation (BLM 2010a: p. 211-212)	<u>2,4-D (aquatic)</u> : The principle hazard would be unintended spraying or drift to non-target plants; spot treatments applied according to the labeled rate do not substantially affect native aquatic vegetation or significantly change species' diversity (USDA 2005a, WA Dept of Ecology c). Only Aquatic formulations will be used with in the riparian areas.	<u>Dicamba</u> : <i>Not for use in Riparian Areas.</i>	<u>Glyphosate</u> would be used along banks to control grasses, and herbaceous weeds and would be approved for emergent aquatic vegetation in riparian areas. It has potential to move into surface water with eroded soil particles (although it would be unlikely it will dislodge from the particles and become active) where it rapidly dissipates from surface water by biodegradation and adsorption. Freshwater aquatic macrophytes and algae are reported to be susceptible to low amounts (20 mg/l concentrations).	Picloram: Not for use in Riparian Areas.
Fish (BLM 2010a: p. 226-227)	<u>2,4-D</u> would have formulations that are registered for use on aquatic vegetation. The toxicity of 2,4-D to fish would be relatively low (Norris <i>et al.</i> 1991). Risks would be greater under scenarios of direct application to water bodies or accidental direct spills. At the typical application rate, 2,4-D poses a low risk to fish, while at the maximum application rate, 2,4-D would poses a moderate risk to fish under scenarios of accidental direct spray or spill to a stream and pond. Routine (non-spill) acute and chronic exposure scenarios would not pose a risk to fish. Only Aquatic formulations would be used with in the riparian areas.	<u>Dicamba</u> is not registered for use in aquatic environments. The Ecological Risk Assessment shows there would be a low risk to susceptible fish under the spill scenario at the maximum rate, and no risk to fish under other exposure scenarios. Off-site drift and surface runoff of dicamba also present no risk to fish.	<u>Glyphosate</u> would be a non-selective systemic aquatic herbicide for use. It would be applied as a broadcast, spot, stem injection, or wipe application. In general, glyphosate would be immobile in soil, being readily adsorbed by soil particles and subject to microbial degradation (Norris <i>et al.</i> 1991). This immobility would reduce the potential for glyphosate to enter water bodies during runoff. Based on bioassays, technical grade glyphosate would be classified as non-toxic to practically non-toxic in freshwater fish (EPA 1993). Some formulations would be more toxic to fish than technical grade glyphosate, however only non-toxic formulations would be used near fish bearing streams.	<u>Picloram</u> would act as a plant growth regulator. It would not be used to control aquatic vegetation. The acute and chronic toxicity of picloram has been analyzed in various species of fish.
Upland Vegetation (BLM 2010a: p. 146-147)	<u>2,4-D</u> (salts and esters) would be used as a selective herbicide that kills broadleaf plants, but not grasses. The selectiveness would allow for weeds control and native grass communities to flourish. 2,4-D would have a long history of use and would be relatively inexpensive. Direct spraying of non-target plant species would be the highest potential for damage due to 2,4-D application. Drift could	<u>Dicamba</u> would be used as a selective, systemic herbicide that can affect some annual, biennial, or perennial broadleaf and woody species as well as annual grasses. Susceptible plants would potentially be damaged by direct sprays and drift. The greatest risks to aquatic plants would be associated with runoff, but are highly site specific. Wind erosion may cause impacts in arid regions (SERA	<u>Glyphosate</u> would prevent plants from synthesizing three aromatic amino acids including a key enzyme, EPSP (5-enolpyruvylshikimate-3-phosphate). Glyphosate would be a non-selective, systemic herbicide that would damage all groups or families of non-target plants to varying degrees, most commonly from off-site drift. Plants susceptible to glyphosate would be	In the Pesticide Re-registration Fact Sheet–Picloram (1995), the EPA noted that <i>picloram</i> poses very substantial risks to non-target (broadleaf and woody) plants. The EPA also noted that picloram would be highly soluble in water, resistant to biotic and abiotic degradation processes, and mobile under both laboratory and field conditions. They

	<p>damage non-target broadleaf species close to the application site (much less than 100 feet).</p> <p>2004g). Drift would have potential to cause damage to susceptible species at distances less than 100 feet from the application site. Vaporized or volatilized dicamba can affect non-target plants. Dicamba vapor has been known to drift for several miles following application at high temperatures (Cox 1994).</p> <p>Dicamba would be applied early in the day to prevent valorization.</p>	<p>damaged by drift up to 100 feet from the application site at the highest rate of application proposed. Species that are more tolerant are likely to be damaged at distances up to 25 feet (SERA 2003a). Non-target species are not likely to be affected by runoff or absorption from soil. Glyphosate strongly adsorbs to soil particles, which would prevent it from being taken up from the soil by plant roots (Tu <i>et al.</i> 2001, SERA 2003a).</p> <p>Glyphosate may only be applied through spot spray application on rangelands which allows for control of small populations of invasive grasses and broadleaf weeds.</p>	<p>stated that there would be a high potential to leach to groundwater in coarse textured soils with low organic material. Plant damage has potential to occur from drift, runoff, and off-site where ground water is used for irrigation or is discharged into surface water (EPA 1995). Because picloram persists in soil, non-target plant roots can take up picloram (Tu <i>et al.</i> 2001), which would affect revegetation efforts. Lym <i>et al.</i> (1998) recommended that livestock not be transferred from treated grass areas onto susceptible broadleaf crop areas for 12 months or until picloram would disappear from the soil without first allowing seven days of grazing on an untreated green pasture. Otherwise, urine may contain enough picloram to injure susceptible plants.</p>
<p>Wildlife</p> <p>(BLM 2010a: p. 246-247)</p>	<p><u>2,4-D</u> is one of the more toxic herbicides for wildlife of the foliar-use herbicides. The ester form would be more toxic to wildlife than the salt form. Ingestion of treated vegetation would be a concern for mammals, particularly since 2,4-D can increase palatability of treated plants (BLM 2006) for up to a month following treatment (Farm Service Genetics 2008). Mammals would be more susceptible to toxic effects from 2,4-D, and the sub-lethal effects to pregnant mammals were noted at acute rates below LD50. Birds are less susceptible to 2,4-D than mammals, and the greatest risk would be ingestion of contaminated insects or plants. The salt form would be practically non-toxic to amphibians, but the ester form would be highly toxic. It would present low risk to honeybees but little information was available for other terrestrial invertebrates.</p>	<p><u>Dicamba</u>: No adverse effects on mammals would be plausible for either acute or chronic exposures of dicamba. At the highest tested rate, there would be adverse reproductive effects possible for acute scenarios consuming contaminated vegetation.</p>	<p><u>Glyphosate</u> would be a low toxicity herbicide, widely used for terrestrial applications and would be approved for aquatic use. Toxicity to most wildlife groups is very low, so much so that NOAEL levels are used because the LD50 were not found at high doses in many cases.</p>
<p>Livestock</p>	<p><u>2,4-D</u> would present a low to moderate</p>	<p><u>Dicamba</u>: The ingestion of food items</p>	<p><u>Glyphosate</u> would present a low to</p> <p><u>Picloram</u> would pose a low to</p>

Grazing

(BLM 2010a)

acute risk to livestock under several of the direct spray, ingestion, and spill scenarios, and a moderate chronic risk for large mammals for consumption of on-site contaminated vegetation under both typical and maximum rate (SERA 2006). The Risk Assessment suggest that because large livestock eating larger quantities of grass and other vegetation would be at risk from routine exposure to 2, 4-D and because 2,4-D is considered for use in rangeland, it would not be applied over large application areas where livestock would only consume contaminated food. The majority of the 2,4-D applications within the allotments will be spot spraying or along roadsides. Due to this the small areas where 2,4-D is applied would not affect the livestock grazing.

Meat animals should be removed from treated areas 3 days prior to slaughter

contaminated by direct spray of dicamba at the typical and maximum application rate would pose a low to moderate acute risk to large mammalian herbivores respectively, and no chronic risk. Dicamba would be proposed for use in rangelands and does have moderate residual activity, livestock may be at risk. However, the use of dicamba would be minimal within the allotments.

moderate acute risk to livestock under several of the direct spray, ingestion, and spill scenarios, and a low chronic risk for large mammals for consumption of on-site contaminated vegetation under the maximum rate (SERA 2003a). Ingestion of treated grasses has potential to represent a risk, but glyphosate is non selective and kills grass, suggesting that spot applications in the allotments rangeland would be the most appropriate use of this herbicide. Spot applications would reduce risk associated with consumption of contaminated vegetation, as fewer non-target areas would be impacted by direct spray or spray drift. Based on label direction, there are no restrictions on livestock use of treated areas.

moderate risk for application at the typical and maximum application rates for 100 percent absorption of direct spray by a small animal would stand acute exposure through consumption of contaminated vegetation by a large mammal (SERA 2003b). Picloram is registered for use in rangeland and would be available to be applied over large areas heavily infested with weeds, as its primary targets are broadleaf and woody species. Therefore, it might be used to manage certain broadleaved plants without impacting native or other desirable grasses, but with the potential to expose livestock. Picloram has a number of restrictions on use in areas grazed by livestock. In general, livestock should not be grazed on treated areas for 2 weeks after treatment. Herbicide treatments using picloram would be coordinated with the Range Staff to make sure the cattle are not in the allotment during application if large scale treatment is needed. Since the allotments are such large areas small scale spot spraying should not affect the grazing animals.

Coleman Seeding

The current spring grazing use (2/1 to 6/1) would continue. This allotment contains Mediterranean sage and halogeton, two species that are not readily grazed by livestock. Halogeton is toxic to cattle. However, if other vegetation becomes sparse, cattle may eat halogeton and this would lead to cattle mortality. If the cattle ingest seeds they could spread halogeton in their feces. The cattle could also transport halogeton seed in their hair.

The majority of the Mediterranean sage became established in these areas years ago after fires and was not due to livestock grazing. Since both species set seed later in the season, cattle would be more likely to spread seeds from existing plants that would be dormant from the previous year.

Effects of Approved Herbicides

The Oregon EIS estimates that under existing weed control efforts, including the use of the current four available herbicides, noxious weeds would continue to spread at an annual rate of 12% (BLM 2011). The efficiency of the No Action Alternative is limited by the four herbicides currently approved for use. Treatment of the existing noxious weeds are not able to eradicate the infestation, but are conducted to reduce vigor or hinder seed development, which slows the spread. Since cheat grass is not a state listed noxious weed, it would not be controlled through herbicide application under this alternative and would continue to spread, particularly after wildfire events. The estimated efficiency of treatment under the no action alternative would be 60 percent of the total acres treated (BLM 2011).

Alternative 2: Permittee Proposals plus Treatments

Effects of Proposed Grazing Systems

Alkali Winter Allotment

The effects of the proposed grazing system would be similar to the no action alternative. Since there would not be an increase to the AUMs, the increase of days would not impact the weeds located in the allotment. Control of winter annual grass species would often take place during October and November under this alternative; therefore herbicide application will need to be coordinated with the permittee.

Pike Ranch Allotment

The proposed grazing system for the Pike Ranch Allotment grazing would be changed to a summer fall (5/15-11/1). The effects would be similar to the no-action for the existing noxious weed species. With the cattle being allowed in the allotment for a longer amount of time would lead to longer disturbance periods. With less time for the native species to recover near water developments noxious weeds or non-native invasive species would have the ability to persist at the disturbed sites.

XL Allotment

The effects of the grazing would be the same as the No Action Alternative.

Coleman Seeding

The proposed grazing system for the Coleman Seeding Allotment would be changed to a winter-spring grazing (11/1-6/1) and a three-year rest rotation would be implemented. The extended amount of time the cattle will be in the allotment could add additional disturbance near water developments. However, the rest rotation will allow the areas rest and recovery. The fall grazing would allow the cattle to spread seed from

some of the existing invasive plants infestations. Grazing in the fall may eliminate seed production of any winter annual grass species in the allotment.

Effects of Additional Herbicides

The potential effects on additional herbicides on other resource values or uses are described in detail within the Oregon FEIS (BLM 2010a) and that analysis is incorporated by reference here in its entirety. These effects are summarized in Tables 3-6 to 3-9.

The wider range of herbicide options would increase the effectiveness of the average treatment. Although some level of re-treatment would still take place, the additional herbicides would substantially improve the chance that the targeted weed(s) would be controlled by treatment. This alternative could effectively control all seven known noxious weeds, as well as cheatgrass and other invasive annual grasses. Non-herbicide methods could be more focused where they are effective, or be used in conjunction with herbicides. For this reason, all treatments under this alternative would be more efficient. New non-native invasive plants would be identified and controlled before they are listed as noxious weeds. The estimated efficiency of this alternative is 80 percent (BLM 2011).

Effects of Range Improvements

Alkali Winter Allotment

The addition of the fences would lead to better livestock distribution over the long-term. The actual building of the fence would have some short-term disturbance effects, creating an opening for non-native invasive plants to invade. The additional acres to the allotment would not directly affect the noxious weeds.

The rehabilitation of the Ryegrass Pasture would consist of controlling the cheatgrass and other invasive plant species followed by seeding. This process would seed to a more weed resistant landscape in the future.

Pike Ranch Allotment

The addition of the half mile fence would have some minor disturbance that could potentially allow invasive plants to invade. It would be likely the fence would not be substantial effects to the invasive plants.

XL Allotment

The proposed extension of the Hope Well pipeline and addition of the three additional troughs would lead to more livestock concentration acres. Invasive plants would likely invade these areas in the long term. However, the project would lead to better livestock distribution across the allotment and less prolonged disturbance in one area. The instillation of the 3 ½ mile of pipeline will have a significant amount of disturbance. Noxious Weeds sites should be avoided and project design elements should be followed.

Coleman Seeding Allotment

There would be no effects from the mowing of the crested wheatgrass plants if the project design elements are followed.

The reseeded would lead to a more weed resistance landscape. None of the invasive plants within the Coleman Seeding Allotment are rhizomatous; therefore, the drilling of seed would not spread root fragments.

Table 3-6. Summary of Environmental Effects of Use of Chlorsulfuron

Resource	Proposed Herbicide: Chlorsulfuron	Target Vegetation	Target Areas
<p>Soils</p> <p>(BLM 2010a, p. 182-184)</p>	<p><u>Chlorsulfuron</u> would be stable in neutral soils throughout the allotments. As with most biodegradation rates, the higher the pH, the slower the herbicide breaks down. The higher the temperature, soil moisture, organic matter content, and microbial biomass, the faster it breaks down. Chlorsulfuron is only mildly toxic to terrestrial microorganisms and effects are short term (transient) (SERA 2004a).</p> <p>The herbicide can remain active for more than a year. Sarmah <i>et al.</i> (1999) observed that the rate of chlorsulfuron degradation in alkaline subsoils was slow. They concluded that under conditions conducive to leaching in alkaline systems, prolonged persistence of chlorsulfuron in the soil profile is possible. It is likely that in some soils dissipation rates could be slower than the reported average, including arid soils with high pH and low organic matter. Such longevity could occur on the slightly (pH 7.4-7.9) and moderately (pH 7.9- 9.4) alkaline soils within the Aridisols, Mollisols, Inceptisols, and Entisols soil orders.</p> <p>These allotments have a wide range of soils with over 36 complexes. However, the majority of the soil falls within a loamy vari</p>	<p>Thistles Russian knapweed, perennial pepperweed, whitetop</p>	<p>Roadsides, Rangelands ROWS</p>
<p>Water Quality</p> <p>(BLM 2010a, p. 188-208)</p>	<p><u>Chlorsulfuron</u> would have potential to be persistent and highly mobile in the environment. Hydrolysis rates are fastest in acidic waters and slower in more alkaline systems (Sarmah and Sabadie 2002), which are found within the allotments. As hydrolysis rates drop, biodegradation becomes the mechanism affecting the breakdown of chlorsulfuron. Aquatic dissipation half-lives from 24 days to more than 365 days have been reported (ENSR 2005c), with a shorter time reported for flooded soil (47 to 86 days) than anaerobic aquatic systems (109 to 263 days; SERA 2004a). Chlorsulfuron is not known to be a groundwater contaminant, but has a high potential to leach into the groundwater.</p> <p>Chlorsulfuron would not be used with in riparian areas; therefore the adverse effect would be low to none on water quality. Chlorsulfuron would be an effective control for many of the noxious mustards that are invading the allotments, such as hoary cress.</p>		
<p>Fish, Riparian, and Wetlands</p>	<p>No effects would occur as no treatment will take place with this herbicide within riparian areas or wetlands.</p>		
<p>Wildlife and Special Status Wildlife Species</p> <p>(BLM 2010a, p. 240-258)</p>	<p><u>Chlorsulfuron</u> would be a selective, ALS-inhibitor herbicide that would be used to control noxious weeds within wildlife habitat. Chlorsulfuron, an ALS-inhibitor; a group of herbicides that has the lowest risk to all groups of wildlife of the herbicides evaluated. All likely application scenarios would be below the LOCs for wildlife groups under tested scenarios, even under spill or off-site drift scenarios. It would be unlikely to cause any adverse effect on aquatic animals (Table 3-14). No studies on amphibians or reptiles were found (SERA 2004a).</p>		
<p>Grazing</p> <p>(BLM 2010a, p. 258-268)</p>	<p>Chlorsulfuron would positively improve the livestock situation within the Allotments by reducing invasive species cover and increasing the carrying capacity. Invasive species have the ability to invade and inhibit the native perennial vegetation without effective means of control.</p> <p>Risk quotients for mammals for all modeled scenarios were below the conservative LOC of 0.1, indicating that direct spray and ingestion of sprayed vegetation would not likely to pose a risk to</p>		

Resource	Proposed Herbicide: Chlorsulfuron	Target Vegetation	Target Areas
	livestock. Based on label directions, there are no restrictions on livestock use of treated areas.		
Upland Vegetation (BLM 2010a, p. 144-146)	<u>Chlorsulfuron</u> would work by inhibiting the activity of an enzyme called acetolactate synthase (ALS), which is necessary for plant growth. Chlorsulfuron would be effective at very low dosages (half ounce to a few ounces per acre). Because of their high potency and longevity, this herbicide it has potential to pose a particular risk to non-target plants. Off-site movement of even small concentrations of this herbicide could result in extensive damage to surrounding plants, and damage to non-target plants has potential to result in concentrations lower than those reportedly required to kill target invasive plants (Fletcher et al. 1996).		

Table 3-7. Summary of Environmental Effects of Use of Clopyralid

Resource	Proposed Herbicide: Clopyralid	Target Vegetation	Target Areas
Soils (BLM 2010a, p. 182-184)	<u>Clopyralid</u> would be unstable in soil and would be considered moderately persistent based on its half-life. Leaching potential within the Allotments would be low since the majority of the soils are loams. Biodegradation would be rapid in soil and thus the potential for leaching or runoff is low. Clopyralid can persist in plants and therefore can be introduced into the soil when plants die, therefore killing other plants.	Thistles knapweeds	Roadsides, meadows, burn and fire restoration, rangelands,
Water Quality (BLM 2010a, p. 188-208)	<u>Clopyralid</u> would not bind tightly to soil and would leach under favorable conditions. However, leaching and subsequent contamination of groundwater appear to be minimal (SERA 2004b), which is consistent with a short-term monitoring study of clopyralid in surface water after an aerial application (Rice et al. 1997a cited in SERA 2004b). No aerial application of clopyralid would be used near surface water within the allotments. Clopyralid would not be a common groundwater contaminant, and no major off-site movement has been documented. Clopyralid would not bind with suspended particles in water; biodegradation in aquatic sediments is the main pathway for dissipation. The average half-life of clopyralid in water has been measured at 9 and 22 days (Dow AgroSciences 1998). More effective noxious weed control would lead to better vegetation cover, which in the long term could assist with better water infiltration.		
Fish, Riparian, and Wetlands	No effects would occur as no treatment will take place with this herbicide within riparian areas or wetlands.		
Wildlife and Special Status Wildlife Species (BLM 2010a, p. 248)	<u>Clopyralid</u> would be a selective herbicide, most effectively used post-emergence for the control of broadleaf weeds within the Allotments. Clopyralid would be useful in treating starthistle, thistles, and knapweeds, which are noted as damaging to wildlife habitat. Clopyralid would be unlikely to pose risk to terrestrial mammals. All of the estimated mammalian acute exposures would be below the acute NOEL; mammalian chronic exposures are below the chronic NOEL. There would be no mortality to bees at relatively high doses. Four of 18 direct spray scenarios resulted in exposure levels below the estimated NOEL. Large and small birds would have some risk of ingestion of contaminated food but hazard quotients are below the level of concern for all exposure scenarios. No studies on amphibians/reptiles were found. Clopyralid is one of the herbicides with lower toxic risks (SERA 2004b). Since the majority of the application will take place in a spot spraying setting, the wildlife would have other vegetation available for consumption.		
Grazing (BLM 2010a, p.	Large mammals would face low acute risks from direct spray and from consumption of contaminated grass at the typical and maximum application rate. The maximum application rate also poses a low chronic		

Resource	Proposed Herbicide: Clopyralid	Target Vegetation	Target Areas
258-268)	<p>risk to large mammals consuming contaminated vegetation. All risks identified fall within the lowest risk category; adverse effects to livestock are unlikely with expected exposure scenarios. According to label directions, there would be no restrictions on grazing following an application at labeled rates, but livestock should not be transferred from treated grazing area to susceptible broadleaf crop areas without first allowing for 7 days of grazing on untreated pasture. (BLM 2010a page258-268)</p> <p>Clopyralid would allow for more effective weed control, which could increase the carrying capacity of the allotments. It would also assist in controlling toxic weeds to livestock such as knapweeds and thistles.</p>		
<p>Upland Vegetation</p> <p>(BLM 2010a, p. 145)</p>	<p>Clopyralid would be selective herbicide that limits enzyme activity, and focuses on broadleaf weeds and grasses. Clopyralid would be more selective and less persistent than picloram. Clopyralid would be relatively non-toxic to aquatic plants; however, accidental spills would have potential to result in temporary growth inhibition of aquatic plants. As with picloram, clopyralid would have little effect on grasses and members of the mustard family. Overall effects to non-target plants from normal application of clopyralid would likely to be limited to susceptible plant species in or very near the treatment area.</p> <p>Removal of noxious weeds would improve the upland vegetation and allow for more habitats for special status plant species.</p>		

Table 3-8. Summary of Environmental Effects of Use of Imazapic

Resource	Proposed Herbicide: Imazapic	Target Vegetation	Target Areas
<p>Soils</p> <p>(BLM 2010a, p. 182-184)</p>	<p><i>Imazapic</i> would be moderately persistent in soils and has not been found to move laterally with surface water. Most imazapic would be lost through biodegradation. Sorption to soil increases with decreasing pH and increasing organic matter and soil content. Sorption would be low within the Allotments.</p>	<p>Medusahead rye, African wiregrass, Cheatgrass</p>	<p>Roadsides, Rangelands, ROWs</p>
<p>Water Quality</p> <p>(BLM 2010a, p. 188-208)</p>	<p><i>Imazapic</i> has low potential to leach into the groundwater. Imazapic would have very high water solubility and negligible to slight potential for transport in surface runoff, due to its adsorption potential with soil and organic matter. It would be moderately toxic to fish, but is not proposed for aquatic use. In addition, imazapic is rapidly degraded by sunlight in aqueous solution, with a half-life of one or two days. Due to these characteristics and the SOPs that would be employed by the BLM, water resources impacts would not be anticipated to be significant from proposed imazapic applications.</p>		
<p>Fish, Riparian, and Wetlands</p>	<p>No effects would occur as no treatment would occur with this herbicide within riparian areas or wetlands.</p>		
<p>Wildlife and Special Status Wildlife Species</p> <p>(BLM 2010a, p. 240-258)</p>	<p><i>Imazapic</i>, an ALS-inhibitor, would be used as selective, systemic herbicide. Direct spray of imazapic would not likely to pose a risk to terrestrial animals. Therefore, use of imazapic would primarily affect wildlife through habitat modification. The allotments do not have any documented sites of medusahead rye or African wiregrass. Therefore, the only areas planned for the use of imazapic would be areas with planned range improvements. These areas would already have temporary habitat modification and the use of imazapic would not add to the habitat disturbance.</p> <p>The use in rangeland and other wildlife habitat areas would benefit wildlife by controlling invasive plant species, especially annual grass species. And would promoting the establishment and growth of native plant species that provide more suitable wildlife habitat and forage.</p>		
<p>Grazing</p>	<p>Risk quotients for terrestrial animals were all below the most conservative</p>		

(BLM 2010a, p. 258-268)	LOC of 0.1, indication that direct spray or drift of imazapic would be unlikely to pose a risk to livestock (Table 3-14; ENSR 2005h.) Based on label direction, there would be no restrictions on livestock use of treated areas, and since Imazapic will be applied in the fall there should be no effects the livestock that use the allotment.		
Upland Vegetation (BLM 2010a, p. 144-146)	Imazapic would work by inhibiting the activity of an enzyme called acetolactate synthase (ALS), which is necessary for plant growth. Imazapic would be applied at a very low dose (6 ounces per acre). Because of the high potency and longevity, this herbicide can pose a particular risk to non-target plants. Off-site movement of even small concentration of this herbicide can result in extensive damage to surrounding plants. Since imazapic would be applied early fall most of the native vegetation would be dormant from the long dry summers season. The key grass species in the Allotments are Thurber's needlegrass (<i>Achnatherum thurberianum</i>), squirreltail (<i>Elymus elymoides</i> , bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>), and Crested wheatgrass (<i>Agropyron cristatum</i> . These species would be tolerant to Imazapic up to a rate of 12 ounces per acre (double the rate actually applied).		

Table 3-9. Summary of Environmental Effects of Use of Metsulfuron Methyl

Resource	Proposed Herbicide: Metsulfuron methyl	Target Vegetation	Target Areas
Soils (BLM 2010a, p. 182-184)	<u>Metsulfuron methyl</u> would have the principal modes of degradation of hydrolysis and microbial degradation, with the latter being the only major pathway in alkaline soils (Sarmah <i>et al.</i> 1998). Degradation rates are affected by soil temperature, moisture content, and soil pH. Half-lives in acidic or neutral soils vary from 5 to 190 days (Sarmah and Sabadie 2002, SERA 2004e). In alkaline soils, adsorption is very low and leaching potential would be high. This is likely to result in increased persistence in alkaline soils that are located within the allotments. At surface application rates of 0.04 to 0.067 lb/ac (between typical and maximum rates), decreases in soil bacteria were apparent for 3 days but reversed completely after 9 days. Biodegradation of metsulfuron methyl would increase as soil moisture increased from 20 percent to 80 percent of field capacity, and half-life would be decreased when the temperature raises from 20° to 30°C (Ismail and Azlizan 2002).	whitetop, perennial pepperweed and other mustards, biennial thistles, halogeton	Roadsides, Rangelands ROW
Water Quality (BLM 2010a, p. 188-208)	<u>Metsulfuron methyl</u> : In addition to rights-of way and rangelands, would be proposed for use along ditches when they are dry. Metsulfuron methyl is not known to be a groundwater contaminant, although it would have a high potential to leach into the groundwater under where shallow groundwater occurs under porous surficial deposits. Because of this, metsulfuron methyl is not proposed for use in riparian or aquatic settings. Metsulfuron methyl would be moderate persistence in water (BLM 2007a), but would be rapidly taken up by plants. These factors and the implementation of agency SOPs would limit water resources impacts from metsulfuron methyl to less than significant levels.		
Fish, Riparian, and Wetlands	No effects would occur as no treatment will take place with this herbicide within riparian areas or wetlands.		
Wildlife and Special Status Wildlife Species (BLM 2010a, p. 240-258)	<u>Metsulfuron methyl</u> is an ALS-inhibitor that would not appear to bioaccumulate. Metsulfuron methyl would be effective for invasive weeds that are unsusceptible to other herbicides. None of the acute or chronic exposure scenarios exceeded the LOC at the typical rate, and few exceeded LOC at maximum rate. Metsulfuron methyl would have very low toxicity to birds for direct spray and consumption; no mortality of acute spray on honeybees; and, aquatic invertebrates would not be susceptible. Like other ALS-inhibitors, would be one of the least toxic of herbicides (SERA 2004e). Exposure at the typical application rate would not pose a risk to wildlife (SERA 2004c).		
Grazing (BLM 2010a, p.	Metsulfuron methyl applications at the typical application rate would not pose a risk to livestock (SERA 2004e). Applications at the maximum rate would pose a low risk to small animals under scenarios involving 100		

258-268)	<p>percent absorption of direct spray and to large mammals under scenarios involving consumption of contaminated vegetation. Metsulfuron methyl is registered for use in rangelands; impacts to livestock are unlikely if the typical application rate is used. However, a supplemental label would restrict the application on rangelands to 0.06 ounces active ingredient per acre.</p> <p>The majority of the application would take place along roads within the allotments. The main target plant species will be halogeton which in the past has not been readily grazed by cattle within the allotments.</p>		
<p>Upland Vegetation</p> <p>(BLM 2010a, p. 144-146)</p>	<p><u>Metsulfuron methyl</u> would work by inhibiting the activity of an enzyme called acetolactate synthase (ALS), which is necessary for plant growth. Metsulfuron Methyl would be effective at very low dosages (half ounce to a few ounces per acre). Because of their high potency and longevity, this herbicide it has potential to pose a particular risk to non-target plants. Off-site movement of even small concentrations of this herbicide has potential to result in extensive damage to surrounding plants, and damage to non-target plants has potential to result in concentrations lower than those reportedly required to kill target invasive plants (Fletcher et al. 1996).</p>		

Alternative 3: No Permit Renewal or Treatments

The only weed control method that would take place would be the existing biological control agents for Mediterranean sage. Generally, the vigor of the native plant communities would improve leading to a more weed-resistant landscape over time. However, noxious weeds would continue to spread from the existing isolated infestations out across the allotments. Noxious weeds and non-native invasive plant species have the ability to out-compete native vegetation. Further, those allotments that have non-native invasive annual grass species could experience larger infestations over time due to livestock no longer grazing these invasive species, particularly following a wildfire. The Oregon FEIS (BLM 2011) estimates that without the use of herbicides noxious weeds would continue to spread at an estimated annual rate of 12%.

Effects of Range Improvement Maintenance

There would be less range improvement maintenance under this alternative which would result in less short-term and long-term disturbances and would lead to fewer areas for potential new sites of noxious weeds to establish.

Wildlife

Affected Environment:

The Rangeland Health Assessments for the Pike Ranch and Alkali Winter allotments were meeting Rangeland Health Standards 3 and 5 related to wildlife habitat (BLM 2003e). Portions of the XL allotment (7,400 acres) did not meet Standard 3 in 2003 due to an area of failed seeding after a wildfire now being dominated by cheatgrass. About 4,146 acres falls within the Middle and North Pastures of the XL Allotment. A portion of the Coleman Seeding Allotment was also not meeting Standard 3 in 2003 due to 1,200 acres of crested wheatgrass seeding that suffered from weakened root systems. The remainder of the XL and Coleman Seeding Allotments met standards 3 and 5.

The allotments are comprised of a mix of black greasewood and Wyoming big sagebrush communities intermingled with inland saltgrass, crested wheatgrass, bottlebrush squirreltail, Thurber’s needlegrass, and bluebunch wheatgrass comprise the dominant vegetation across the allotments (see Table 3-4; Appendix B; Map 8). Water for wildlife within the allotments is available from a few natural sources and livestock water developments (waterholes, reservoirs, and developed springs). Competition for water can occur between wildlife and livestock in areas where water is scarce.

All four of the allotments fall within the Oregon Department of Fish and Wildlife's Wagontire and Juniper big game habitat management units. The mule deer and pronghorn antelope populations are relatively stable within these units (ODFW 2003a). Habitat quantity and quality do not appear to be limiting big game population size or health within the units. Deer and antelope populations continue to fluctuate at or slightly above ODFW's population management objectives for the units (ODFW 2012a, ODFW 2012b). The allotments comprise a small percentage of the units and provide habitat capable of supporting mule deer and pronghorn antelope. The area within the allotments provides year round habitats for mule deer, including fawning habitat. California bighorn sheep habitat occurs within the Alkali Winter Allotment. The ODFW describes the existing bighorn habitat as adequate for future population expansion (ODFW 2003b). The only limitations in bighorn habitat appear to be limited perennial water sites and unrestricted movement to and from these water sources. There are currently 370 AUMs allocated for mule deer, pronghorn antelope, California Bighorn sheep, and other wildlife species within the allotments (BLM 2003b, as maintained). Based on previous consultation with ODFW biologists, this forage allocation is adequate to support big game populations within the allotments.

Other common mammals observed in the allotments include jackrabbits, cottontails, coyotes, ground squirrels, chipmunks, marmots, bobcats, mountain lions, badgers, bats, and other common shrub-steppe mammal species.

There are also numerous amphibian and reptile species that occur within the allotments including fence lizards, sagebrush lizards, gopher snakes, rattlesnakes, horned-lizards, and many other common shrub-steppe species.

Migratory birds use all habitat types in the allotments for nesting, foraging, and resting as they pass through on their yearly migrations. In particular, waterfowl and shorebirds frequent the Lake Abert area during migration. There has been no formal monitoring of migratory birds on these allotments in recent years.

Birds of Conservation Concern for the Great Basin Region that may inhabit the allotments are listed in Table 3.10. The 1988 amendment to the Fish and Wildlife Conservation Act mandates the U.S. Fish and Wildlife Service (USFWS) "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973." *Birds of Conservation Concern 2008 (BCC 2008)* is the most recent effort to carry out this mandate. Migratory game bird species identified by the USFWS that represents species whose population is below long-term averages or management goals, or for which there is evidence of declining population trends, and may be present in the allotment, are also included in Table 3-10.

Partners in Flight use the focal species approach to set biological objectives and link priority species with specific conservation recommendations. It is a multi-species approach in which the ecological requirements of a suite of focal species are used to define an 'ideal landscape' to maintain the range of habitat conditions and ecological processes required by land birds and many other species. Focal species are considered most sensitive to or limited by certain ecological processes (*e.g.* fire or nest predation) or habitat attributes (*e.g.* patch size or snags). The requirements of a suite of focal species are then used to help guide management activities.

Special Status Species

Affected Environment:

BLM policy on special status species (listed in Table 3.10) is to conserve those species and the ecosystems upon which they depend (BLM 2008d). While there are no wildlife species classified as federally-listed

Table 3.10 Wildlife Species with Special Management Considerations

Species	General Habitat	Species Status	Birds of Conservation Concern	Migratory Birds	Focal Species	Game Birds Below Desired Condition	Eagle Act	Allotments with Known Habitat or Potential Habitat
Prairie Falcon	Cliff-open habitat				x			0425, 0427, 0432, 1001
Ferruginous Hawk	Sagebrush-shrub steppe		x	x	x			0425, 0427, 0432, 1001
Golden Eagle	Elevated nest sites in open country		x	x			x	0425, 0427, 0432, 1001
Sage Sparrow	Sagebrush		x	x	x			0425, 0427, 0432, 1001
Greater Sage Grouse	Sagebrush dominated rangelands	*FC	x		x			0425, 0427, 0432, 1001
Peregrine Falcon	Cliff-open habitat	**SSS	x	x				0425, 0427, 0432, 1001
Loggerhead Shrike	Open country/scattered trees/shrubs		x	x	x			0425, 0427, 0432, 1001
Swainson's Hawk	Open Habitat			x				0425, 0427, 0432, 1001
Sage Thrasher	Sagebrush-shrub steppe		x		x			0425, 0427, 0432, 1001
Bald Eagle	Wetlands/River Systems/Lakes	**SSS	x				x	0425, 0427, 0432, 1001
Burrowing Owl	Grasslands-shrub steppe			x	x			0425, 0427, 0432, 1001
Snowy Plover	Wetlands, Ponds, shorelines		x					0425, 0427, 0432, 1001
Brewer's Sparrow	Sagebrush clearings in bitterbrush		x	x	x			0425, 0427, 0432, 1001
Pygmy Rabbit	Sagebrush with deep soils	**SSS						0425, 0427, 0432, 1001
Kit Fox	Arid shrub-steppe	**SSS						0425, 0427, 0432, 1001
Pallid Bat	Arid regions/rocky outcroppings	**SSS						0425, 0427, 0432, 1001
Townsend's Big-eared Bat	Lava fields /Rocky Cliffs /Abandoned Structures	**SSS						0425, 0427, 0432, 1001
Northern Harrier	Wetlands/Ponds/Riparian Areas			x				0425, 0427, 0432, 1001

*FC – Federal Candidate Species

**SSS – Special Status Species

Threatened or Endangered, or either proposed or designated critical habitat within the project area, the Greater Sage-grouse is a Federal Candidate Species and is currently managed as a special status species. The XL allotment provides habitat for the Greater sage-grouse. The *Lakeview Proposed RMP/Final EIS* (BLM 2003a) Map W-1 shows areas defined as sage-grouse habitat as of spring 2002. The data displayed in the map is considered to be a “broad-brush” habitat map subject to refinement/update with new information over time. As noted in the footnotes of Map W-1, the habitat data represented “the best data currently available” and this data was expected to be refined or updated over time. Since the map was published, a cooperative habitat mapping effort with ODFW has occurred throughout eastern Oregon resulting in updated sage-grouse habitat and lek location data. ODFW (2011) developed a habitat dataset that identifies the most productive landscapes for sage-grouse as either “core habitat” or “low density habitat”. Since that time, the BLM, in coordination with ODFW, have refined this dataset. At this point in time, core habitat has become synonymous with what BLM is currently calling “preliminary priority habitat” (PPH). This habitat is defined as areas that have the highest conservation value for maintaining sustainable Greater Sage-Grouse populations. These areas include breeding, late brood rearing, and winter

concentration areas. BLM is currently referring to low density habitat as “preliminary general habitat” (PGH). This is defined as areas of occupied seasonal or year-round habitat outside of priority habitat. This mapping exercise considered a landscape approach to wildlife conservation prioritizing sage-grouse habitats and was based upon sage-grouse distribution and abundance in association to nearest lek rather than actual vegetation. The main objective of the exercise was to identify the most important breeding or nesting areas.

There is no sage-grouse core or PPH habitat occurring in any of the allotments. Approximately 6,500 acres (35%) of the Middle and North Abert Pastures of the XL Allotment and 2,359 acres (41%) of the Coleman Seeding Allotment, and 6,500 acres (22 %) of the Ryegrass, West Venator and Hutton Pastures within the Alkali Winter Allotment, fall within sage-grouse low density habitat or PGH.

Knick and Connelly (2011) contains a compilation of recent sage-grouse research which addresses a variety of issues related to management of the species at the range-wide scale (often referred to as the “Monograph”). Information from the Monograph was synthesized for application at the regional scale (Oregon) within the *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon: A Plan to Maintain and Enhance Populations and Habitats* (ODFW 2011).

Based on Oregon Department of Fish and Wildlife’s (ODFW) most recent sage-grouse lek data, there are no occupied leks found within any of the pastures or allotments being analyzed within this EA. There are 3 occupied pending leks within 4 miles of the Pike Ranch Allotment, 1 occupied pending lek within 4 miles of the Middle and North Abert Pastures of the XL Allotment, and 1 occupied pending lek within 4 miles of the Coleman Seeding Allotment.

Sage-grouse habitat quality was reassessed only on the XL Allotment using the *Sage-grouse Habitat Assessment Framework* (Stiver *et. al.* 2010). At the Third Order scale (sage-grouse home range scale) habitats are severely limited within the Middle and North Abert pastures of the allotment. Connelly *et al.* (2004) found most sage-grouse nest within 4 miles of an occupied lek. A local study conducted in the Warner Mountains directly east of these allotments found that 87% of sage-grouse hens nested within 3 miles of an occupied lek and 96% nested within 5 miles of an occupied lek (BLM 2011b).

Based on the distance from the nearest occupied lek (3.5 miles) and the sagebrush cover heights associated with the current dominant vegetation types, the majority of the Middle and North Abert Pastures within the XL Allotment is unsuitable sage-grouse habitat (20,099 acres). There is some marginal breeding habitat (6,777 acres) and some marginal summer habitat (1,774 acres) within these two pastures (Map 9). Based on the distance from the nearest occupied lek and the sagebrush cover heights associated with the current dominant vegetation types, there is no suitable or marginal nesting, summer or winter habitats within the Pike Ranch Allotment, Coleman Seeding Allotment, or the West Venator or Hutton Springs Pastures of the Alkali Winter Allotment. The Ryegrass Pasture of the Alkali Winter Allotment does contain some suitable and marginal sage-grouse breeding, summer and wintering habitats, but it is located over 11 miles from the nearest occupied lek site. For these reasons, only potential effects within the XL Allotment will be addressed further, as none of the alternatives would likely have any measurable impacts to sage-grouse or their habitat elsewhere in the permit renewal area.

The allotments lie within the northern range of the kit fox, a bureau sensitive species, in Oregon. No kit fox have been documented within the Lakeview Resource Area; however, potential habitat does exist. Recent camera inventories for kit fox within the surrounding areas yielded no documented sightings (Craig Foster, ODFW, personal communication, May 2014). No surveys have been conducted for kit fox in the allotments and due to the low potential for occurrence of denning/foraging habitat, none of the alternatives would likely have any measurable impacts to kit fox. Therefore, they are not carried forward for further analysis.

While potential habitat for pygmy rabbits (BLM sensitive species) was identified in the Rangeland Health Assessments, this species has not been confirmed in any of the allotments. The Ryegrass Pasture is the

only area that contains suitable habitat.

Potential for burrowing owls exist within all of the allotments and owls have been observed at several locations within the area. Two nesting burrows have been located in the XL Allotment.

Peregrine falcons (BLM sensitive Species) have been observed in the general area; however, no nesting has been documented within the Allotments. None of the alternatives would likely have any measurable impacts to foraging activities for peregrine falcons; therefore they are not being carried forward for further analysis.

Golden and bald eagles are 2 species given special protection under the Bald Eagle Protection Act of 1940 (as amended). Currently, there are no known nests or nesting habitat for bald eagles within the allotments. They are occasionally seen foraging for carrion along the shoreline of Lake Abert and may occur in the allotments in the winter. There are no confirmed golden eagle nests within the allotments, however, they can be seen at all times of the year foraging in the general area.

Snowy plovers occur in the Pike Ranch and XL Allotments. They are closely associated with the playa lakebed and lake edge habitat surrounding Lake Abert and XL Spring. Monitoring has occurred on and off over the last decade. Numbers have fluctuated between 200 and 400 adults over the last decade. Nesting occurs on the open playa on the north end Lake Abert, along the playa extending north toward XL Spring and down the western side of the lake. Since 1985, Lake Abert has had the largest breeding population of plovers in Oregon (Kristensen *et al.* 1991) and, depending upon regional water conditions, the breeding population can vary between the third or fourth largest population in the world (Page and Bruce 1989). Hatching success also appears higher at Lake Abert than other populations where inventory data is available (Stern *et al.* 1988).

Special status bats may occur within the allotments, but likely only involve occasional migrating or foraging individuals passing through from adjacent habitat. With possible exception of Cave Springs, there are no known caves, adits, shafts, or outbuildings on the BLM portion of the allotments capable of providing hibernacula for bats. Habitat is unknown on adjacent private lands. Due to the low potential for occurrence and lack of roosting/resting habitat, none of the alternatives would likely have any measurable impacts to bats. Therefore, they are not carried forward for further analysis.

Environmental Consequences: Wildlife and Special Status Species:

Effects Common to Alternatives 1-3

ODFW (2011; page 13) cites two unpublished studies that documented sage-grouse mortality associated with fencing as a risk factor in winter habitat in Wyoming and near lek sites in Idaho. IM No. 2012-043 provides interim management guidelines based on the “Steven’s” model identified in the Natural Resources Conservation Service (NRCS 2012) that recommend marking high-risk fences within 1.25 mile of occupied or occupied pending leks with anti-strike markers (reflectors). However, none of the existing or proposed fences associated with the allotments were identified as high-risk fences so collision-related mortality would be low and anti-strike markers are not required.

Another sage-grouse risk factor identified in the Monograph, the Oregon Strategy, and the 12-Month Finding is West Nile virus spread by mosquitoes around standing water (Knick and Connelly 2011, ODFW 2011, USFWS 2010). Sage-grouse are susceptible to West Nile Virus (Clark *et al.* 2006) and mortality may be as high as 100 percent (Naugle *et al.* 2004) in certain areas. The virus is primarily transmitted by infected mosquitoes, and was first detected in southeastern Oregon near Burns Junction in 2006, and then later near Crane and Jordan Valley that same year. Across the species range, total mortalities attributable to West Nile Virus have markedly declined since 2003. The virus has not been detected near the allotments

or in southeast Oregon since the first observations in 2006 (DeBess 2009). From 2006-2010, ODFW provided each successful sage-grouse hunting permit applicant with 2 Nobuto strips to collect blood samples from each harvested grouse to be assayed for west Nile virus. A total of 1,839 samples were assayed with 1 positive detection of the virus in the Beulah WMU harvest in 2008 (letter from ODFW dated August 6, 2014). Existing water troughs (Maps 3- 6) have generally been designed to minimize overflow and minimize potential for the production of mosquitoes. The 3 new proposed water troughs have also been designed with wildlife escape ramps and float valves to minimize risk of wildlife entrapment and the creation of new mosquito habitat that could potentially lead to spread of West Nile Virus. For these reasons, the risk of virus spread or associated mortality would be low and virtually identical under all alternatives.

Grazing effects to mule deer, pronghorn antelope, bighorn sheep, and bald eagle habitats would be very similar under all three alternatives. Minor unmeasurable differences between alternatives would result from some habitat changes under each of the alternatives; however these differences would be slight and negligible between alternatives.

Alternative 1: No Action

Under current grazing management, approximately 2,711 acres (4%) of the wildlife habitats within the allotments would continue to be impacted by concentrated livestock use (near cattle trails and water sources), while impacts to habitats across the majority of the allotments would be dispersed and much less concentrated. The existing vegetation communities contain a diversity of native grasses, forbs, and shrubs that would be maintained across the allotments through continuation of the current grazing management (Refer to the Upland Vegetation section).

Minor negative effects to pygmy rabbits, burrowing owls, and migratory birds would continue on the 2,711 acres (4% of area) where concentrated livestock use occurs. The allotments would continue to have adequate habitat to support an appropriate assemblage of wildlife species and species diversity, including migratory birds, sage-grouse, as well as small mammals and reptiles.

Sage-grouse habitat in a large portion of the XL Allotment was severely degraded by the Abert Lake Fire and subsequent reseeded with crested wheatgrass in 1971. Overall, the majority of the allotment is currently unsuitable for sage-grouse. Sage-grouse likely use only portions of the Middle and North Abert Pastures. Current grazing management does not appear to be negatively impacting sage-grouse use in these pastures. Vegetation and sage-grouse habitat trends would remain static or possibly improve under this alternative over the 10-year life of the permit.

Current livestock grazing use (both stocking rates and grazing season) does not appear to be substantially limiting wildlife habitats, including special status species habitats, within the allotments. The majority of the acreage within the allotments are currently achieving Rangeland Health Standard 3 (ecological processes; those areas not meeting this standard are not due to livestock grazing) and all acreage within the allotments are currently achieving Standard 5 (wildlife habitat). This trend is expected to continue across the majority of the allotments and they would continue to provide adequate quality and diversity of wildlife habitat that is capable of supporting an appropriate assemblage of sagebrush-dependent wildlife species. However, within the Coleman Seeding Allotment, the current trend may decline over the 10-year life of the permit due to lack of periodic growing season rest.

Alternative 2: Permittee Proposal plus Treatments

The effects of continued grazing to wildlife habitats, including special status species habitats, under this alternative would largely be similar to Alternative 1. However, the increased forage allocation (269 AUMs) in the Coleman Seeding Allotment has the potential to negatively impact wildlife forage availability in that

allotment.

All new fences would be constructed to wildlife passage specifications (BLM 1989a) and no fences are proposed within 1.25 miles of any occupied or occupied pending sage-grouse leks. The proposed pipeline extensions and troughs would comply with current interim sage-grouse direction (IM-2012-043). The ½ mile fence extension into Abert Lake on the south western edge of the Pike Ranch Allotment could have some negative impacts to waterfowl and shorebirds using the margins of the lakeshore. The current fence extends approximately 50-100 feet into the lake. The addition of ½ mile of fence out onto the lakebed could lead to additional bird strikes causing injuries or mortality to the many birds that fly along and over the lake. Some of these impacts could be mitigated by placing anti-strike markers on this fence in an effort to increase fence visibility.

Approximately 3,078 acres (4.9%) of the wildlife habitats within the allotments would be impacted by concentrated livestock use (near cattle trails and water sources and proposed projects), while impacts to habitat across the majority of the allotments would be dispersed and much less concentrated. This alternative would result in a slight increase in negative effects to pygmy rabbits, burrowing owls, and some migratory birds by increasing concentrated livestock use on an additional 367 acres across the 4 allotments. However, the existing vegetation communities would continue to contain a diversity of both native and non-native grasses, forbs, and shrubs across the allotments (Refer to the Upland Vegetation section).

Weeds and invasive species on approximately 6,900 acres would be treated under this alternative. This would result in temporary disturbances to very degraded, low-quality wildlife habitats during treatment activities. The cheatgrass and weed treatments would result in the establishment of a perennial grass community of benefit to grass-dependent wildlife species in the short-term (5 years). Over the long-term, native shrubs would begin to reestablish within the treated areas and increase habitat diversity. However, it will likely take 25-40 years before a functioning sagebrush-steppe community is established.

The 1,200-acre mowing project has the potential to remove native shrubs that have begun to reestablish within the crested wheatgrass seeding. However, the more established denser islands of native shrubs would be avoided while mowing to retain habitat diversity.

The majority of the acreage within the 4 allotments are currently achieving Rangeland Health Standard 3 (ecological processes) and all acreage within the allotments are currently achieving Standard 5 (wildlife habitat). This trend is expected to continue into the foreseeable future under this alternative. In addition, the quality of the wildlife habitats on those treated acres that currently do not meet Standard 3 would improve over time and would make significant progress towards meeting this standard over the 10-year life of the permit.

Overall, the allotments would continue to provide habitat that supports an appropriate assemblage of sagebrush-dependent wildlife species and species diversity including big game, migratory birds, sage-grouse, small mammals, and reptiles.

Alternative 3: No Permit Renewal or Treatments

Under this alternative livestock grazing would be removed or reduced across the 4 allotments. There would be very little change in the existing quality of wildlife habitats, including special status species habitats, available across the allotments compared to the other alternatives in the short-term (5 years). Approximately 2,711 acres (4%) of wildlife habitat within the allotments formerly impacted by livestock trailing and concentration near existing water sources would improve and provide some increased forage availability for wildlife over the long-term (10 years).

The allotments would continue to provide habitat capable of supporting an appropriate assemblage of wildlife species and species diversity including big game, migratory birds, sage-grouse, and small mammals and reptiles into the foreseeable future.

The majority of the acreage within the 4 allotments are currently achieving Rangeland Health Standard 3 (ecological processes) and all acreage within the allotments are currently achieving Standard 5 (wildlife habitat). This trend is expected to continue into the foreseeable future under this alternative. However, those 6,900 acres that are not currently meeting Standard 3 would not be expected to improve or make substantial progress towards meeting this standard simply through natural processes.

Livestock Grazing Management

Affected Environment

The majority of livestock water comes from wells and associated pipelines and troughs in the Alkali Winter, Coleman Seeding, and XL Allotments. The developments provide reliable sources of water such that the allotments can be grazed during the winter, spring, and summer, and not be dependent on annual precipitation or natural water sources.

The Coleman Seeding and Pike Ranch Allotments fall under special considerations due to the implementation of the Paisley Adjudication Agreement. The agreement states that, for improved management flexibility, the Coleman Seeding and Pike Ranch Allotments would be managed as whole units, and that Coleman Seeding would be used to manage Pike Ranch. The Coleman Seeding Allotment has not been recently used to manage the Pike Ranch Allotment; however, this is still a management option. This means a total of 1,015 AUMs are available in the unit together, and the AUMs can be shifted between the 2 allotments.

Alkali Winter Allotment

The Alkali Winter Allotment is categorized as an “M” or “maintain” category allotment and this category is determined by the following set of criteria:

- Present range condition is satisfactory
- Allotment has moderate to high production potential and is currently producing near potential
- No serious conflicts or controversy exists
- Opportunity may exist for positive economic returns
- Present management is satisfactory
- Other criteria appropriate to area- development of portions of this allotment into spring and a winter use area is recommended.

The Ryegrass and West Venator Pastures of the Alkali Winter Allotment are currently grazed during the winter with total of permitted use of 2,005 AUMs under permit #3601487. Winter use has occurred across the Alkali Winter Allotment for over 15 years. The average actual use (for the last ten years) for the Ryegrass and West Venator Pastures collectively was 1,727 AUMs. The average 10-year actual use for the West Venator Pasture was 1,453 AUMs, and 275 in the Ryegrass Pasture. The average 10-year actual use for the Hutton Springs Pasture was 415 AUMs. Utilization has not exceeded the utilization standard over the last ten years (see Table 2-1).

The Alkali Winter Allotment is a common allotment and is grazed under four, 10-year permits by four livestock operators. There are seven pastures within the allotment and each permittee uses a combination of pastures. Although a formal rangeline agreement has never been signed, it is possible that the permittees could agree at some point in the future to shift use areas (pastures) within the allotment or run in common

(all four permittee's cattle running together as one heard moving from pasture to pasture). Three of the permittees are in agreement regarding the current pasture use areas. The other permittee operates under permit #3601487 and is being analyzed for renewal under this EA. This permittee has the second most AUMs (32%) of the four permittees and grazes the West Venator and Ryegrass Pastures, equating to approximately 19% of acreage within the allotment. This permittee has proposed various alternatives in the past to increase the amount of ground available for his use. The four permittees were unable to reach agreement regarding past proposals, thus grazing has continued with permit #3601487 using the Ryegrass and West Venator Pastures. The four permittees agreed in the past that the Ryegrass Pasture would not be designated to any one permittee, but would be available to any of the permittees on an as-needed basis. The last 10 out of 11 years, the Ryegrass Pasture has been grazed under permit #3601487, without contest from the other 3 permittees.

A Rangeland Health Assessment was performed in 2003 (BLM 2003f) to determine if current management was meeting all applicable Standards for Rangeland Health (BLM 1997). The RHA was updated in 2014, and found that existing grazing management practices and levels of grazing use in the majority of West Venator and Ryegrass Pastures of the Alkali Winter Allotment met applicable standards. However, approximately 375 acres of the West Venator Pasture and 1,500 acres of the Ryegrass Pasture did not meet Standards 1 and 3 due to poor site condition and a lack of vegetative understory, respectively. Livestock grazing was not a contributing factor. Grazing has occurred during the winter in both of these pastures for over ten years, allowing plants to complete their lifecycles annually. The findings of the RHAs for this allotment are summarized in Table 3.11 and are incorporated in their entirety herein by reference (BLM 2003f, 2014a).

Coleman Seeding Allotment

The Coleman Seeding Allotment is categorized as a "M" or "maintain" category allotment and this category is determined by the following set of criteria:

- Present range condition is satisfactory
- Allotment has moderate to high production potential and is currently producing near potential
- No serious conflicts or controversy exists
- Opportunity may exist for positive economic returns
- Present management is satisfactory
- Other criteria appropriate to area- development of portions of this allotment into spring and a winter use area is recommended.

The Coleman Seeding Allotment is currently grazed from the first of February through the middle of May with a total of 920 AUMs. This allotment is grazed under one 10-year permit. There are two pastures within the Coleman Seeding Allotment. Each pasture has been used yearly with little rest. The average actual use (for the last ten years) for the Allotment was 1,188 AUMs. The average 10-year actual use for the Triangle Pasture was 538 AUMs, and 651 in the South Pasture. Utilization exceeded the target utilization of 50% once, by one percent, in the South Pasture over the last ten years.

The Coleman Seeding Allotment was included in the original Paisley Adjudication Agreement signed in 1983, updated in 1986, and finalized in 1993. The implementation agreement increased active preference on the Coleman Seeding Allotment from 750 to 920 by activating 170 suspended non-use.

TNR has been issued 12 out of 17 years (1992-2010) in the Coleman Seeding Allotment. The 12 year TNR average is 542 AUMs. Table Appendix B, Table B-4 shows TNR AUMs with percent utilization. Three of 12 years TNR was authorized within the Coleman Seeding Allotment, utilization was at or over the target utilization level of 50% in both pastures. The target utilization level was exceeded in the Triangle Pasture in addition to the previously mentioned years. The remaining 8 years TNR was authorized, utilization

Table 3.11 Summary of Rangeland Health Assessments for the West Venator and Ryegrass Pastures of the Alkali Winter Allotment

Standard	2003 Assessment	2014 Assessment	Comments
1. Watershed Function – Uplands	Met	<p>Not Met on a portion of two pastures</p> <p>Met on the majority of two pastures</p>	<p>This standard was met in the original 2003 RHA. Approximately 33% of the allotment was in the moderate SSF erosion condition class, which indicates some active erosion and evidence of past erosion. This occurred in areas with sandy soils that are susceptible to wind and water erosion.</p> <p>Grazing occurs during the winter each year and is designed to maintain healthy perennial vegetative communities. Winter grazing provided growing season rest every year, providing plants the opportunity to complete their annual lifecycles. Plant composition and community structure was used as an indicator to evaluate this standard in 2003. The allotment contained a variety of native, deep- rooted species that provided adequate cover to assist in properly functioning soils. Root systems of perennial vegetation assisted in holding soil in place. Perennial vegetation provided protective cover to reduce soil movement, decrease compaction and increase infiltration.</p> <p>In 2014, long-term trend monitoring indicated that this standard is being met in most areas of the two pastures. However, about 1,500 acres within the Ryegrass Pasture, and approximately 375 acres within the West Venator Pasture are not currently meeting this standard. Livestock grazing is not a causal factor. Grazing continues to occur in these pastures during the winter each year, allowing plants to complete their annual lifecycles. The downward trend in the Ryegrass Pasture may have been a result of an increase in cheatgrass and sagebrush cover. The downward trend within the West Venator Pasture is due to alkalinity of the soil.</p> <p>The ID team recommends rehabilitating the 1,500 acres in the Ryegrass Pasture by conducting weed treatment and seeding. The team did not recommend rehabilitation of the 375 acres within the West Venator Pasture due to the low productivity of the site, and small chance of success.</p>
2. Watershed Function Riparian/ Wetland Areas	Not Applicable	Not Applicable	There are no perennial streams, riparian areas, or wetlands on BLM-administered lands within the pastures.
3. Ecological Processes	Met	<p>Not Met on a portion of 2 pastures</p> <p>Met on the majority of the 2 pastures</p>	<p>This standard was met in the original 2003 RHA. The ID team observed that there were no livestock grazing issues at that time. There were many areas with shrub cover and forb diversity depending on soil type. They noted biological soil crusts to be present. Hilltops and upper elevation areas possessed the greatest plant diversity including grasses forbs and shrubs.</p> <p>In 2014, long-term trend monitoring indicated that this standard is being met in most areas of the pastures. However, approximately 1,500 acres within the Ryegrass Pasture and 375 acres within the West Venator Pasture were not meeting this standard; livestock grazing is not a causal factor. Grazing has continued to occur during the winter each year, allowing plants to complete their annual lifecycles. The downward trend in the Ryegrass Pasture may have been a result of an increase in cheatgrass and sagebrush cover. The downward trend within the West Venator Pasture is due to alkalinity of the soil.</p> <p>The 2003 RHA noted that hoary cress was present around the troughs below Poor Jug Well. To date, noxious weeds known to occur within the allotment include Hoary Cress (<i>Cardaria draba</i>) and Bull thistle (<i>Cirsium vulgare</i>).</p>

			The 2014 ID team recommends rehabilitating the 1,500 acres in the Ryegrass Pasture via weed treatment and seeding. The team did not recommend rehabilitation of the 375 acres within the West Venator Pasture due to the low productivity of the site, and small chance of success.
4. Water Quality	Not Applicable	Not Applicable	There are no perennial streams, riparian areas, wetlands on BLM-administered lands within the pastures.
5. Native, T/E, and Locally Important Species	Met	Met	<p>This standard was met in the original 2003 RHA. No special status or culturally important plant species were found within the allotment.</p> <p>The 2003 RHA noted that five special status wildlife species or their habitats occurred within the allotment. They included: Bald eagle, ferruginous hawk, peregrine falcon, burrowing owl, and pygmy rabbit. There were also 4 wildlife species of high public interest present, including sage-grouse, mule deer, California bighorn sheep, and pronghorn antelope.</p> <p>No bald eagle nests or nesting habitat existed within the allotment, but it was suspected that they were occasional visitors to the surrounding area. Bald eagle foraging was likely restricted to road kill adjacent to Highway 395 and occasional carrion scattered through the allotment.</p> <p>No nesting was documented within the allotment for peregrine falcons, but it might have been available on cliff faces to the east. Falcons were observed in the general area, but no sightings occurred within the allotment, nor were any good foraging areas available within close proximity of the allotment. There were no resource conflicts identified for peregrine falcons or bald eagles.</p> <p>Habitat was also suspected for ferruginous hawk, burrowing owl, and pygmy rabbits, but locations for these species were not known in the allotment. Occasional sightings of burrowing owls have occurred within the allotment, but during past inventories none were located.</p> <p>No specific inventories had been conducted for ferruginous hawks or pygmy rabbits; however, there have been sightings within the surrounding area. Pygmy rabbits have not been confirmed in the allotment to date. There were no resource conflicts identified for these species.</p> <p>Some mule deer winter range was noted along the eastern edge of the allotment, but no resource conflicts were identified with livestock.</p> <p>Bighorn sheep habitat was also noted along the eastern edge of the allotment in 2003 and is still present today, but no resource conflicts have been identified with livestock. ODFW has described the habitat in the surrounding area as adequate to accommodate future population expansion goals. The only limitation is limited perennial water sites and unrestricted movement from these sites.</p> <p>Pronghorn antelope were noted on the western edge and in the extreme southern portion of the allotment, due to lack of tall shrubs. No major conflicts were identified between pronghorn and livestock.</p> <p>In 2003, there were no sage-grouse leks noted within the allotment, but they were suspected to use portions of the allotment for other habitat requirements. Based on ODFW's most recent sage-grouse lek data, there are still no occupied leks found within the allotment or within 4 miles of the West Venator or Ryegrass Pastures.</p>

			<p>In 2003, sage-grouse habitat within the allotment was characterized as containing approximately 4% suitable nesting habitat, 18% suitable brood rearing habitats, and 15% suitable winter habitat. This is still the case in 2014. The majority of these suitable habitats are located in the ryegrass pasture. The West Venator pasture was found to be primarily salt desert scrub community and crested wheatgrass seeding. No major conflicts were between sage-grouse and livestock were identified. Currently, about 6,875 acres of the allotment falls within preliminary general habitat (PGH), but no preliminary priority habitat (PPH) exists within the allotment.</p> <p>Special status bats may occur, but likely only involve individuals occasionally foraging or migrating through the area.</p> <p>Habitat within the Alkali Winter Allotment is supporting an appropriate assemblage of sagebrush steppe wildlife species, no substantial conflicts exist with current livestock grazing management, and therefore the allotment is meeting this standard.</p>
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levels did not exceed the target utilization levels. A Rangeland Health Assessment was performed in 2003 (BLM 2003e) to determine if current management was meeting all applicable Standards for Rangeland Health (BLM 1997). The RHA was updated in 2014, and found that existing grazing management practices and levels of grazing use in the Coleman Seeding Allotment met applicable standards on the majority of the allotment, and is experiencing stable trends as indicated by long-term trend monitoring.

Twelve hundred acres of the Coleman Seeding Allotment did not meet standards 1 and 3 in the 2003 RHA but this was not attributed to livestock grazing. This area had decadent crested wheatgrass with low vigor. The recommendations from the 2003 RHA include treatments to remove decadent plant material, including burning, mowing, increased grazing by salt and protein block placement, change of season to include some winter use and/or implementation of fencing as specified in the Juniper Fire Complex Emergency Stabilization Plan, 2001. The area was seeded, but the fence was not constructed. Between 2003 and 2014, there has been no change in livestock grazing management within the Coleman Seeding Allotment. There has also been no treatment conducted on the 1,200 acres not meeting this standard in 2003. Because there has been no treatment and no change in grazing, (i.e. increased grazing by salt and protein block placement, winter use or fencing) this portion (1,200 acres) of the allotment was determined to still not meeting this standard in 2014, but this was not attributed to livestock grazing. The findings of the RHAs for this allotment are summarized in Table 3.12 and are incorporated in their entirety herein by reference (BLM 2003e, 2014b).

XL Allotment

The XL Allotment is categorized as an “I” or “improve” category allotment and this category is determined by the following set of criteria:

- Present range condition is unsatisfactory
- Allotment has a moderate to high production potential and present production is low to moderate
- Conflicts or controversy exist
- Opportunities exist for positive economic returns
- Present management is unsatisfactory

The North and Middle Abert Pastures of the XL Allotment are currently grazed during under a rest rotation system with a total of 1,500 AUMs under permit #3602231. This allotment is grazed under 2 term permits by two livestock operators. There are 3 pastures within the XL Allotment and each permittee uses their own pasture and shares the Middle Abert Pasture. The base property lease for permit #362231 is a three year lease, and shall automatically renew at the expiration of the term for subsequent three year terms unless terminated in writing by either party.

The average actual use (for the last ten years) for the North Abert Pasture was 1,628 AUMs, and 1,698 AUMs in the Middle Abert Pasture. Utilization exceeded the ~~target~~ utilization standard of 50% once, by one percent, in the North Abert Pasture, and once in the Middle Abert Pasture over the last ten years.

The Hope Well Pipeline extends into the North Abert Pasture with one trough for livestock water. In addition to the one trough, the majority of livestock are water from water hauled to troughs placed in various locations throughout the North Abert Pasture. The Middle Abert Pasture is watered entirely off of troughs located along the Hope Well Pipeline.

A Rangeland Health Assessment was performed in 2003 (BLM 2003e) to determine if current management was meeting Standards for Rangeland Health (BLM 1997). The 2003 RHA found approximately 7,400 acres of the XL Allotment dominated by cheatgrass not meeting this standard but was not attributed to livestock grazing (approximately 4,146 acres of this is located within North and Middle Abert Pastures). The main cause of cheatgrass invasion was the Abert and Sharptop wildfires in the early 1970s. The RHA

Table 3.12. Rangeland Health Assessment Summary for Coleman Seeding Allotment

	Not Met in a portion of allotment	Not Met in a portion of allotment Met in the majority of the allotment	<p>Twelve hundred acres of the Coleman Seeding Allotment was not meeting this standard in 2003. Because of the presence of unhealthy perennial grasses with weakened root systems, increasing soil susceptibility to erosion hazard. However, this was not attributed to livestock grazing management. This area had decadent crested wheatgrass with low vigor. The 2003 recommendations included treatments to remove decadent plant material, including burning, mowing, increased grazing (remove decadent material and stimulate plant growth) by salt and protein block placement, change of season to include some winter use and/or implementation of fencing, as specified in the Juniper Fire Complex Emergency Stabilization Plan (BLM 2001). (This plan included aerially seeding of approximately 650 acres within the Triangle Pasture and building approximately 3.5 miles of fence, with the intentions of it becoming a permanent pasture fence. The wildfire area was seeded, but the fence was not constructed).</p> <p>Since 2003 there has been no change in management within the allotment. As a result, the allotment is still not meeting this standard in 2014, but this was <u>not attributed to current livestock grazing management</u>.</p> <p>Current management recommendations include implementing a rest rotation grazing system with one pasture of the adjacent state block, where each pasture is rested one of three years, and incorporating winter use. In addition, salt and protein block placement would be used to increase use in these areas. If unsuccessful, then mowing may be implemented as funding and workload allow.</p> <p>The majority of the allotment is comprised of crested wheatgrass and is experiencing a stable trend as indicated by data collected at long-term trend monitoring plots, and is meeting this standard.</p>
2. Watershed Function Riparian/ Wetland Areas	Not Applicable	Not Applicable	<p>There are no perennial or intermittent streams or associated riparian areas in this allotment. The National Wetland Inventory dataset indicates there are 4 small freshwater ponds and 2 small freshwater palustrine emergent wetlands within the allotment. However, 5 of these are actually small livestock water development, which do not meet the definition of a wetland. Based upon examination of digital orthophoto quads, one of these areas is actually upland habitat and is not a wetland.</p>
3. Ecological Processes	Not Met in a portion of allotment	Not Met in a portion of allotment – Met in the majority of the allotment	<p>As discussed for Standard 1 above, 1,200 acres of the Allotment did not meet this standard in 2003 because of the presence of unhealthy perennial grasses with weakened root systems, and increased soil susceptibility to erosion hazard. However, this was not attributed to livestock grazing management. This area had decadent crested wheatgrass with low vigor. The 2003 recommendations related to this standard were similar to those described for Standard 1 above.</p> <p>Since 2003, there has been no change in management within the allotment. As a result, the allotment is still not meeting this standard in 2014, but <u>this is not attributed to current livestock grazing management</u>.</p> <p>The 2003 RHA also noted Mediterranean Sage (<i>Salvia aethiops</i>) along the pipeline systems, near water developments, and along the roadsides in the Coleman Hills area. Halogeton (<i>Halogeton glomeratus</i>) has also been documented near the water developments and along the roads in the allotment. Although not noxious, cheatgrass, tumble mustard and larkspur are also species of concern.</p>

			<p>Current management recommendations to meet this standard are similar to those described for Standard 1 above.</p> <p>The majority of the allotment is experiencing a stable ecological trend as indicated by data collected at long-term trend monitoring plots, and is meeting this standard.</p>
4. Water Quality	Not Applicable	Not Applicable	There are no perennial streams or municipal water sources within the allotment. There is one well located along the northern edge of the allotment that provides water for livestock only.
5. Native, T/E, and Locally Important Species	Met	Met	<p>All of the allotment met this standard in 2003. The 2003 RHA noted: no nesting habitat existed within this allotment for bald eagle, but it was suspected that they are occasional visitors to the area. Burrowing owls have been observed in the allotment. Inventories for burrowing owls were conducted in 2000 and only occasional sightings were documented. Pronghorn antelope were common in this allotment, Mule deer inhabited much of the area, but are widely spread and in low numbers.</p> <p>Special status bats may occur within the allotment, but likely only involve occasional migrating individuals or animals foraging or passing through from adjacent habitat. Potential habitat was noted for kit fox and pygmy rabbit was identified in the 2003 RHA, but neither species have been confirmed.</p> <p>Large portions of the area were found to be unsuitable for sage-grouse habitat due to grassland conversion from past wildfires and/or treatments. Based on Oregon Department of Fish and Wildlife's (ODFW) most recent sage-grouse lek data, there are no occupied leks found within the allotment. However, approximately 2,359 acres of the allotment is currently mapped in sage-grouse Preliminary General Habitat (PGH).</p> <p>There are no special status plant species or habitat within the Coleman Seeding Allotment.</p> <p>Habitat within the Coleman Seeding allotment is supporting an appropriate assemblage of sagebrush steppe wildlife species, no substantial conflicts exist with current livestock grazing management, and therefore the allotment is meeting this standard.</p>

was updated in 2014, and found that existing grazing management practices and levels of grazing use in North and Middle Abert Pastures met all applicable standards on the majority of the acreage, and is experiencing a stable trend as indicated by long-term trend monitoring. However, there have been no rehabilitation efforts conducted since 2003. This area is still dominated by cheatgrass and not meeting this standard in 2014, but this is not attributed to livestock grazing. The findings of the RHAs for this allotment are summarized in Table 3.13 and are incorporated in their entirety herein by reference (BLM 2003e, 2014b).

Pike Ranch Allotment

The Pike Ranch Allotment is categorized as a “M” or “maintain” category allotment and this category is determined by the following set of criteria:

- Present range condition is satisfactory
- Allotment has moderate to high production potential and is currently producing near potential
- No serious conflicts or controversy exists
- Opportunity may exist for positive economic returns
- Present management is satisfactory
- Other criteria appropriate to area- development of portions of this allotment into spring and a winter use area is recommended.

The Pike Ranch contains one pasture and has been grazed from the first of June through mid-November. The active permitted use in the allotment is 95 AUMs under permit number 3601487. The average actual use (for the last ten years) for the allotment was 90 AUMs. Utilization has not exceeded ~~target~~ standard of 50%.

A rangeland health assessment was performed in 2003 (BLM 2003e) to determine if current management was meeting Standards for Rangeland Health (BLM 1997). The RHA was updated in 2014, and found that the Pike Ranch Allotment met all applicable standards, and is experiencing a stable trend as indicated by long-term trend monitoring. The findings of the RHAs for this allotment are summarized in Table 3.14 and are incorporated in their entirety herein by reference (BLM 2003e, 2014b).

Environmental Consequences

Effects of Alternatives 1 and 2

Maintenance of existing fences and water developments would be authorized under both of these alternatives. These actions would also be consistent with management direction in the *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b).

Alternative 1: No Action

Grazing levels would remain at or below the active AUMs for each allotment under this alternative.

The Alkali Winter and XL Allotments would continue to be utilized under winter and rest rotation grazing systems, respectively. Plants would continue to be provided with growing season rest every year in the Alkali Winter Allotment, and full year rest every third year in the XL Allotment.

Table 3.13. Summary of Rangeland Health Assessment for XL Allotment

Standard	2003 Assessment	2014 Assessment	Comments
1. Watershed Function – Uplands	Not Met on a portion of the allotment	Not Met on a portion of the pastures Met on the majority of the pastures	<p>The majority of the pastures are dominated by crested wheatgrass. <u>However</u>, the 2003 RHA found approximately 7,400 acres of the XL Allotment were dominated by cheatgrass and not meeting this standard. This introduced shallow-rooted annual species increases soil susceptibility to erosion hazard as compared to cover by native perennial deep-rooted plants. The main cause of cheatgrass invasion was the Abert Lake (1971) and Sharptop (1983) wildfires. Approximately 4146 acres within the North and Middle Abert Pastures are still dominated by cheatgrass and not meeting this standard in 2014; However, this is not attributed to current livestock grazing management. A combination of noxious weed treatment and seeding is recommended in this area, as funding and workload allows.</p> <p>The remainder of the allotment is meeting this standard, and is experiencing a stable trend as indicated by data from long-term trend monitoring plots.</p>
2. Watershed Function Riparian/Wetland Areas	Not Applicable	Not Applicable	There are no perennial streams or wetlands on BLM-administered lands within the pastures.
3. Ecological Processes	Not Met on a portion of the allotment	Not Met on a portion of the pastures Met on the majority of the pastures	<p>As discussed under Standard 1, the 2003 RHA found approximately 7,400 acres of the XL Allotment was dominated by cheatgrass due to past wildfire and was not meeting this standard. This was not attributed to current livestock grazing management. Approximately 4146 acres within the North and Middle Abert Pastures are still dominated by cheatgrass and not meeting this standard in 2014, not attributed to current livestock grazing management. A combination of noxious weed treatment and seeding is recommended in this area, as funding and workload allows.</p> <p>The 2003 RHA also noted Mediterranean Sage along the pipeline systems and bordering the west side of Lake Abert. The current noxious weeds being managed within the allotment are Mediteranean sage (<i>Salvia aethiopsis L.</i>) and musk thistle (<i>Carduus nutans</i>). These species are being managed under the Lakeview IPM Weed plan. Although not noxious, cheatgrass, tumble mustard and larkspur are species of concern in the area.</p> <p>The remainder of the allotment is currently meeting this standard, and is experiencing a stable trend as indicated by data from long-term trend monitoring plots.</p>
4. Water Quality	Not Applicable	Not Applicable	There are no perennial streams or municipal drinking water sources on BLM administered lands within the pastures.
5. Native, T/E, and Locally Important Species	Met	Met	<p>The 2003 RHA notes habitat for one special status plant species, <i>Plagiobothrys salsus</i> (desert allocarya) present in the Cave Springs Pasture of the allotment. However, no special status plant species or habitat is known to occur within the Middle Abert and North Abert Pastures. For this reason, these pastures continue to meet the standard with respect to special status plant species.</p> <p>The 2003 RHA noted: no nesting habitat existed for bald eagle, but was suspected that they are occasional visitors to the area. Nesting habitat is available for peregrine falcons and ferruginous hawks on a few cliffs within the allotment. These sites were surveyed in 1999 and none were found. No surveys have been conducted for ferruginous hawk, although foraging habitat exists within the allotment. Two nesting burrows of burrowing owls have been recorded in the allotment.</p>

			<p>Western snowy plover occur within portions of the allotment associated with the playa lakebed and lake edge surrounding Lake Abert and XL Spring. Monitoring has occurred over the last decade. Under an MOU with the private landowner, which expired in February 2011, grazing within snowy plover habitat was deferred until after nesting season. There is currently no grazing deferment for western snowy plovers within this allotment.</p> <p>Bighorn sheep inhabit the southern portion of the XL Allotment; however, this area lies outside of the North and Middle Abert pastures considered in this assessment. Pronghorn antelope are common in this allotment. Mule deer inhabit much of the area, but are widely spread and in low numbers.</p> <p>Special status bats may occur within the allotment, but likely only involve occasional migrating individuals or animals foraging or passing through from adjacent habitat.</p> <p>Potential habitat for pygmy rabbit and kit fox was identified in the 2003 RHA, but neither species has been confirmed in the allotment to date.</p> <p>Three sage-grouse lek sites were noted on the western edge of this allotment in 2003, but are located outside the pastures considered in this allotment. Based on Oregon Department of Fish and Wildlife's (ODFW) most recent sage-grouse lek data, there are no occupied leks found within the North and Middle Abert Pastures being evaluated. Large portions of the area were found to be unsuitable for sage-grouse habitat due to grassland conversion from past wildfires. However, approximately 6,875 acres of the North and Middle Abert Pastures are currently mapped in sage-grouse Preliminary General Habitat (PGH).</p> <p>Habitat within the North and Middle Abert Pastures is supporting an appropriate assemblage of sagebrush steppe wildlife species, no substantial conflicts exist with current livestock grazing management, and therefore, the allotment is meeting this standard.</p>
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Table 3.14. Rangeland Health Assessment Summary for Pike Ranch Allotment

Standard	2003 Assessment	2014 Assessment	Comments
1. Watershed Function – Uplands	Met	Met	All of the acreage in the Pike Ranch Allotment was meeting this standard in the 2003. Plant composition and community structure of grasses, forbs, and shrubs were what is expected for the site. Available trend data shows that plant cover and the amount and distribution of bare ground is within the range of variability expected for the ecological sites found in the allotment. Large portions of the BLM administered lands within the allotment consist of intermittently flooded, vegetated alkali lake bed playa associated with the north end of Lake Abert discussed under standard two below.
2. Watershed Function Riparian/ Wetland Areas	Not Applicable	Not Applicable	There are no freshwater perennial streams located within the allotment; however, several intermittent drainages are visible on USGS topo maps of the area. The National Wetland Inventory (NWI) identifies about two-thirds of the allotment as a deepwater lake (lacustrine) habitat. In reality, this area is inundated 1-2 years out of 10. The water and lakebed soils are highly alkaline, predominantly unvegetated, and are more similar to a saltwater system than a freshwater system. The majority of the palustrine emergent wetlands delineated in the NWI are located on private lands within the allotment.
3. Ecological	Met	Met	All of the acreage in the Pike Ranch Allotment was meeting this standard in the 2003. Plant composition and

Processes			<p>community structure across the allotment were found to be appropriate for the site. Available trend data shows that organic matter is accumulating in the form of litter and is being incorporated into the soil. Plant roots appear to be occupying the soil profile, stabilizing the soil for what is expected for the site.</p> <p>The 2003 RHA also noted Mediterranean Sage along Abert Rim. Noxious weeds <u>currently</u> known to be present within the allotment consist of Canada thistle (<i>Cirsium arvense</i>) and Mediterranean sage (<i>Salvia aethiopsis</i>). It is estimated there are approximately 20 acres of noxious weeds across the allotment. Although not noxious, cheatgrass, tumble mustard and larkspur are <u>also</u> species of concern.</p>
4. Water Quality	Not Applicable	Not Applicable	<p>There are no perennial streams or municipal water sources within Pike Ranch Allotment. One well exists on private land and provides livestock water only.</p>
5. Native, T/E, and Locally Important Species	Met	Met	<p>There are no special status plant species or habitat located within the allotment. For this reason, the allotment is meeting this standard with respect to special status plants.</p> <p>The 2003 RHA noted: no nesting habitat existed within this allotment for bald eagle, but it was suspected that they are occasional visitors to the area. No conflicts with peregrine falcons and ferruginous hawks were noted. Burrowing owls have been observed in the.</p> <p>Western snowy plover occur within portions of the allotment associated with the playa lakebed and lake edge surrounding Lake Abert. Monitoring of the snowy plovers has occurred over the last decade. Under an MOU with the private landowner, which expired February 2011, grazing within snowy plover habitat was scheduled to be deferred until after nesting season. The MOU was not closely followed. There is currently no grazing deferment for western snowy plovers within this allotment.</p> <p>There is little Pronghorn antelope use within this allotment. Mule deer inhabit the uplands on the western edge of the allotment, but are in low numbers.</p> <p>Large portions of the area were found to be unsuitable for sage-grouse habitat due to the large amount of salt desert shrub and unvegetated playa habitat. Based on Oregon Department of Fish and Wildlife's (ODFW) most recent sage-grouse lek data, there are no occupied leks found within the allotment, nor are there PPH or PGH habitats present.</p> <p>Special status bats may occur within the allotment, but likely only involve occasional migrating individuals or animals foraging or passing through from adjacent habitat.</p> <p>Potential for habitat was identified for kit fox and pygmy rabbits in the 2003 RHA, but these species have not been confirmed.</p> <p>Habitat within the Pike Ranch Allotment is supporting an appropriate assemblage of sagebrush steppe wildlife species, no substantial conflicts exist with current livestock grazing management, and therefore the allotment is meeting this standard.</p>

Actual use, utilization, and climate data have been summarized in the allotment monitoring files and indicate that current livestock grazing levels are sustainable. Long-term trend monitoring plots indicate stable trends across the Alkali Winter, Pike Ranch, and XL Allotments, and would likely continue over the next ten years. The majority of the pastures in these 3 allotments have not exceeded the 50% utilization standard over the last ten years (see Appendix B), and utilization would be expected to continue at or below this standard in the future.

Those portions of the Alkali Winter (1,500 acres in Ryegrass Pasture; 375 acres in West Venator Pasture), Coleman Seeding (1,200 acres), and XL (4,146 acres) Allotments not currently meeting Rangeland Health Standards 1 and 3 would continue to fail to meet these standards over the 10-year life of the permit, as this was not attributed to current livestock grazing management. The majority of the Alkali Winter and XL Allotments, as well as the entire Pike Ranch Allotment would continue to meet applicable Rangeland Health Standards over the 10-year life of the permit. While the majority of the Coleman Seeding Allotment is meeting applicable Rangeland Health Standards and long-term trend monitoring currently indicates a stable trend across this allotment, this trend may decline in the long-term under the current management without periodic growing season rest.

Cattle would continue to water at troughs filled by hauling water to the majority of the North Abert Pasture of the XL Allotment. Water haul locations would be restricted to areas off the main roads that are easily accessed by a water truck.

Cattle would continue to walk around the fence in the southern boundary of the Pike Ranch Allotment during low water years. The permittee would continually have to herd these cows to keep the cattle in the allotment on the north side of the existing fence.

The West Venator and Ryegrass Pastures of the Alkali Winter Allotment would continue to be used during the winter. Utilization would continue to be utilized lightly too moderately. The AUMs would remain at or below active preference. Each permittee within the allotment would continue to use the pastures they have been historically grazing the last ten years. The Ryegrass Pasture would continue to be used under permit #3601487, as long as the other permittees are in agreement.

Current weed treatment methods would continue to be utilized, but are not the most effective methods available. Weeds and invasive species would continue to expand or out-compete native vegetation resulting in continued loss of perennial grasses, forbs, and shrubs (see weed section) with a resulting decrease in the livestock forage base over time.

Alternative 2: Permittee Proposals plus Treatments

Though the *Lakeview Resource Management Plan/Record of Decision* provided initial forage allocations for each allotment, it also allowed for changes in forage allocations over time. Specifically, the “permitted use level for each allotment has been and continues to be analyzed through individual allotment assessments, such as rangeland health and livestock grazing management guidelines, allotment evaluations, allotment management plans.... It is through these assessments that any changes in forage allocation will be made, where needed, on an allotment specific basis”. Implementing new range improvements and maintaining existing range improvements is also included in the *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b, Pages 52-53, 100, as maintained). However, surveys for other resources including cultural and special status plant species would be conducted prior constructing new projects or implementing vegetation/weed treatments where needed and potential impacts avoided or mitigated to the extent possible.

Grazing System Changes

Grazing levels (AUMS) would be the same as Alternative 1 for the Alkali Winter, Pike Ranch, and XL Allotment.

The permit dates in the Alkali Winter Allotment would be changed to 11/1 to 2/28, ~~but still generally fall and grazed~~ within the winter season when plants are dormant. This would still provide growing season rest every year and allow plants to complete their life cycles. In addition, the division fence between the Hutton Springs Pasture and West Venator Pasture would be moved northeast increasing the West Venator pasture by approximately 7,859 acres, and decreasing the Hutton Springs Pasture by the same amount. Livestock use patterns would be altered by the construction of the fence, and cattle using the west half of the Hutton Springs Pasture would water from the pipeline in the West Venator Pasture rather than at Hutton Springs or the well located south of Hutton Springs. The proposed fence would increase the amount of rangeland (by approximately 7,859 acres) within the West Venator Pasture. ~~he permittee would utilize under permit #3601487.~~ This proposal would also remove the same amount of rangeland from the Hutton Springs Pasture. ~~another permittee (permit #3601283). The west half of the Hutton Springs Pasture would increase the amount of available forage for permit #3601487, and provide additional livestock shelter areas in the dunes.~~

If traditional use pastures are continued to be used by each permittee, average utilization levels in the West Venator Pasture would decrease slightly, with utilization patterns heavier near water sources, and lighter in the new addition. This assumes that the permittee would continue to use a range of AUMs between the 15-year average (1,608 AUMs) and full permitted use of 2005 AUMs. Overall utilization in the Hutton Springs Pasture would increase.

A variety of outcomes could arise from the new pasture arrangement. AUMs lost from the Hutton Springs Pasture may be used in the remaining portion of the pasture, or in the East Venator Pasture if available. In this case utilization is likely to increase within those two pastures.

AUMs could be shifted into the Common Pasture, which would affect a third permittee within the allotment. This would require more fencing or two operators running in common.

Another possibility, if the AUMs lost from the Hutton Springs Pasture are not available within the allotment, then the permittee would have to lease private forage or feed hay. The potential economic impacts of this (to permittee #3601283) are addressed further in the Social and Economic Values section.

The Alkali Winter Allotment is a common allotment with no formal signed rangeline agreement. Traditional use areas would not be guaranteed with the new pasture arrangement. Running in common may be the only way to evenly distribute forage across the allotment.

The XL Allotment would continue to be utilized under a rest rotation grazing system. Plants would continue to be provided a full season rest every third year in the XL Allotment.

Actual use, utilization, and climate data have been summarized in the allotment monitoring files and indicate that livestock current grazing levels are sustainable. Long-term trend monitoring plots indicate stable trends across the Alkali Winter, Pike Ranch, and XL Allotments, and would likely continue over the next ten years. The majority of the pastures in these 3 allotments have not exceeded the 50% utilization standard over the last ten years, and utilization would be expected to continue at or below the standard in the future.

A rest rotation grazing system would be implemented in the Coleman Seeding Allotment. The rest

rotation would be implemented using both pastures of the Coleman Seeding Allotment and incorporating adjacent state land as a third pasture. Each pasture would receive growing season rest one out of three years. The impacts of grazing under a rest-rotation grazing system on the upland plant communities have previously been analyzed in the *Draft Lakeview RMP/EIS* and *Lakeview Proposed RMP/Final EIS*. In summary, the vegetation composition of key species is expected to improve over time under this type of grazing system (BLM 2003a; pages 4-5 and 4-9). Continued periodic growing season rest for plants would provide for adequate ground cover and appropriate upland vegetation community composition. Photo and pace 180° analysis indicates a stable trend in the Coleman Seeding Allotment under current grazing. The trend in the allotment would be expected to continue or improve over the 10-year permit timeframe. The majority of the Coleman Seeding Allotment would be expected to continue to meet all applicable Rangeland Health Standards over the 10-year life of the permit.

In addition, the permittee proposed to increase the active AUMs for the Coleman Seeding Allotment by 350 AUMs from 920 AUMs to 1,270 AUMs in his permit application. BLM employed 3 methods of analyzing forage availability/stocking levels. The first method included calculating acres per AUM based on existing vegetation in each pasture. The second method included analyzing potential stocking levels using actual use of livestock and wildlife, percent utilization, and crop yield index by pasture. The third method involved calculating the average AUMs by pasture over the last ten years.

The amount of precipitation in a given year, or sequence of years, plays a critical role in forage availability. This is evident by the wide range of AUMs used in each pasture over the years. The range within the South Pasture is 1196-354 AUMs, with a 10-year average of 651 AUMs, and the range for the Triangle Pasture is 907-190 AUMs with a 10-year average of 538 AUMs. Because of the wide range of AUMs used in each pasture, and varying precipitation levels, the 10-year AUM average was used to determine a sustainable level of AUMs within the allotment. The 10-year average for the Coleman Seeding Allotment is 1,189 AUMs, only 269 AUMs above the active permitted 920 AUMs. For these reasons, this alternative focused on analyzing the potential effects of a 269 AUM increase rather than the permittee's proposed 350 AUM increase (see also Alternative Considered but Not Analyzed in Detail section in Chapter 2).

The full use of 269 AUMs would occur one out of every three years, when both pastures of the Coleman Seeding Allotments are used, and the adjacent state block is rested. Coupled with a rest rotation grazing system, this proposed increase would maintain the current trend across the allotment, and areas currently meeting Rangeland Health Standards would continue to achieve standards into the foreseeable future. The areas not currently meeting Standards 1 and 3 (not attributed to livestock grazing), discussed below, would improve as a result of the proposed treatments, despite the proposed AUM increase.

Proposed Vegetation Treatments

Portions of the Alkali Winter (1,500 acres in Ryegrass Pasture) and XL (4,146 acres in the North Abert and Middle Pastures) Allotments not meeting Rangeland Health 1 and 3 were due to lack of healthy perennial understory or cheatgrass dominance. Rehabilitating these areas by seeding or combination of seeding and invasive species treatment would increase perennial vegetation, thus increase root holding capacity and decreasing soil erosion potential. A healthy perennial understory would decrease the chance of weeds to become introduced and/or spread, and increase the livestock forage base.

The pastures would be rested from livestock grazing for two growing seasons after seeding occurs. This would provide the seedlings opportunity to become established. There would be a short-term loss of AUMs, and for those two years, the permittee would need to find alternate feed, hay or pasture. The alternative to resting the pasture(s) for two growing seasons would be to temporarily fenced the treated area, and exclude them from livestock grazing for two years. In the long-term, herbicide application

coupled with seeding would be very beneficial to livestock grazing and associated forage base. See Tables 3-5 to 3-9 for a summary of the potential effects of herbicides on livestock grazing management.

Portions of the Coleman Seeding Allotment (1,200) not meeting Rangeland Health 1 and 3 were due to the presence of decadent crested wheatgrass with low vigor. In addition to implementing a rest rotation system that incorporates some winter use, salt and protein block placement would be used to increase livestock use in this area. If this proves unsuccessful in removing decadent crested wheatgrass, then a mowing treatment would be implemented to improve plant vigor and forage production.

The 375 acres within the West Venator Pasture of the Alkali Winter Allotment not meeting Rangeland Health Standards 1 and 3 would continue to fail to meet these standards under this alternative. This area was not recommended to be rehabilitated in 2014 RHA update due to the low productivity of the site and small chance of success.

Perennial vegetation would remain stable or experience an upward trend across the allotment. A healthy perennial understory would also continue to provide a stable livestock forage base in the allotments. Grazing and other management actions under this alternative would improve vegetation and other resource conditions continue to meet, and make significant progress toward meeting Rangeland Health Standards in areas not meeting, over the 10-year life of the permit. With the proposed grazing systems, permit dates, weed treatments and seeding, this alternative would provide the allotments with the most accelerated rate of improvement compared to the other alternatives.

Alternative 3: No Permit Renewal or Treatments

Under this alternative, grazing would be reduced or eliminated within the four allotments. However, grazing would still continue in some pasture by other permittee's under other grazing permits that are not subject to renewal at this time. Existing range improvement projects within the allotments would still need to be maintained by other permittees that continue to graze livestock under other permits.

The permittee would need to replace a total of 3,692 AUMs of lost forage with private land forage or hay in the general vicinity. The additional cost to replace this forage would be at the permittee's expense. These costs are discussed further in the Social and Economic section.

Vegetation on the majority of the allotments would continue with a stable trend in the short-term, providing for a stable forage base for wildlife. However, with the lack of vegetation treatments, weeds would be expected to increase or spread. Perennial vegetation would continue to be in competition for available resources, or be out-competed. Loss of perennial grasses, forbs, and shrubs would decrease species diversity and the wildlife forage base the long-term. Those portions of 3 of the allotments not meeting Rangeland Health Standards 1 and 3 would continue to fail to meet these standards due to a lack of rehabilitation activities.

Native American Traditional Uses and Cultural Resources

Affected Environment: Traditional Use Areas

The allotments are within an area which would have been used by either Klamath or Northern Paiute Native Americans or possibly both. These groups may have used the area at the same time or at separate times. There are no known traditional use areas within the allotments. However the lack of known sites does not mean that they are not present. The appropriate tribes have been contacted regarding the potential presence of traditional use areas.

Affected Environment: Cultural Resources

None of the allotments have been comprehensively surveyed for the presence of cultural or historical resources. Surveys have been done on portions of the allotments around water developments, right-of-ways, fire rehab projects, and other ground-disturbing projects in the general area. This represents a resource for which there is “incomplete or unavailable information”. According to the CEQ’s NEPA regulations (40 CFR Part 1502.22), when an agency is evaluating impacts and there is incomplete or unavailable information, the agency must make clear that such information is lacking. Further, if the information “cannot be obtained because the cost of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include.... (1) a statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts...; (3) a summary of the existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant impacts... and (4) the agency’s evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community...”. The DOI NEPA regulations state that these costs are not just monetary, but can also include “social costs, delays, opportunity costs, and non-fulfillment or non-timely fulfillment of statutory mandates” (43 CFR Part 46.125). The costs of obtaining a comprehensive survey of cultural resources across the five allotments is estimated at \$800 to \$1080 per acre based upon current costs for contract survey work. Surveying the remaining estimated 97,590 unsurveyed acres within the allotments would cost approximately 78-105 million dollars and is considered to be exorbitant. Nevertheless, the following section describes what is known about existing cultural/historic resources in each allotment based on past surveys, followed by a discussion of potential impacts to those resources.

Due to the nature of the surrounding environment, it is expected that many additional sites would be recorded if a complete survey of the allotments were completed. Prehistoric sites expected to be found in the area would include lithic scatters, temporary campsites or occupation sites, obsidian quarry sites, stone house rings, rock art, and rock cairns. Often sites will have more than one type of site or feature present. It is not uncommon for a rock art site to be part of an occupation site which also has stone house rings or a large lithic scatter.

Alkali Winter Allotment

Only about 30% of the allotment has been surveyed for cultural resources. Seventy-five cultural resource sites have been recorded in the allotment to this date. Recorded prehistoric sites include 44 lithic scatters some of which have projectile points present, 20 small to large occupation sites, 1 obsidian quarry site. The time range for these sites is early archaic (10,000 to 7,500 BP) through middle Archaic (7,500 to 4,500 BP) and Late Archaic (4,500 to 200 BP). Some of the sites represent all three of these time period, others may have only one or two time periods represented.

There are 10 historic sites which have been identified including historic burials, a corral, historic can dumps, a CCC can dump, homestead locations, a soda mine operation, and WWII-era aerial bombing and straffing target sites. Those sites related to ranching are probably from the early 1900 to 1940s time period when livestock grazing was first brought into this area. The CCC Era and WWII military training sites date from 1938 to 1945.

Pike Ranch Allotment

Only about 5% of allotment has been surveyed for cultural resources. Eight cultural resource sites have been recorded in the allotment to this date. A large portion of the allotment is the barren playa of the north end of Lake Abert. BLM does not believe that any sites would likely be found over this portion of the allotment. Because the area was homesteaded and ranching activities have taken place within it, historic sites such as homesteads, line shacks, fences and stone fences would be expected to occur in the

area.

Recorded sites within the allotment include 5 lithic scatters, an historic stone wall or fence, and 2 occupation sites with stone rings and/or house pits. The time range for these sites ranges from early Archaic from 8,000 BP to late Archaic at 200 BP. The stone wall or fence was probably constructed between 1900 and 1930. It most likely is associated with the historic Pike Ranch which was located on the eastern shore of Lake Abert.

Coleman Seeding Allotment

Only about 5% of the allotment has been surveyed for cultural resources. There are currently no known or recorded cultural or historic sites.

XL Allotment

Less than 15 % of the allotment has been surveyed for cultural resources. Thirteen cultural resource sites have been recorded in the allotment to this date. The recorded sites include 2 large lithic scatters, 3 caves or rock shelters, 2 rock art site, one obsidian quarry site, and 5 occupation sites. The time range for this site has not been determined due to the lack of time diagnostic artifacts on the site. In some cases, sites such as the cave or rock shelter are also occupation sites and they may have rock art present. One rock art site also appears to be an occupation site.

No historic sites have been recorded in the allotment to date. However, some limited amount of historic material would also be expected, primarily along the shoreline of Lake Abert.

Environmental Consequences

Effects Common to Alternatives 1 and 2

Since there are no known traditional use areas or Traditional Cultural Properties located in the allotments, continued grazing under both alternatives is unlikely to have any impacts on such areas.

It is unknown to what extent livestock may currently be impacting cultural resource sites within the allotments. There have been few, if any, studies of livestock trampling impacts to cultural resources, but based on field observations by BLM cultural resources staff, concentrated livestock use can impact cultural materials located in the soil profile. These effects could include ground cover removal, surface scuffing, and hoof shear. Cultural materials within the top 12 inches of soil are the most susceptible to exposure and trampling damage, potentially resulting in reduced site integrity. The deepest disturbance is typically seen at wet sites located in congregation areas (near water sources and trailing areas) where concentrated hoof shear and soil layer mixing is common. Artifacts can be mixed between layers of the soil profile, moved both vertically and horizontally, or broken and chipped. In addition, removal of vegetation, especially within concentration areas can lead to erosion by wind and water, further exposing cultural materials near the surface. Dispersed grazing, on dry uplands away from water sources may cause light hoof shear and surface scuffing over time.

Maintenance of existing range developments would have little or no additional impact on cultural resources at a given site (if any exist) beyond those that may have occurred when the range improvement was originally constructed.

Alternative 1: No Action

It is not possible to determine the exact extent and degree of livestock-related trampling impacts on

cultural resources across the allotments since the locations and numbers of existing sites are not fully known. However, the greatest potential for impacts to cultural sites would occur to those sites that may be located in livestock concentration areas near water sources and along fences. These areas have been estimated as approximately 2,711 acres (4%) of the total area (refer to soils section). Dispersed grazing across the majority of the allotments would have much less potential to impact cultural sites.

Alternative 2: Permittee Proposals plus Treatments

Alkali Winter Allotment

The proposal to construct a new fence could have the potential to impact cultural sites. Exactly what sites and where would not be known until the project is marked on the ground and a survey of the fence line is completed. If National Register Quality sites were located during the survey, the fence alignment would need to be re-aligned to avoid impacts to cultural sites.

Pike Ranch Allotment

The proposal to construct 0.5 miles of fence could have the potential to impact cultural sites. Exactly what sites and where would not be known until the project is marked on the ground and a survey of the fence line is completed. If National Register Quality sites were located during the survey, the fence alignment would be re-aligned to avoid impacts.

Coleman Seeding Allotment

The addition of 269 AUMs (if range improvements are made) within the allotment could increase the amount of damage to some sites by livestock trampling.

XL Allotment

The proposal to construct 3.5 miles of new pipeline and 3 new troughs in the allotment has the potential to impact cultural resources. Since the exact location of the new pipeline is not known, the number of sites which might be impacted is currently unknown. The project area will require a survey for cultural resources when locations are marked on the ground. If National Register Quality sites were located during the survey, the project would be re-aligned to avoid disturbing cultural sites.

Vegetation and Weed Treatments

The proposal to mow 1,200 acres within the existing crested wheat grass seeding in the Coleman Seeding Allotment, reseed portions of the Alkali Winter and XL Allotments, and treat invasive species also have the potential to damage cultural sites. A cultural resource survey would need to be completed in these treatment areas before the proposals could be implemented. If National Register Quality sites were located during the survey, the project would need to be re-aligned to avoid disturbing cultural sites.

Alternative 3: No Permit Renewal or Treatments

This alternative would reduce or eliminate livestock grazing within the allotments. This would likewise reduce or eliminate potential trampling effects and associated damage to the surfaces of cultural sites within the allotments.

Visual Resources

Affected Environment:

The Hutton Springs and West Venator Pastures of the Alkali Winter Allotment are dominated by Alkali Valley to the west of Alkali Lake, with sand dunes to the north, and small undulating ridges to the south. The Ryegrass Pasture is dominated by upland plateaus and drainages of the western foothills of Little Juniper Mountain.

Coleman Seeding Allotment is dominated by the eastern slopes of Coleman Hills to the south within Triangle Pasture and by Coleman Flat to the north within South Pasture.

Pike Ranch Allotment is dominated on the eastern half by the alkali flats along the northeastern shore of Lake Abert and by Sawed Horn Butte on the western portion.

XL Allotment is dominated by Sand Canyon Rim and Biscuit Point to the north within North Abert Pasture and by the gently sloping eastern aspect of the Coglan Buttes, along the western shore Lake Abert to the south, within Middle Abert Pasture.

Views outside the allotments include Lake Abert and Abert Rim to the south, Coleman Hills, Poverty Basin, and Horse Mountain to the west, and both Juniper and Little Juniper Mountain, as well as Alkali and Venator Buttes to the east.

Although the area experiences a short, wet green-up period in the early spring, most of the year the area is dry, with the colors of the soils, rock, and vegetation consisting of dark yellows, light tans to dark browns, blacks, greys, alkali white, and greens. (see also Soils and Upland Vegetation sections).

The allotments are managed according to Visual Resource Management classes VRM I, II, III and IV. Large portions of Alkali Winter, Coleman Seeding, and Pike Ranch Allotments are also within the Highway 395 Scenic Corridor (Table 3-15). Management direction requires “all developments, land alterations, and vegetation manipulations within a 3 mile buffer... of all major routes and recreation use areas to be designed to minimize visual impacts (unseen areas within these zones will not be held to this standard)... All projects will be designed to maximize scenic quality and minimize scenic intrusions” (BLM 2003a, page 88.)

Table 3-15. Visual Resource Management Classes and Scenic Corridors in the Allotments

Allotment	VRM I (acres)	VRM II (acres)	VRM III (acres)	VRM IV (acres)	Scenic Corridor (acres)
Alkali Winter	-	-	-	29,358 / 100%	8,910 / 30%
Coleman Seeding	-	-	5,689 / 100%	-	5,689 / 100%
Pike Ranch	1,028 / 18%	4,643 / 82%	-	-	4,652 / 82%
XL	-	-	17,585 / 90%	2,044 / 10%	-

- **VRM I** management objectives are to “preserve the existing character of the landscape ... level of change should be very low and must not attract attention.”
- **VRM II** is managed to “retain the existing character of the landscape. The level of change to landscape characteristics should be low. Management activities can be seen, but should not attract the attention of the casual observer.”
- **VRM III** is to “partially retain the existing character of the landscape, moderate levels of change are acceptable.”
- **VRM IV** is managed to allow for “major modifications to the landscape,” though “every effort should be made to ... minimize disturbances and design projects to conform to the characteristic landscape” (BLM 2001, page 290).

Observable developments/disturbances/alterations in the allotments include:

- Alkali Winter Allotment : 58 miles of motorized routes, 49 miles of fence, 6 miles of minor distribution lines, 5 miles of cat lines, 2 miles of pipelines, 2 large wildfires (11,546 acres), 1 seeding (7,473 acres), 1 mineral pit (6 acres), 5 cattle guards, 3 wells, 3 troughs, 1 reservoir, and 1 waterhole.
- Coleman Seeding Allotment: 13.5 miles of motorized routes, 17 miles of fence, 4 miles of minor

- distribution lines, 3,232 acres of wildfire, 2,732 acres of seeding, 1 mile of pipeline, 4 cattle guards, 2 culverts, 4 waterholes, 1 trough, and 1 well.
- Pike Ranch Allotment: 10 miles of motorized routes, 9 miles of fence, less than half a mile of major distribution lines, and 3 cattle guards.
 - XL Allotment: 44 miles of motorized routes, 26 miles of fencing, 5 miles of pipeline, 15,920 acres of seeding, 16,220 acres of wildfire, 1 mineral pit (2 acres), 2 cattle guards, 2 waterholes, 1 guzzler, 1 well, and 1 trough.

Environmental Consequences:

Alternative 1: No Action

These alternatives would continue to have low to moderate effects to existing visual quality. Visual objectives for VRM Classes I, II, III and IV, as well as the scenic corridor standards would continue to be achieved.

Alternative 2: Permittee Proposals plus Treatments

The proposed season of use adjustments, rest rotation changes, and AUM adjustments for the allotments would have minimal to low negative impacts to visual resources.

The two proposed fences in the Alkali Winter and Pike Ranch Allotments would also have minimal to low negative impacts to visual resources.

The proposed water developments within the XL Allotment would have moderate overall negative impacts to visual resources due to construction of a pipeline, water troughs, and the eventual cattle-trampled areas around them would be visible to the average user from BLM road 6104, a moderate to high use route. The visual setting near these developments would shift toward a more agricultural characteristic, away from the current predominantly pastoral appearance. Placement of a pipeline and troughs in this location, beings as they are proposed in a VRM III management area, would have high visual localized impacts. However, these impacts would be greatly mitigated by following the General Project Design Elements for Proposed Range Improvements and by painting troughs to blend into the background. Troughs would be painted in accordance with the BLM's Standard Environmental Color Chart (CC001). Consult Outdoor Recreation Planner to aid in proper selection of paint color and hue. These measures would reduce visual contrast by blending in developments with surrounding colors and forms of the landscape to prevent structures from being seen from a distance. In addition, past buried pipelines in the allotment have produced large rock berms of bright white rock, which can be seen from several miles outside of the allotment. These impacts can be greatly mitigated by smoothing, re-contouring, or scattering large rows or lines of rocks or mounds created by equipment. Thus, under mitigation, the proposed water developments would meet visual resource objectives for VRM Class III.

The proposed invasive species treatments in the allotments would likely have low to moderate negative impact to visual quality in the immediate vicinity of a given treatment areas. Impacts could be mitigated by adopting appropriate Best Management Practices or Standard Operating Procedures from the Oregon FEIS ROD (BLM 2007, 2010).

The proposed mowing in the Coleman Seeding Allotment would have moderate to high negative impacts to visual resources given the entire project is within both the Highway 395 Scenic Corridor and within VRM III. In addition, the area is very visible to the average user traveling south on Highway 395, as the site is the main focal point for three to five miles. These impacts could be mitigated by following these mitigation measures:

- Manual and mechanical treatments could be largely mitigated by rehabbing/disguising rows or lines of rocks or mounds created by equipment.
- Avoid angular/straight boundaries. If “islands” or satellite areas are treated, mimic or blend the edges into natural patterns in the immediate vicinity; create treatment area boundaries that appear as natural as possible by rounding corners, curving or undulating edges, as well as by feathering edge densities.
- Utilize recreation staff for site specific design and implementation of rehabilitation boundary edges.
- Revegetate sites with native species if there is no reasonable expectation of natural regeneration.
- Minimize loss of desirable vegetation.

Thus, under mitigation, the proposed mowing would meet visual resource objectives for VRM Class III.

Alternative 3: No Permit Renewal or Treatments

The No-Grazing Alternative would moderately enhance visual resources in the allotments by eliminating the occurrence of viewing non-natives animals within the landscape and by the improvement in esthetically pleasing upland plant ecosystem (e.g. naturally recovering cattle trails and trampled areas around water sources). However, the visual impacts of observable developments (motorized routes, fences, and water developments, etc.) scattered across these allotments would likely remain until such time that they either deteriorate or funds and resources are made available to facilitate their removal. Visual objectives for VRM Classes I, II, III, and IV, as well as the scenic corridor standards, would to be achieved.

Areas of Critical Environmental Concern

Affected Environment:

Portions of the two pastures of the XL Allotment and the majority of Pike Ranch Allotment fall within the Abert Lake ACEC (Map 2). This 52,117-acre ACEC was designated in 1996 to emphasize management for several relevant and important values including aquatic ecology, cultural resources, visual resources, and wildlife habitat. The area is managed in accordance with an existing ACEC Management Plan and the *Lakeview Resource Management Plan/Record of Decision* (BLM 1996a, 1996b, 2003a, 2003b).

Environmental Consequences:

Alternative 1: No Action

The effects of livestock grazing on the relevant/important resource values within the ACEC have been analyzed previously in two separate EISs (BLM 1996a, 2003b). These analyses are incorporated herein by reference in their entirety. Continued livestock grazing under Alternative 1 would not have any additional impacts on these values beyond those already addressed over the 10-year life of the permit. In addition, a discussion of potential impacts to wildlife habitat and cultural resources are discussed in other sections of this EA and will not be repeated here.

Alternative 2: Permittee Proposals plus Treatments

The effects of livestock grazing on the relevant/important values within the portion of the ACEC would largely be similar to Alternative 1. The proposed projects would result in an additional 2.4 acres of surface disturbance within the ACEC compared to Alternative 1. However, this additional impact on the relevant/important values would be minor.

Alternative 3: No Permit Renewal or Treatments

The effects of removing livestock grazing for a 10-year period would result in only slight benefits to the relevant/important values within the ACEC compared to Alternative 1. A discussion of potential impacts to wildlife habitat and cultural resources are discussed in other sections of this EA and will not be repeated here.

Social and Economic Values

Affected Environment:

The economy of Lake County is based primarily on agriculture, timber, livestock, and government sectors. Livestock grazing and associated feed production industries are major contributors to the economy of Lake County. The most common is the raising of cattle and calves for beef. In 2010, an estimated 52,500 cow/calves were in Lake County Oregon (Pete Schreder, Personal Communication, Lake County Agricultural Extension Agent). In 2010, Lake County ranchers sold an estimated \$35,000,000 worth of cattle and calves or related beef products from public lands. The four allotments analyzed in this EA, support approximately 462 cattle on an average annual basis for approximately 8 months of the year. Approximately 393 calves can be produced annually (assuming 18 bulls and 85% calving rate). Ranching is also important as a social lifestyle within Lake County.

Environmental Consequences:

Effects Common to Alternatives 1-3

Public lands in and around the allotment would continue to contribute social amenities such as open space and recreational opportunities. These amenities encourage tourism in the surrounding region and provide economic benefits to nearby communities such as Paisley, Lakeview, and Plush, though the specific contribution of the allotment cannot be accurately estimated.

Alternatives 1 – No Action

Under these alternatives, the Federal Government would continue to collect grazing fees (total all four allotments) for up to 3692 AUMs; \$1.35/AUM = \$4984.20) from the permittee. This commodity use of public lands would continue to generate revenues for the Federal government on an annual basis. The rancher/permittee would continue to produce approximately 393 calves each year, contributing less than 1% to the total county-wide cattle production.

Based on the current price of a 550-600 pound stocker calf at \$237.50/ctw (100 lbs. of live weight) (Shasta Livestock Auction Yard Market Report, August 8, 2014) the permittee would generate a gross income of approximately \$93,338. This is an estimate that would vary every year depending on the price of beef and the weight/condition of the calves at the time of sale.

Alternatives 2 – Permittee Proposal plus Treatments

The Federal Government would collect additional grazing fees for up to 269 AUMs; \$1.35/AUM = \$363) from permit #3601487. This commodity use of public lands would continue to generate additional revenues for the Federal government on an annual basis. The rancher/permittee would produce an additional 74 calves each year, for a total of 467 calves a year, contributing less than 1% to the total county-wide cattle production. This would be an additional annual increase of approximately \$17,575 in calf sales under this alternative. This is an estimate that would vary every year depending on the price of beef and the weight/condition of the calves at the time of sale.

Fencing the Hutton Springs Pasture (7,859 acres) would have effects that could range from no forage loss up to 307 AUMs of forage loss, as described under the livestock grazing section. Based on BLM estimates and public comments, permittee #3601283 would lose 207-307 AUMs of forage from the Hutton Springs Pasture. There would be little to no economic impact to permittee #3601283 if AUMs lost were used in the remaining portion of the Hutton Springs and East Venator Pastures; or if use was shifted into the Common Pasture (affecting a third permittee) . If AUMs were not available within the

above mentioned pastures, permitte #3601283 would see a reduction of 207-307 AUMs resulting in a negative effect on this livestock operation. Permittee #3601283 would have to either locate other suitable pasture lands to purchase or lease or feed hay each year. The current cost of hay is approximately \$220/ton (Oregon weekly hay report, 2014) and assuming it takes 25 lb./day/cow, the additional cost per day would be approximately \$143. This would result in approximately \$17,160 in additional costs to feed the other permittee's 52 cows for 4 months, not including transportation costs of moving the hay to the ranch. The average pasture rate for private land forage in Oregon ranges from \$14.80 to \$20 per AUM. The additional annual cost to permittee #3601283 would be approximately \$3,064 to \$6,140.

The pipeline, fence construction, and ~~mowing~~ vegetation treatments proposed under Alternative 2 could potentially provide a one-time influx of approximately \$45,000 in income to surrounding businesses and communities from project construction activities.

Alternative 3: No Permit Renewal/No Treatments

An estimated annual loss of \$4,984 would occur to the Federal government due to the loss of grazing fee collections associated with these allotments under this alternative. This would also result in the loss of suitable grazing land for one local rancher/permittee. The rancher would then have to find suitable pasture to graze his livestock elsewhere in the surrounding region or feed additional hay. This would result in additional costs to the rancher. The average pasture rate for private land forage in Oregon is \$14.80 Per AUM. The additional annual cost to the rancher would be approximately \$54,642 (3,692 AUMs * \$14.80). If the rancher could not secure other suitable pasture land or could not afford these increased costs, then approximately 462 cattle would no longer be produced in Lake County, resulting in less than a 1% annual reduction in county-wide cattle production. Although this is a small percentage of the total livestock production, the real loss would be in the loss of an operating ranch within the area.

Cumulative Effects

Analysis Scale and Timeframe

For the purposes of this analysis, cumulative impacts are generally addressed at the allotment scale. The reasons for choosing this analysis scale include the fact that issuing a permit is a decision that affects the entire allotment and BLM has a good idea of other potential reasonably foreseeable actions that may occur within the allotment due to management direction identified in the *Lakeview RMP/ROD* (Appendix E, BLM 2003b). However, the analysis spatial scales could vary somewhat depending upon the resource value/use being addressed. The timeframe of analysis is defined as the same 15-20 year expected life of the *Lakeview RMP/ROD*. The reason for choosing this timeframe is because this represents the same analysis timeframe considered in the Lakeview Proposed RMP/Final EIS (BLM 2003a) and portions of that analysis may be appropriate for tiering purposes.

Known Past Activities

The Council on Environmental Quality (CEQ) issued cumulative impact guidance on June 24, 2005, that states the "environmental analysis required under NEPA is forward-looking," and review of past actions is required only "to the extent that this review informs agency decision-making regarding the proposed action." Use of information on the effects of past action may be useful in two ways: one is for consideration of the proposed action's cumulative effects, and secondly as a basis for identifying the proposed action's direct and indirect effects.

The CEQ stated that “[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” This is because a description of the current state of the environment (ie. affected environment section) inherently includes the effects of past actions. Further, the “CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions.” Information on the current environmental condition is more comprehensive and more accurate for establishing a useful starting point for a cumulative effects analysis than attempting to establish such a starting point by adding up the described effects of individual past actions to some environmental baseline condition in the past that, unlike current conditions, can no longer be verified by direct examination.

The second area in which the CEQ guidance states that information on past actions may be useful is in “illuminating or predicting the direct and indirect effects of a proposed action. The usefulness of such information is limited by the fact that it is anecdotal only, and extrapolation of data from such singular experiences is not generally accepted as a reliable predictor of effects”.

The Department of Interior issued some additional guidance related to past actions which state, “when considering the effects of past actions as part of a cumulative effects analysis, the Responsible Official must analyze the effects in accordance with 40 CFR 1508.7 and in accordance with relevant guidance issued by the Council on Environmental Quality, such as “The Council on Environmental Quality Guidance Memorandum on Consideration of Past Actions in Cumulative Effects Analysis” dated June 24, 2005, or any superseding Council on Environmental Quality guidance (see 43 CFR 46.115)”.

Based on this guidance, BLM has summarized known disturbances that have occurred within the allotments as part of past or on-going management activities. These include: livestock grazing, range improvement project construction and maintenance, road construction and maintenance, prescribed fire, wildlife suppression, wildlife rehabilitation and seeding, and dispersed recreational activities such as hunting and OHV use.

The allotments have historically been grazed by cattle. Prior to the Taylor Grazing Act of 1935, grazing on public lands was essentially uncontrolled. After the Taylor Grazing Act, allotments were established tied to private base property owned by a permittee, and were initially under the management responsibility of the Grazing Service. Under the Grazing Service and then under the new BLM in 1946, the number of grazing livestock was generally higher and the pattern of grazing use was generally more intense than what occurs today.

Based on a GIS analysis of the applicable pastures of the four allotments, approximately 108 miles of roads/motorized primitive routes have been constructed or created within the allotments representing about 65 acres of permanent disturbance. Approximately 117 miles of fence (71 acres) currently exist within the allotments. There are about 2.7 miles of pipeline (3.3 acres), 3 waterholes, 15 troughs, 3 waterhaul locations, and 2 water troughs (2,640 acres). In total, these represent an estimated 2,779 (4%) acres of past or on-going ground disturbance within the four allotments. Approximately 12,361 acres (20%) of the four allotments are dominated by crested wheatgrass seedings, and approximately 2,374 acres are dominated by various shrub types with crested wheatgrass as the dominant understory species. Including seeded areas, an estimated total of approximately 17,514 (28%) acres of past or on-going ground disturbance (Table 3-15).

All of these past activities have affected or shaped the landscape within the allotments into what it is today. Current resource conditions are described further in the “Affected Environment” portion of Chapter 3 earlier in this document, as well as in the Rangeland Health Assessments for the allotments (BLM 2003e, 2003f, 2014a, 2014b, 2014c).

Reasonably Foreseeable Future Actions

The *Lakeview RMP/ROD* (Appendix E3, page A-144-146, BLM 2003b) lists potential future projects for the Alkali Winter and Coleman Seeding Allotments. These include a pasture division fence for the South Pasture of the Coleman Seeding Allotment; extending Poor Jug pipeline approximately 4 miles, Hutton Springs Pasture water development/pipeline and movement of troughs, and vegetation treatments. While these activities could potentially occur within the allotments at some point in future, no such proposals have yet been run through the NEPA analysis process, have an approved decision authorizing implementation, or have dedicated funding. Therefore, these activities are considered to be speculative at this point in time and will not be analyzed further.

The only other reasonably foreseeable future activities that might occur within the analysis area during the analytical timeframe would be road maintenance activities, and the exact locations or durations of these activities cannot be determined at this time. As noted above, there are approximately 117 miles of constructed roads and primitive motorized routes within the allotments. None of these routes are maintained on an annual basis, but for analytical purposes BLM assumes that 3-5 miles could receive some spot maintenance or minimal level of re-grading over the 10-year analytical timeframe. These activities would generally be limited to the existing roadbed prism and would not create new ground disturbance.

Cumulative Effects Common to Alternatives 1–3

None of the alternatives would have any measureable or substantial incremental cumulative effects on climate, greenhouse gas emissions, carbon storage, water quality, or Native American traditional practices, as the analysis earlier in this chapter revealed that there would be little or no direct or indirect effects on these values/issues.

For purposes of this analysis, total acres of concentrated disturbance or surface recovery served as the main indicator of cumulative impacts on soils, BSCs, upland vegetation, cultural resources, and wildlife.

Cumulative Effects of Alternative 1: No Action

The incremental cumulative effects of continued grazing of up to a total of 3,692 AUMs in the allotments each year, coupled with other range management activities, when added to other past, present, and reasonably foreseeable future actions (road maintenance) would result in no detectable change in total acres of disturbance under Alternative 1 (Table 3-16).

Table 3-16. Cumulative Acres of Concentrated Disturbance

	Alternative 1 – Total Acres	Alternative 2 – Total Acres	Alternative 3 – Total Acres
Past/Present Actions	17,514	17,514	17,514
Estimated Area of New Disturbance or Recovery	0	366.6	-1,000
Cumulative Total	17,514	17,880.6	16,514

Cumulative Effects of Alternative 2: Permittee Proposal plus Treatments

The proposed pipeline, troughs, and fences would result in approximately 366.6 acres of additional ground disturbance above those described for Alternative 1. While there would be approximately 6,946 acres of vegetation and weed treatments implemented under this alternative, these activities represent

only temporary disturbances which would restore degraded areas to more natural condition and would not be noticeable over the long-term. Therefore, these acres are not included in Table 3-16.

Cumulative Effects of Alternative 3: No Permit Renewal or Treatments

The incremental cumulative effects of reducing or removing grazing from portions of the 4 allotments would result in an incremental decrease in total ground disturbance of approximately 1,000 acres over the 10-year analysis timeframe (Table 3-16). Concentrated livestock use and disturbance would continue around waterholes and along fence lines in some pastures in the analysis area due to livestock grazing continuing to be authorized under other grazing permits.

CHAPTER IV. PERSONS, GROUPS, AND AGENCIES CONSULTED

A number of individuals, permittees, groups, agencies, and tribal governments were notified of the availability of the EA and FONSI and were provided a 30-day review period. The mailing list is contained in the proposal file.

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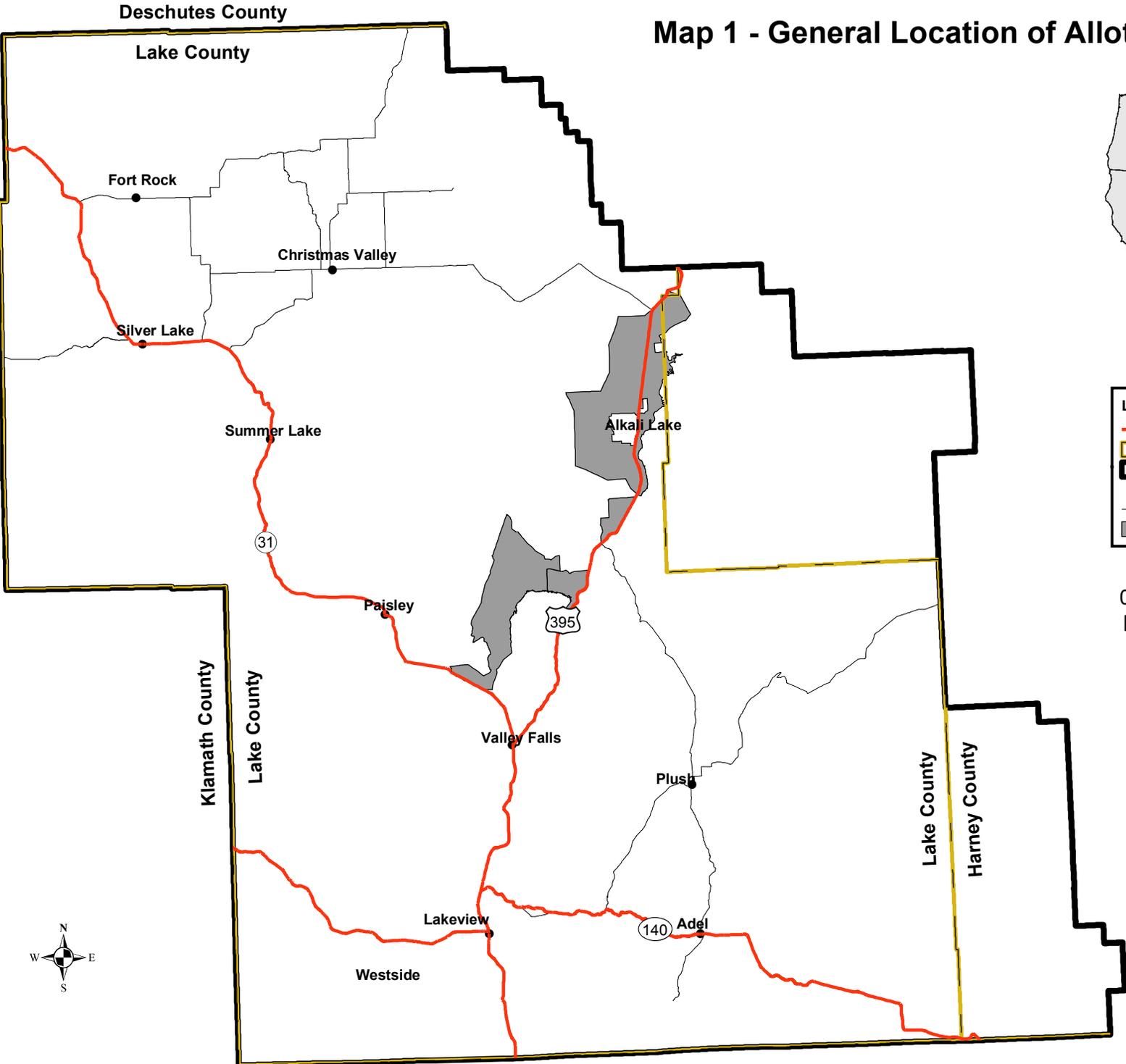
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APPENDIX A - Grazing Treatment Descriptions

APPENDIX B - Soil, Vegetation, Biological Soil Crust, and Allotment Summary Tables

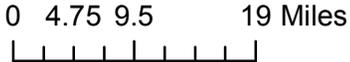
Note: there were no changes or corrections to either Appendix A or B. These appendices were published in the June 2014 version of this EA and will not be repeated here.

Map 1 - General Location of Allotments

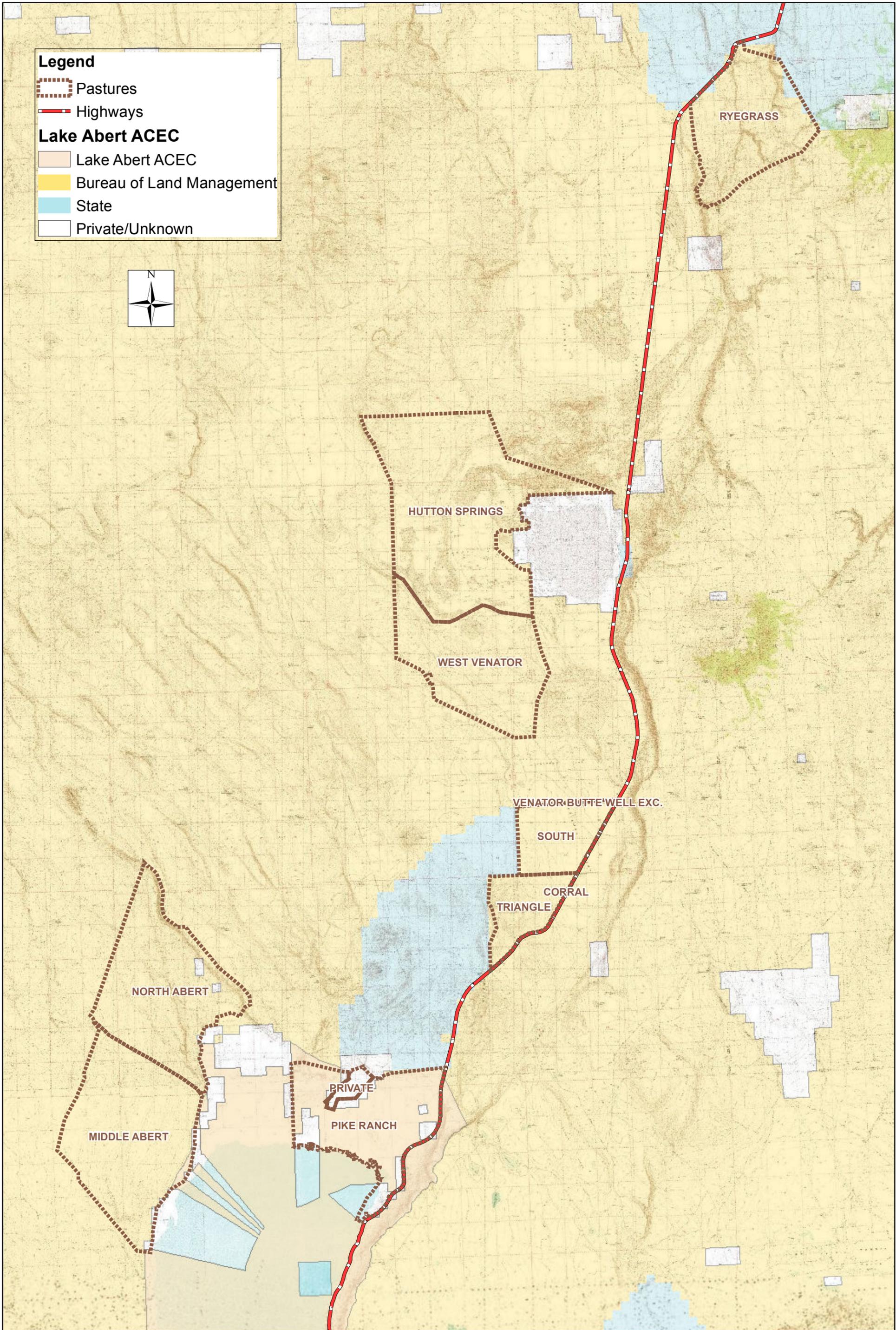


Legend

- Highways
- County Boundary
- Lakeview Resource Area
- Cities
- Major Roads
- Grazing Allotments



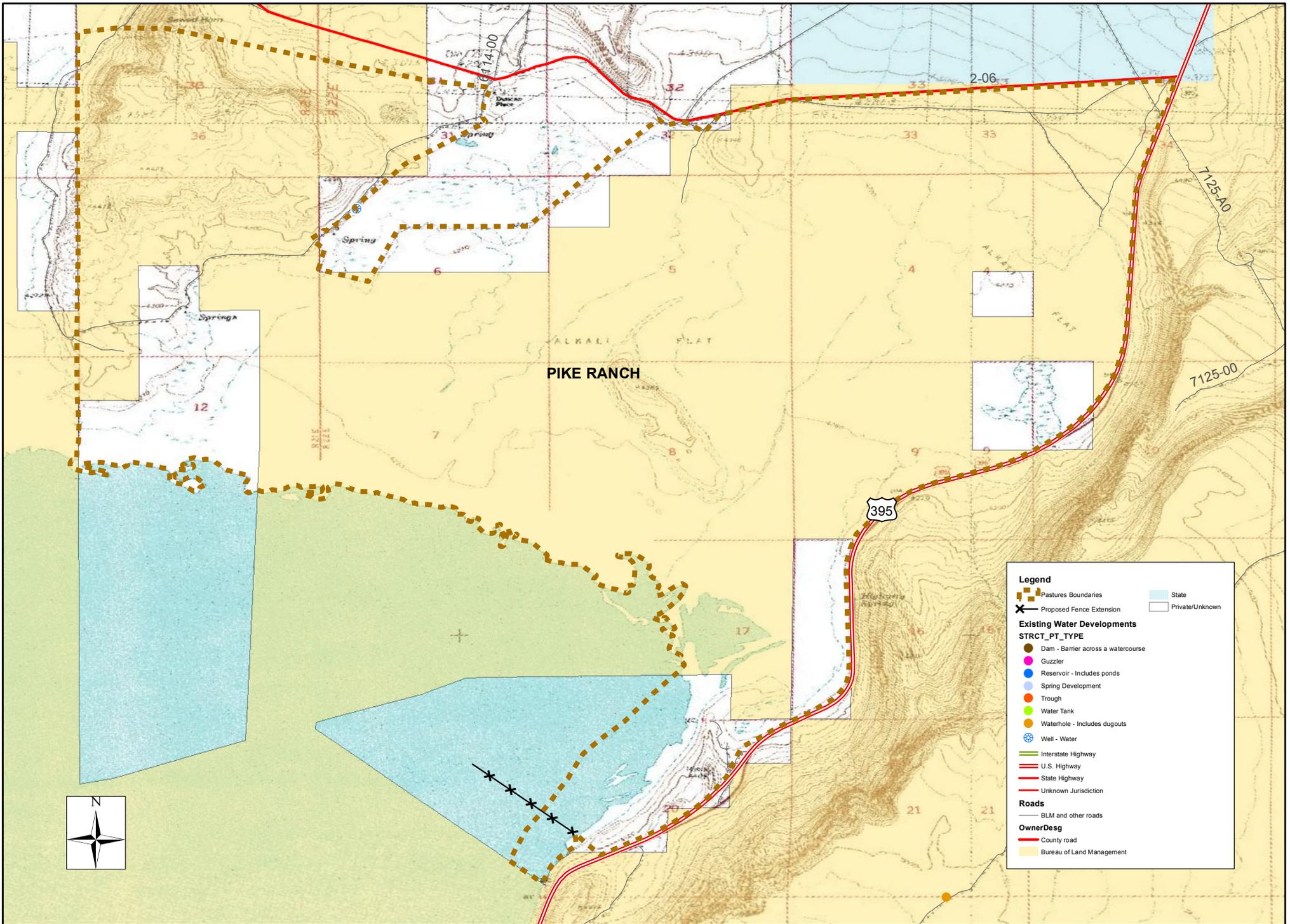
This map was prepared by the Bureau of Land Management for the National Inventory of Cultural Resources. It is intended for informational purposes only and should not be used for legal or regulatory purposes. The data was derived through digital means and may be subject to update without notice.



Map 2 - Land Status and ACECs within Grazing Permit Renewal Area

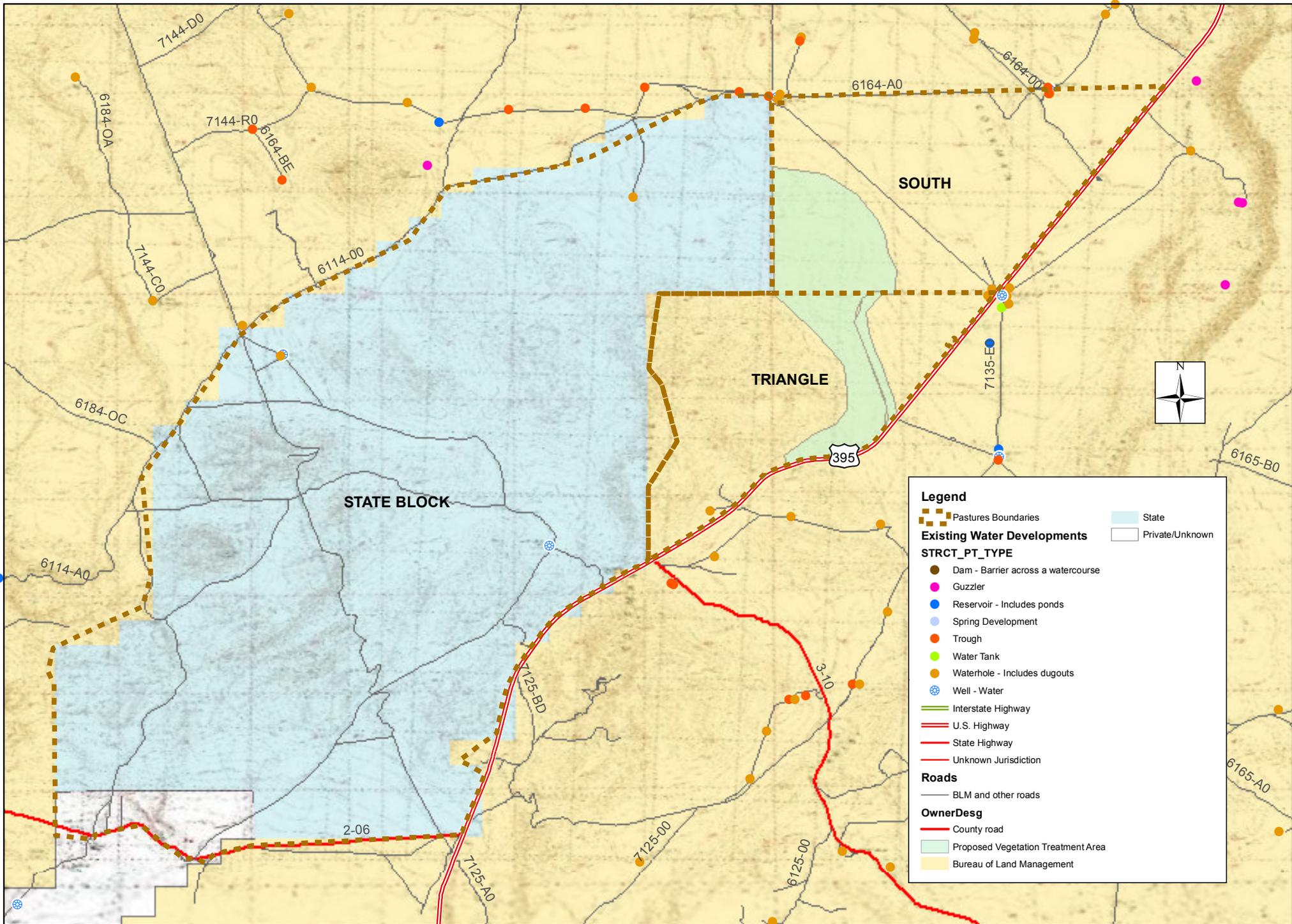
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0 0.75 1.5 3 4.5 6 Miles



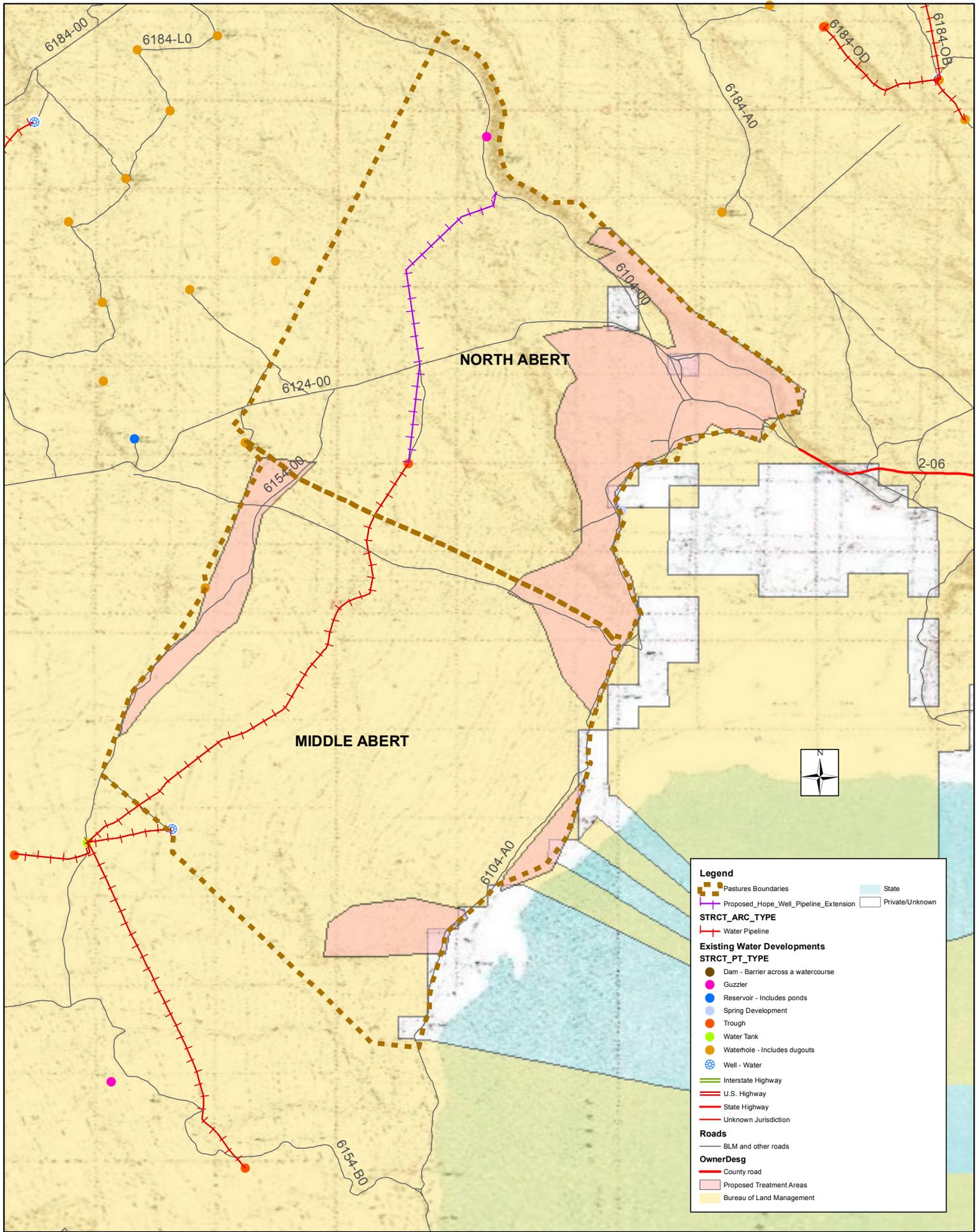
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Map 4. Existing and Proposed Range Improvements in the Pike Ranch Allotment #00425



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Map 5. Existing Range Improvements and Proposed Vegetation Treatments in the Coleman Seeding Allotment #00432



Map 6. Existing and Proposed Range Improvements and Proposed Vegetation Treatments in the XL Allotment #00427

Legend

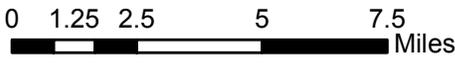
- Interstate Highway
- U.S. Highway
- State Highway
- Unknown Jurisdiction

Soil Complexes

- ATLOW RD CMLPX, 20-60% SLOPES
- CALDERWOOD-MCCONNEL CMLPX, 0-20% SLOPES
- CATLOW GR-SL, 2-12% SLOPES
- CLEET GR-SL, 2-15% SLOPES
- DEEPFUTLUM CMLPX, 5-15% SLOPES
- ENKO LS, 2-8% SLOPES
- ENKO-CATLOW CMLPX, 7-15% SLOPES
- FELCHER-FITZWATER RD ASSOC, 20-60% SLOPES
- FELCHER-RIDLERANCH RD CMLPX, 20-60% SLOPES
- FLAGSTAFF TAXAS, SALINE, 1-8% SLOPES
- HELPHENSTEIN SIL, 0-2% SLOPES
- HELPHENSTEIN SIL, PONDED, 0-2% SLOPES
- HELPHENSTEIN-KEWAKE CMLPX, 0-4% SLOPES
- HELPHENSTEIN-PITCHERANCH TAXA-REESE CMLPX, 0-2% SLOPES
- ICEBERG-PLAYAS CMLPX, 0-1% SLOPES
- KEWAKE LS, 2-4% SLOPES
- KEWAKE-TURPIN CMLPX, 0-4% SLOPES
- KEWAKE-TURPIN CMLPX, SODIC, 0-4% SLOPES
- LYFLAT RD CMLPX, 2-20% SLOPES
- MCCONNEL VGR-SL, 0-3% SLOPES
- MCCONNEL-KAWAY CMLPX, 15 to 45% SLOPES
- MCCONNEL-POORJUG CMLPX, 1-15% SLOPES
- MCCONNEL-TURPIN TAXA CMLPX,SODIC, 2-15% SLOPES
- MESMAN FSL, 0-5% SLOPES
- MORFITT L, 0-2% SLOPES
- MONIE WILDELL RD CMLPX, 20-50% SLOPES
- OLD CAMP CMLPX, 30-90% SLOPES
- OLDCAMP-FELCHER RD CMLPX, 15-50% SLOPES
- OSOLL-PANLEE TAXA RD CMLPX, 20-50% SLOPES
- PITCHERANCH, TAXA SIL, 0-1% SLOPES
- PLAYAS SALINE
- PLAYAS-HELPHENSTEIN CMLPX, 0-2% SLOPES
- POORJUG GR-FSL, 0-10% SLOPES
- RABBITHILLS CMLPX, 0-10% SLOPES
- RABBITHILLS GR-SL, 0-6% SLOPES
- RAZ CB-FSL, 1-10% SLOPES
- RAZ BRACE CMLPX, 2-20% SLOPES
- RAZ BRACE CMLPX, LOW PPT, 2-20% SLOPES
- RAZ-POORJUG CMLPX, 2-15% SLOPES
- SEHARNEY STV-SL, 5-20% SLOPES
- THORINLAKE, TAXA,CATLOW,KEWAKE CMLPX, 1-4% SLOPES
- THORINLAKE, TAXA,KEWAKE CMLPX, 2-15% SLOPES
- TOLL GR-LS, 2-20% SLOPES
- TURPIN CMLPX, 0-15% SLOPES
- TURPIN FSL, 0-2% SLOPES
- TURPIN VFSL, 0-3% SLOPES
- TURPIN-KEWAKE-PLAYAS CMLPX, 0-15% SLOPES

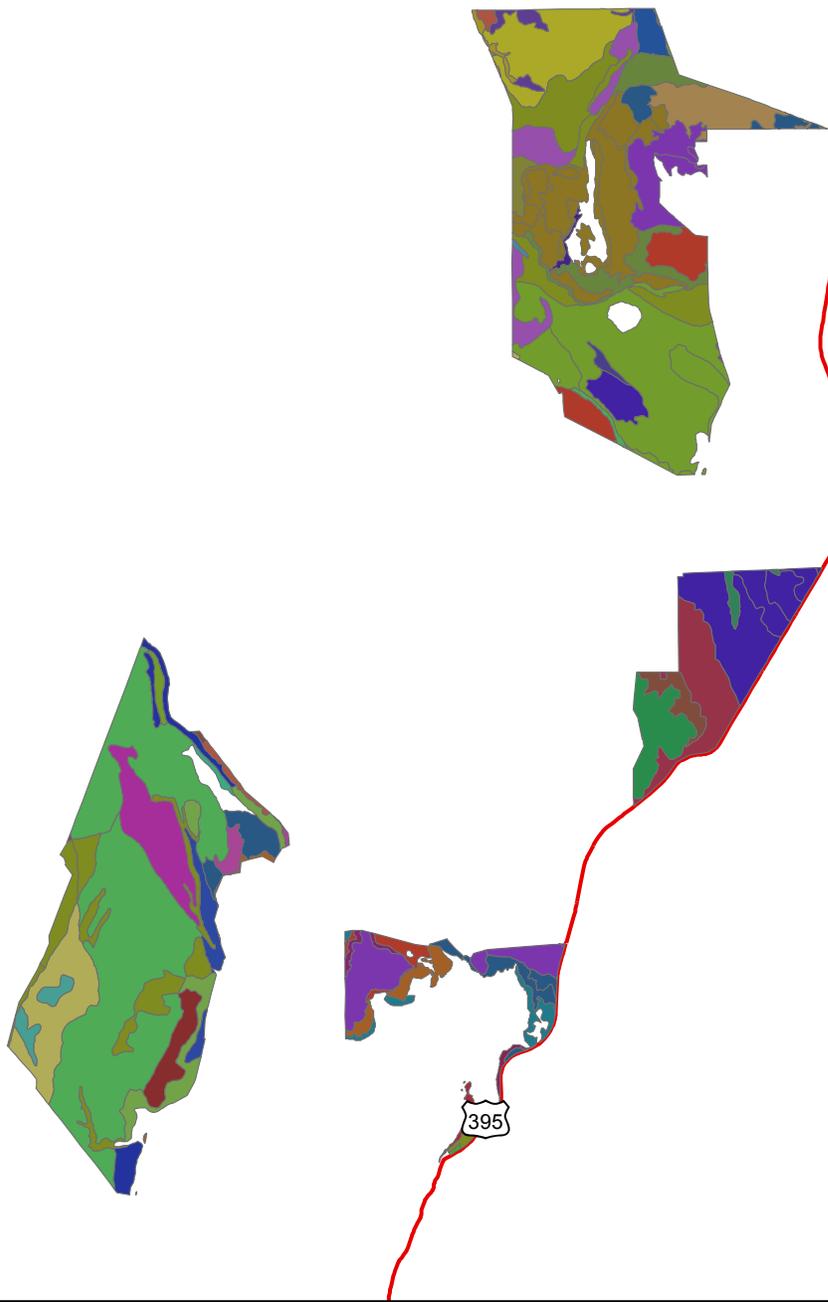
MUNAME

- Allow-Rock outcrop complex, 30 to 50 percent slopes
- Edemaps loam, 5 to 20 percent slopes
- Erko loamy sand, 2 to 8 percent slopes
- Felcher-Fitzwater-Rock outcrop association, 20 to 60 percent slopes
- Mesman loamy fine sand, 0 to 5 percent slopes
- Raz cobbly fine sandy loam, 1 to 10 percent slopes
- Raz-Brace complex, 2 to 20 percent slopes



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Map 7. Existing Soil Complexes



Legend

Allotment_VEG_SLK

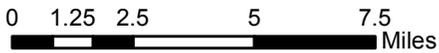
DOMVEG1

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- /ARTR/POAM/
- /ARTR/SIHY/
- /ARTR/STCO4/
- /ARTR/STTH2/
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- /ARTRW/POSE/
- /ARTRW/SIHY/

Allotment_Veg_NLK

DOMVEG1

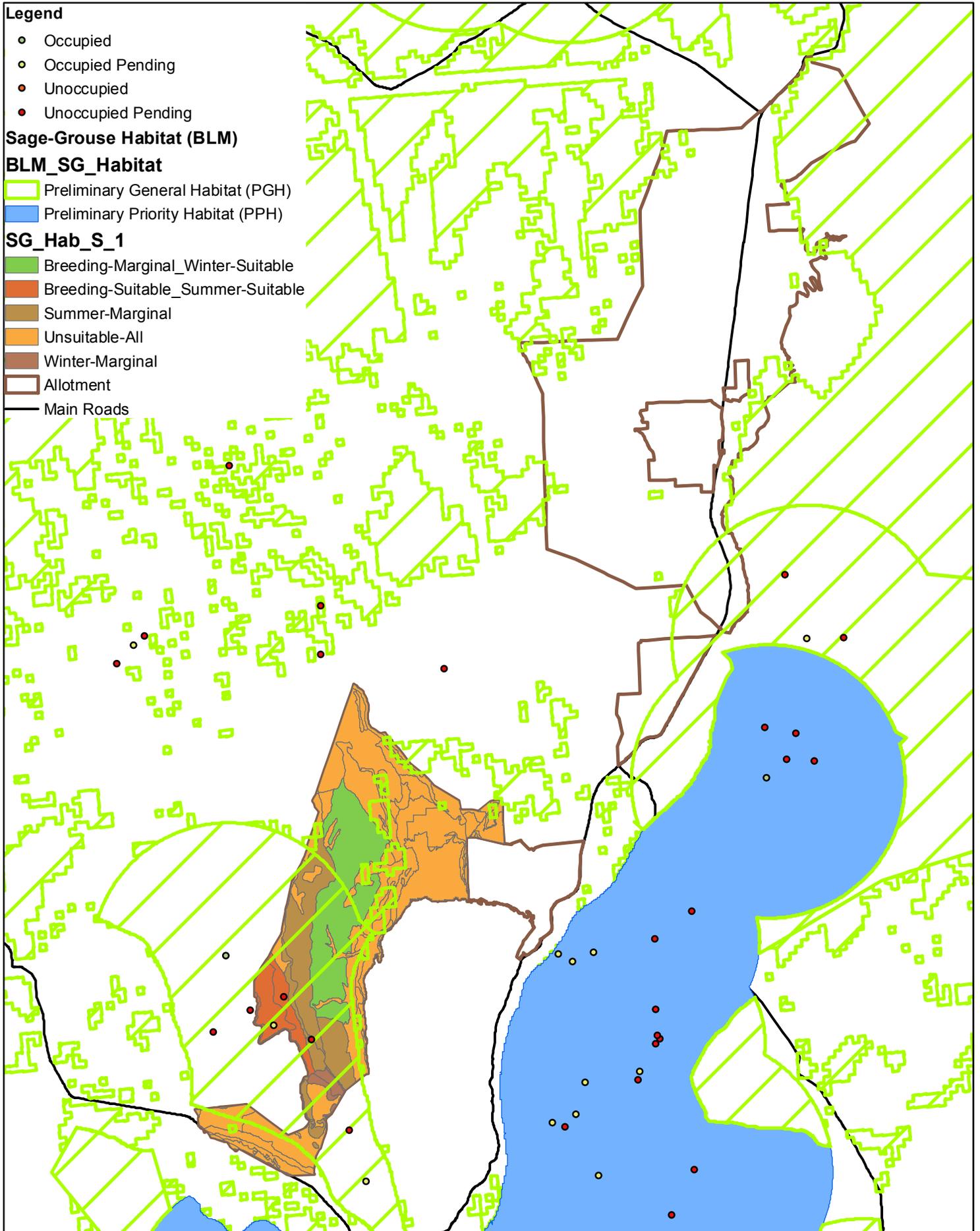
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- //AGCR/ASTRA
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- /SAVE4/LECI4/



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Map 8. Dominant Vegetation

Map 9 Sage-grouse habitat categorization and lek location.



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