



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Lakeview Resource Area
1301 South G Street
Lakeview, Oregon 97630
www.or.blm.gov/lakeview



In Reply Refer To:
4120 (015)

March 6, 2007

Dear Interested Party:

The Lakeview Resource Area, Lakeview District, Bureau of Land Management (BLM), has analyzed a proposal and several alternatives to building about 5 miles of new pasture division fencing and two cattle guards within Horseshoe Pasture of the Juniper Mountain Allotment (#0515). The proposal is needed to improve riparian conditions in the pasture and provide a more effective rest-rotation grazing system.

The enclosed Environmental Assessment (EA# OR-010-2005-01) and Finding of No Significant Impact (FONSI) have been prepared to document the impacts of the proposed project and alternatives. If you have questions regarding the proposal, call Paul Whitman at (541) 947-2177. Comments on the proposal should be submitted in writing to me at: BLM, Lakeview District Office, 1301 South G Street, Lakeview, Oregon 97630. If you wish to comment on the proposal, you must do so in writing no later than April 6, 2007.

Sincerely,

Thomas E. Rasmussen, Manager
Lakeview Resource Area

Attachment:

- 1) Horseshoe Pasture Division Fence FONSI and EA

FINDING OF NO SIGNIFICANT IMPACT

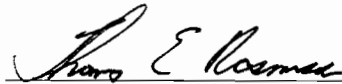
Horseshoe Pasture Division Fence EA# OR-010-2005-01

The Bureau of Land Management, Lakeview District, Lakeview Resource Area, has analyzed a proposal and several alternatives to construct approximately 5 miles of new fence along the ridge line and side slopes of Big Juniper Mountain. This new fence construction would tie the existing, internal pasture fences together providing better control of cattle within the allotment and improving management of the riparian resources specifically within the Horseshoe Pasture.

The proposed project is in conformance with the *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b), the requirements of *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), the *Greater Sage-Grouse Conservation Strategy and Assessment for Oregon* (ODFW 2005), and the *Integrated Noxious Weed Control Program* (BLM 2004a).

There are no designated wilderness areas, wilderness study areas, or areas with wilderness character, wild and scenic rivers, known hazardous waste areas, areas of religious concern, threatened or endangered species, or prime or unique farmlands in the immediate project area. No significant or disproportionate impacts would occur to low income or minority populations. Neither adverse nor beneficial impact is anticipated to floodplains, air quality, land tenure, visual quality, recreation, or mineral and energy resources. Botanical and cultural surveys have been conducted. Impacts to hydrology, water quality, soils, biotic crusts, vegetation, riparian areas, noxious weeds, wildlife habitat, livestock grazing management, areas of critical environmental concern, and research natural areas are discussed in the attached EA.

On the basis of the analysis contained in the attached EA and all other available information, my determination is that none of the alternatives analyzed would constitute a major federal action which would adversely impact the quality of the human environment. Therefore, an Environmental Impact Statement (EIS) is unnecessary and will not be prepared.



Thomas E. Rasmussen, Manager
Lakeview Resource Area

3/1/07

Date

**Horseshoe Pasture Division Fence
Environmental Assessment**

EA#OR-010-2005-01

February 2007

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

CHAPTER 1 - INTRODUCTION

Background:

A Rangeland Health Assessment for the Juniper Mountain Allotment (#0515) was completed by an interdisciplinary team (ID) in September 2004. During this assessment, the Horseshoe Meadow area was identified as not meeting Standard 2 (Riparian-Wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform) due to grazing use. The assessment noted that the existing Horseshoe Spring enclosure fence needed maintenance and was too small to protect the spring and associated riparian area. The rangeland health assessment also found that rangelands across most of the allotment were in good shape overall and met all other health standards (BLM 2004c).

The allotment is located in central eastern Lake County and central western Harney County, Oregon (see Map 1). Horseshoe Meadow is located within the Horseshoe Pasture and is grazed, along with 5 other pastures, as part of a rest-rotation grazing system. At present, Juniper Mountain is a geographic feature that serves as the hub of four pastures in the northern part of the allotment, but fences are constructed only partially up the sides of the mountain (Map 1). At the time the existing fences were constructed, it was thought that the topography of the mountain slopes would serve as an effective barrier and cattle would not climb up the steep slopes and travel around the ends of the pasture fences. However, field observations have shown that some cattle do move from pasture to pasture, climbing up over the top of Juniper Mountain around the ends of the existing fences, ending up in the Horseshoe Pasture during late summer.

The ID team revisited the Horseshoe Meadow area in November 2004 to discuss potential management options/changes including reduced grazing or complete rest of the pasture, riparian enclosure fencing, and various methods of controlling livestock drift from adjacent pastures (see Chapter 2). The consensus of the team was that inadequate pasture fencing allowed unauthorized cattle grazing of the riparian area late in the growing season (July-October) and contributed to the failure to meet Standard 2 within the Horseshoe Meadow area.

The ID team also agreed that, based on existing science, early season grazing (prior to the end of May) could continue in the Horseshoe Pasture and still promote steady recovery and improved conditions within the Horseshoe Meadow area, if late season grazing could be controlled. Removal of grazing later in the growing season (June, July, and August) allows riparian vegetation time for regrowth (Elmore and Kaufman 1993, Wyman 2006). Promoting healthy riparian vegetation during rest years, as well as later in the season during grazed years was deemed by the ID team to be critical to the improvement and maintenance of the Horseshoe Meadow riparian area. Spring grazing has been shown to have many advantages to other types of grazing systems including better distribution throughout a pasture with less concentration/use in the riparian zone due to the presence of more palatable/nutritious upland forage available, reduced soil compaction and bank trampling, and reduced browsing pressure on woody species (BLM 1998a, Wyman 2006). Studies have shown that riparian vegetation dissipates water energy associated with high flows from spring run off. When adequate vegetation is present to dissipate energy associated with high flows, physical changes such as reduced erosion, sediment filtering, and improved flood-water retention begin to occur (BLM 1998b).

To comply with the grazing regulation mandate to take action within one year, the BLM transferred all grazing use to the southern pastures of the allotment during the 2005 grazing season while a permanent solution was being developed. The northern pastures, including the Horseshoe Pasture were rested in 2005. In February 2005, the ID team completed an environmental assessment (EA) evaluating the impacts of several alternative courses of action to address the rangeland health issue in the Horseshoe Pasture. A 30-day public comment period was provided during March of 2005. The BLM issued a proposed decision on April 7, 2005. The proposed decision was protested on April 25, 2005. The BLM responded to the protest and issued a final decision on June 20, 2005. The final decision was appealed to the Office of Hearings and Appeals and assigned to an Administrative Law Judge (ALJ). The ALJ denied a petition for stay on September 7, 2005. A grazing schedule for the 2006 grazing season was authorized on February 15, 2006, which included early spring grazing use in the Horseshoe Pasture with the expectation that the fence would be constructed by late spring, by the time grazing use was shifted to other northern pastures. However, litigation was filed in Federal court on April 3, 2006. On May 4, 2006, the BLM withdrew the decision and project construction was put on hold. The BLM reached a settlement agreement with the plaintiff, the Oregon Natural Desert Association (ONDA), in August of 2006. The BLM met in the field with representatives of ONDA on September 22, 2006, to discuss potential wilderness characteristics of the Juniper Mountain Allotment, as well as the environmental analysis for the proposed project. In early October 2006, the BLM also met in the field with the

permittee, a consultant, several range management professors from Oregon State University, and other interested parties to discuss conditions in the Horseshoe Pasture. This EA has been updated and is now being made available to the public. The EA addresses all of the issues previously raised by the plaintiff and other interested public (see Public Views and Concerns section of Chapter 5 of this EA). There will be no authorized grazing of the Horseshoe Pasture in 2007.

Purpose and Need for Action:

The purpose and need for the proposed action is to change livestock grazing management within the Juniper Mountain Allotment (#0515) to promote the restoration of a small (less than 50 acres), site-specific meadow area within the Horseshoe Pasture that is currently not meeting Standard 2 of the rangeland health standards, while still allowing livestock grazing at permitted forage allocation levels. An additional purpose is to provide a more effective rest-rotation grazing system of the northern pastures that promotes better overall management of the allotment as a whole, such that conditions in the remainder of the allotment continue to meet all five rangeland health standards into the foreseeable future.

Conformance with Existing Plans, Regulations, and Policies:

The proposed project has been analyzed and determined to be in conformance with the goals and/or objectives of the following applicable BLM plans, strategies, or guidelines:

1) *Lakeview Resource Management Plan/Record of Decision (RMP/ROD; BLM 2003b)*, including but not limited to Tables R-1, R-2, R-3, and R-4, pages 8-16; Desired Range of Conditions, pages 23-24; Management Decisions related to Plant Communities, pages 27-38, Wildlife and Wildlife Habitat, pages 44-51, Special Status Animal Species, pages 51-52, Livestock Grazing, pages 52-55, Special Management Areas, pages 57-60, 66-67, 70-73; Cultural Resources, pages 74-79; Human Uses and Values, pages 79-80; Recreation, pages 83-86; Off-Highway Vehicles, pages 86-88; Visual, page 88; Roads and Transportation, pages 95-99; Appendix D – Best Management Practices, pages A-2 – A-7; Appendix E – Livestock Grazing, pages A-8 – A-9, A-99, A-142 – A-148; and Appendix G – Noxious Weeds, page A-165.

The stated purpose of the proposed action is in conformance with the *Lakeview RMP/ROD (BLM 2003b)*, Appendix E1, page A-87, “Management direction: 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.” In addition, the management direction for the Juniper Mountain Area of Critical Environmental Concern/Research Natural Area (ACEC/RNA; page 67), states “where adverse impacts are identified, existing livestock use will be adjusted using a variety of methods, including, but not limited to, fencing, reduction in livestock numbers, and changes in grazing season of use. Proposed range improvement projects will be evaluated for impacts and permitted where relevant and important values will be maintained or enhanced.”

2) *Integrated Noxious Weed Control Program, EA#OR-010-2004-03 (BLM 2004a)* – this document tiered to the noxious weed management direction in the *Lakeview RMP/ROD* and provided more specific details on the locations of known noxious weed sites in the Lakeview Resource Area and how periodic treatments would be conducted on these sites, as well as new sites discovered during future inventory. The treatment methods addressed in this plan included cultural, mechanical, biological, and chemical. The type of treatment used and the frequency of treatment would be based on site/plant characteristics, treatment priorities identified in the plan, and budget.

3) *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)* – a rangeland health assessment for the allotment was completed in 2004 (BLM 2004c). The proposed action and alternatives were developed specifically to address a failure to meet Standard 2 on a small portion of the allotment.

4) *Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (ODFW 2005)*. This strategy replaced both the interim state guidelines and an existing national strategy (BLM 2004b). Conformance with this plan is discussed within the Wildlife Impacts section.

CHAPTER 2 - ALTERNATIVES INCLUDING THE PROPOSED PLAN

Introduction:

The range of alternatives in any NEPA analysis is determined by the purpose and need of the proposed action, as defined by the federal agency having the authority to propose the action. In this EA, the BLM considered a total of 5 alternatives in detail. Additional alternatives were considered, but dropped from detailed analysis for the reasons described in the following section.

Alternatives Considered in Detail:

ALTERNATIVE 1 - NO ACTION

This alternative would consist of making no modifications to the existing fences, rest-rotation grazing system, or other grazing management practices within the allotment. Grazing would continue on the allotment in accordance with the forage allocation, season of use, and other management direction specified in the *Lakeview RMP/ROD* (BLM 2003b) and 10-year grazing permit. Currently, the active preference or forage allocation for the Juniper Mountain Allotment is 3,651 animal unit months (AUM's), with a total preference of 4,447 AUM's. The permitted season of use runs from March 16th thru October 31st. The current grazing system is managed as a rest-rotation system. Limited herding would continue to be used to move cattle between pastures as dictated by the approved annual grazing schedule. Herding would not be used to attempt to keep unauthorized cattle out of the Horseshoe Meadow area.

ALTERNATIVE 2 - PROPOSED ACTION (PREFERRED ALTERNATIVE)

The proposed action would involve building approximately 5 miles of new fence along the ridge line and side slopes of Juniper Mountain (Map 1). The new fence would consist of three strands of wire (two barbed and one smooth) and would tie the existing pasture fences together providing better control of cattle in each pasture while improving management of the riparian resources within the Horseshoe Pasture. Two new cattle guards would also be installed along the main road leading into and out of the Horseshoe Pasture. The fence line and cattle guard locations may be shifted to avoid cultural resources or sensitive plant locations, if found during clearance surveys. Grazing would continue on the allotment in accordance with the forage allocation, season of use, and other management direction specified in the *Lakeview RMP/ROD* (BLM 2003b) and 10-year grazing permit. Standard weed prevention procedures outlined in the *Integrated Weed Management Program* (BLM 2004a) and the *Lakeview RMP/ROD*, Appendix D - Best Management Practices, Noxious Weed Management section, page A-6 (BLM 2003b) would be followed during project implementation. Limited herding would be used to move cattle between pastures as dictated by the approved annual grazing schedule.

ALTERNATIVE 3- REDUCED GRAZING LEVELS

This alternative was proposed by ONDA and would consist of significantly reducing grazing levels on the entire Juniper Mountain Allotment. This alternative would permanently reduce active preference from the current 3,651 AUMs to 1,826 AUMs (50 % reduction). The season of use (March 16th thru October 31st) and rest rotation grazing system would be similar to Alternative 1. No new fencing or cattle guards would be constructed. Limited herding would be used to move cattle between pastures as dictated by the approved annual grazing schedule.

ALTERNATIVE 4 – FULL REST EVERY OTHER YEAR

This alternative was proposed by ONDA and would consist of making full permitted use of the entire Juniper Mountain Allotment one year and resting the entire allotment the following year. The season of use during grazed years would be similar to Alternative 1. Livestock would be placed into 1 or 2 pastures at the beginning of the season and then subsequently rotated to other pastures as the season progressed. No new fencing or cattle guards would be constructed. Limited herding would be used to move cattle between pastures as dictated by the approved annual grazing schedule.

ALTERNATIVE 5 – INCREASED HERDING/USE OF RIDERS

Under this alternative, proposed by ONDA, the permittee would be required to keep livestock out of the Horseshoe Pasture during unauthorized periods of use solely with the use of riders. This would require at least daily patrols of

the Horseshoe Pasture when cattle are authorized to use adjacent pastures. Grazing would continue on the allotment in accordance with the forage allocation, season of use, and other management direction specified in the *Lakeview RMP/ROD* (BLM 2003b) and 10-year grazing permit. No additional fencing or cattle guards would be constructed.

Alternatives Considered but Dropped from Detailed Analysis:

PERMANENT REMOVAL OF GRAZING WITHIN ENTIRE ALLOTMENT

One alternative considered was permanent removal of grazing from the whole allotment. The RMP/ROD allotment-specific management direction (BLM 2003b; page A-85) allows for the flexibility of “adjusting permitted use as needed” and 43 CFR Part 4110.3 does allow for making reductions in permitted use under the provisions of 43 CFR Part 4160. However, such adjustment or reduction decisions, including complete removal of grazing, must be supported by monitoring data, an allotment evaluation, or Rangeland Health Assessment findings. The recent Rangeland Health Assessment for this allotment found that overall range conditions met the standards (BLM 2004c). The small, localized problems, were found on less than 50 acres of the 92,000 acre allotment, and do not justify or require consideration of such a drastic, allotment-wide change in management.

This alternative was proposed by ONDA and was eliminated from detailed study because this alternative would place economic hardship on the permittee in the form of 3,621 AUMs of lost forage/grazing opportunities and associated loss of personal business income. It is likely that the permittee could not transfer this lost grazing use to other BLM allotments. Thus, the permittee would have to: 1) graze his private lands more heavily (resulting in ecological stress to those private lands or loss of winter forage for his entire herd), 2) feed hay or rent other private land forage at a significant additional cost to his operation, or 3) sell part of his herd. In addition, complete removal of grazing from the entire allotment would not meet the stated purpose and need for the proposed action.

HORSESHOE MEADOW RIPARIAN EXCLOSURE

Another alternative considered was to construct a new enclosure fence around the entire riparian zone in Horseshoe Meadow. The enclosure would encompass about 25-50 acres including the small, existing enclosure at Horseshoe Spring. This alternative was eliminated from detailed study because it would not eliminate late season cattle drift from adjacent pastures and meet the purpose and need objective of providing for an effective rest-rotation grazing systems in the northern pastures. In addition, cattle would still tend to congregate around the outside of the enclosure in late summer and push on the fence in late summer to get at the greener, more palatable forage inside when the adjacent upland forage has dried out and is less palatable. Thus, this fence would require frequent maintenance to prevent livestock movement into the riparian area.

PERMANENT REMOVAL OF GRAZING IN HORSESHOE PASTURE

This alternative was considered by the ID team early on in the planning process, but was dropped from detailed analysis because it could not be implemented without construction of the pasture fences described for Alternative 2 and would not meet all of the purpose and need objectives.

A variation of this alternative was proposed in a telephone conversation by a representative of ONDA in the fall of 2006. It consists of constructing the horseshoe fence as described under the proposed action (Alternative 2), but would then eliminate grazing within the Horseshoe Pasture permanently. In addition, locked gates would be placed on roads leading into the Horseshoe Pasture (in the same general location as the cattle guards proposed under Alternative 2) and all roads in the pasture would be closed to vehicle travel. No cattle guards would be constructed. Grazing use would continue in the remaining pastures of the allotment on a rest-rotation system subject to the same season of use described in Alternative 1. Limited herding would be used to move cattle between the remaining pastures as dictated by the approved annual grazing schedule.

This alternative was eliminated from detailed analysis because it would not meet the stated purpose and need for the proposed action. This alternative would permanently eliminate about 4,878 acres (5.3%) from the allotment. It would reduce the 6-pasture rest rotation system to a 5-pasture system and result in a permanent loss of an associated 192 AUMs of forage to the permittee. In addition, components of this alternative are not consistent with the management direction in the *Lakeview RMP/ROD* (BLM 2003b). Although the Juniper Mountain ACEC/RNA (which encompasses the majority of the Horseshoe Pasture) is identified as an area where vehicle travel is “limited to designated roads and trails” (Map R-7), BLM Road 7155-1-AO along the west side of the ACEC/RNA is

designated as open to vehicle use (Map SMA-17) and is necessary for grazing administration of the western half of the allotment. The BLM is not re-visiting this existing decision from this EIS level analysis.

CHAPTER 3 - AFFECTED ENVIRONMENT

General Environmental Setting:

The Juniper Mountain Allotment (#0515) is located approximately 70 miles northeast of Lakeview, Oregon. Land status within the allotment is 84,862 acres of public land and 5,252 acres of privately owned land. Mean annual precipitation ranges from 10-16 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 is from 50 to 80 days. The period of optimum plant growth is from April through June.

In August of 2001, the Juniper Fire burned approximately 4,565 acres in this allotment, specifically on the north and east slopes of Juniper Mountain. Fences were constructed to protect the burn area from grazing and have been retained as permanent livestock/pasture management fences on the east side of Juniper. The majority of the burned area has recovered naturally to a good stand of native grasses and forbs.

The affected environment within the Juniper Mountain Allotment is described in general as part of the broader landscape of the Lakeview Resource Area within the *Lakeview Proposed Resource Management Plan and Final Environmental Impact Statement* (RMP/Final EIS; BLM 2003a). The majority of that description is incorporated by reference and will not be repeated here. However, a summary of the resource values most likely to be affected by the alternative actions is included in the following section.

Hydrology and Water Quality:

Uplands associated with the project area are in stable condition with few rills and erosion. The 2001 wildfire opened areas of dense Western juniper cover and has subsequently allowed establishment of more dense grass cover with large soil-holding root masses that has decreased the overall erosion risk in the burn area.

Horseshoe Meadow is currently rated as “functioning at risk” in accordance with the Proper Functioning Condition methodology (BLM 1998). Vegetation condition in the meadow area is low due to the presence of plant species that are generally not capable of holding soils, the soils in the riparian area are compacted, and the channel associated with the meadow has head cuts that threaten to lower the water table in the system (BLM 2004c). These headcuts appear to be stable, but are at risk for movement should a high-flow event occur, such as an intense summer thunderstorm. Water in the system is spring-fed and flow is dependent upon water production from the spring. Due to the poor overall riparian conditions, water flow is intermittent, usually stopping high up in the meadow by mid-June.

The hydrologic system is currently not listed as water quality impaired by the State of Oregon. No water quality data exists for this drainage. However, water in the system is likely higher in temperature than it would be under less disturbed conditions.

Soils and Biotic Crusts:

The recent Rangeland Health Assessment for the allotment (BLM 2004c) summarized soil surface factor (SSF) data for the allotment collected during the ecological site inventory (ESI) effort between 1992 and 1997. SSF ratings are used to document an erosion class rating and the potential susceptibility of soil to accelerated erosion. Sixty-two percent of the allotment was rated in the slight erosion condition class. Twenty-nine percent was rated in the moderate erosion class. Less than five percent was rated in the critical or severe erosion class. Those areas with a moderate or higher ranking indicate some active erosion or evidence of past erosion. Current grazing practices did not appear to be responsible for areas being placed in the moderate or higher erosion condition classes (BLM 2004c).

Two different soil types exist in construction zone of the proposed project. Soils covering the majority of the ridge top are very shallow to bedrock or to strongly developed claypan. The soils are well drained and have developed in

residuum. Soil permeability is moderate to the bedrock or claypan and slow or very slow in the claypan. The claypan contains about 40 to 60 percent clay and the surface layer contains about 20 to 27 percent clay. The other soils in this site are very shallow to hard bedrock and typically contain over 60 percent coarse fragments through the profile. The available water holding capacity is about 2 to 6 inches for the profile.

The other type of soil occurs along the toe slopes or side hills of Juniper Mountain and consists of moderately deep, well drained soils that formed in residuum and colluvium from basalt and welded tuff. There is a claypan layer ranging from 8 to 12 inches thick. Depths to hard bedrock ranges from 20 to 35 inches. The profile averages 35 to 60 percent rock fragments mainly as cobbles, and 35 to 60 percent clay. Soil permeability is slow. Shrink-swell potential is high. Wind erosion potential is slight and water erosion potentials moderate. The available water holding capacity is about 3 inches.

Microbiotic crusts consist of lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing in a thin layer on or just below the soil surface. Found in the spaces between larger vascular plants, these crusts play a role in controlling soil erosion, filtering water, retaining soil moisture, and improving soil fertility (BLM 2003a). Biotic crusts have no special status or special management designation associated with them. The *Lakeview Resource Management Plan/Record of Decision* (BLM 2003b) does not identify any management direction for biotic crusts other than monitoring language that states there is a need to conduct “research into the role and functioning of microbiotic crusts in the Northern Great Basin.... This research will focus on determining the validity of using soil crusts as an indicator of environmental impact and system integrity” (page 39).

Some biotic crust monitoring work is on-going within and outside of the CCC enclosure in the northeast part of the allotment (Map 2) shown in T30S, R24E, Sections 17 and 18. This enclosure was built by the Civilian Conservation Corps (CCC) in 1938 and has been used periodically as a rangeland study site. The enclosure is 80 acres in size and no cattle grazing has occurred since its completion. The primary vegetation within the enclosure is low sagebrush, *Poa secunda*, *Sitanion hystrix*, *Agropyron spicatum* and *Koleria cristata*. Approximately one third of the enclosure burned during the 2001 wildfire. A fire ecologist has been monitoring plant responses to wildfire inside and outside of the enclosure since that time. The studies are on-going, but some general observations have been made up to this point and are summarized as follows:

Four plots were established in 2002 inside and outside in the burned and unburned areas. The plots were visited in 2002, 2004, and 2006. Visually, the cryptogams appear to initially be severely damaged by fire. Very little moss was observed in the burned area, both inside and outside of the enclosure. The cryptogams in the unburned plot are highly associated with the low sagebrush plants, but are fairly frequent in the interspaces. It is suspected that the more intense burning and longer duration of burning under the sagebrush is responsible for the higher mortality of mosses associated with the sagebrush plants. During the 2006 plot visit, mosses were observed in most of the plots inside the burned area. The excluded burned area had easily identifiable mosses, approximately the size of a dime or nickel. Outside of the enclosure, mosses were present, but were much smaller in size (about the size of a wooden pencil eraser). “Outside one had to be down on your hands and knees to see the moss and often times remove all the grass litter from the frequency frame to observe them” (Joseph Wagner, Interagency Fire Ecologist, Lakeview BLM/Fremont-Winema National Forest, personal communication, June 2006).

At the same time of the above survey, the Lakeview BLM botanist set out permanent plots to look at the species composition of lichen and mosses. In general terms, more lichens were found within the enclosure and within the area that had not been burned or grazed. A few lichens were found outside of the enclosure in the unburned area. No lichens were found in the burned areas inside or outside of the enclosure.

In addition, studies by Ponzetti (2000) and Ponzetti and McCune (2001) examined biotic soil crust cover and composition at locations in central and eastern Oregon in 1995. One of the sites examined was the CCC enclosure. The study involved comparing species richness of microbiotic crusts and vascular plants inside and outside of the long-term grazing enclosure to provide a grazed-verses-ungrazed comparison of crusts and vascular species. Results of the study found that “all of the sites had between one and six more taxa inside the enclosures than in the grazed pastures, with the exception of Juniper Mountain (CCC enclosure), which had three more species in the grazed transect.” Generally, total crust cover is inversely related to vascular plant cover, as there is a positive relationship of crust cover to available soil surfaces (BLM 2003a). Ponzetti and McCune (2001) found, “total vascular plant species richness, cover, and shrub cover were not significantly different between grazed and enclosure transects.” These are the only known studies that have specifically examined microbiotic crusts within the Northern

Great Basin or the Lakeview Resource Area to date.

Riparian Vegetation:

Horseshoe Meadow is located on the west side of Juniper Mountain and contains the most extensive riparian area in the allotment. The riparian area is directly associated with Horseshoe Spring, which has been impacted by past water developments. The associated drainage channel has had several reservoir/pits constructed within it to hold livestock water (Map 2). From a riparian health perspective, the site is degraded as evidenced by the low vigor of the existing vegetation and dominant composition of Kentucky bluegrass and yarrow. These plant species are indicative of drier soil conditions and a lowered water table immediately adjacent to the drainage. In addition, these plants lack sufficient root mass/structure to adequately hold soil and water during high-flow events. There are also two existing headcuts in the drainage. Should these headcuts move or expand they have the potential to lower the water table further and negatively affect existing riparian vegetation.

The consensus from site visits by the ID team in November 2004 and with the permittee, a consultant, and range management professors from Oregon State University in October 2006, was that the riparian area still retains the potential to recover and improve in condition if adequate rest is allowed in grazed years such that riparian plant regrowth can occur (Notes of October 3, 2006 field trip).

Rangeland and Woodland Vegetation:

Two sagebrush/grass vegetation types dominate the allotment. Low sagebrush/native grass mixes make up approximately 35% of the allotment. Big sagebrush/native grass mixes make up approximately 45% of the allotment. However, within the big sagebrush/grass vegetation type there is considerable variation, with basin big sagebrush/grass, mountain big sagebrush/grass, and Wyoming big sagebrush/grass present throughout the allotment. The variation in the herbaceous understory indicates that native vegetation communities appear stable (BLM 2004c). A summary of the ESI data (1992-1997) found that 71% of the vegetation in the allotment was in the early to mid-seral stage. Twenty-nine percent was in the late to climax stage. Overall, vegetation in the allotment is in excellent condition. Plant diversity is very high. Shrubs and grasses are in excellent condition (BLM 2004c).

The vegetation in the construction zone along the ridge line of Juniper Mountain consists of Western Juniper (*Juniperus occidentalis*), Idaho fescue (*Festuca idahoensis*), Bluebunch wheatgrass (*Pseudoroegneria spicata*), and low sagebrush (*Artemisia arbuscula*). Vegetative composition is about 60 percent grasses, 10 percent forbs, and 30 percent shrubs and trees.

The top and northern, eastern, and southern aspects (side slopes) of Juniper Mountain prior to 2001- during which approximately one half of the original stand was burned in a wildland fire- was occupied by a dense old growth western juniper woodland. The over-story tree canopy was 400 to 600 years old. A few trees within the stand were estimated to be near 1,000 years old. Tree canopy cover ranged between 30 percent on the south aspect to 50 percent on the north aspect. Following the fire, the late to climax seral stage woodland vegetation in the burned area was pushed back to an early seral stage dominated primarily by native grasses and forbs. The western aspect of Juniper Mountain comprises a large portion of the Horseshoe Pasture. Vegetation in this pasture is primarily a sagebrush-grass community, with scattered young, invasive juniper. The 2001 wildfire did not impact this pasture.

Cheatgrass (a non-native annual) occurrence across the allotment as a whole is minimal and it existed prior to the 2001 wildfire. Cheatgrass has the potential to spread or increase in dominance if the overstory cover is lost because of a major disturbance such as a wildfire (BLM 2004c). Several small pockets of cheatgrass along BLM Road 6185-0-00 in the Big Juniper and Radio Spring Pastures increased in size and site dominance immediately following the 2001 wildfire. This expansion was due to favorable site conditions following the wildfire, not livestock grazing management practices. Cheatgrass productivity seems to be related to slope aspect, elevation, and the local microclimatic conditions such as air and soil temperature and soil moisture (Bradley and Mustard 2005). Years with above average precipitation provide ideal conditions for cheatgrass establishment and growth in eastern Oregon (Ganskopp and Bedell 1979). West and Young (2000) also found warm, wet spring conditions ideal for cheatgrass. Field experience in the allotment has shown that when spring temperatures are cold and/or spring precipitation is low, cheatgrass does not germinate well. On sites where the soil moisture and temperature are ideal, cheatgrass germinates and grows very well. As the sagebrush component recovers following the wildfire, the amount of surface moisture available for cheatgrass germination in the spring should diminish, and the micro-climate will likely become less favorable for cheatgrass. As this happens, it is expected that the amount of cheatgrass at these

sites will return to more historic, lower levels. This is consistent with conditions observed in Utah, where cheatgrass cover increased dramatically following fire (12.6% in 3-year old burns) and declined over time (to less than 1% in burns older than 22 years)(Barney and Frischknecht 1976). In central Oregon, cheatgrass biomass increased 4 to 6 fold (200 lbs/acre) in the first 2 years following western juniper removal by cutting (Vaitkus and Eddleman 1987). However, after 15 years, there were large increases in perennial grasses and a decline in cheatgrass to less than 10 lb/acre (Eddleman 2002). Bates *et al.* (2005) found similar results (spike in cheatgrass production) following a juniper treatment in the Steens Mountains to the east of the allotment. In that study, cheatgrass had a temporary spike in production 4-6 years after the treatment, which coincided with above average precipitation during this same period.

The *Lakeview RMP/ROD* (BLM 2003b) designated Juniper Mountain as an Area of Critical Environmental Concern and a Research Natural Area (ACEC/RNA). The values associated with the ACEC designation were botanical and ecological values related to old growth juniper and high plant species diversity. These values are described in more detail in the ACEC/RNA sections of this document.

Noxious Weeds:

Bull thistle (*Cirsium vulgare*) has been present in the past in the Horseshoe Meadow area. These scattered weed locations are monitored annually and treated as necessary, in accordance with an on-going, integrated weed management program (BLM 2004a). This monitoring and treatment would continue into the future regardless of the alternative selected for future implementation. Current noxious weed sites in the Lakeview Resource Area, including the Juniper Mountain Allotment area are associated primarily with existing roads and drainages. Livestock grazing management practices do not appear to be a major method of weed spread (Map 1; BLM 2004a).

Special Status and Cultural Plant Species:

No BLM special status plant species are known to occur in the project area, including Federally listed threatened or endangered species. Botanical surveys of the project area have been completed and no special status plant species were found.

Surveys for culturally important plants have been completed in the general project area and in the broader allotment. Several species have been found. Current management does not appear to be detrimental to these plant species.

Livestock Grazing:

The active preference of AUM's within the allotment for cattle grazing is 3,651 AUM's with a total preference of 4,447 AUM's. The allotment consists of 6 pastures of various sizes ranging from the largest Flint Hills pasture with 32,196 acres to the smallest the Horseshoe Pasture with 4,878 acres. The permitted season of use runs from March 16th thru October 31st. The current grazing system is managed as a rest-rotation system. Pastures which are grazed one year during an authorized timeframe are rested the following season or at a minimum, not grazed the following season during the same time of year.

A total of 74 developed water sources for stock water exist within the allotment including numerous playa waterholes and small reservoirs dispersed across the allotment which are completely dependant upon surface runoff of seasonal moisture. Six springs are also located within the allotment, all of them associated with Juniper Mountain itself. Several of these springs have been developed. All serve as additional stock watering locations. During extended drought years, stock water can be limiting in many of the pastures due to low winter/spring moisture. Some pastures lack sufficient stock water in poor moisture years and cannot be used. This has a corresponding effect on which pastures are used in a given year and how livestock are rotated around the allotment. During these times, pastures with adequate water sources may be used two or more years in a row, preferably at different times of the year (different seasons of use), for example: using the Flint Hills Pasture in early spring one year and using the same pasture the next season in late summer after seed set. This strategy ensures that plants are, at a minimum, given rest during the critical growing season every other year to allow for seed set and storage of adequate carbohydrate reserves for growth and maintenance of plant tissues.

Wildlife:

The deer and pronghorn antelope populations are healthy and increasing in number within the allotment. Habitat

quantity and quality do not appear to be limiting population size or health. The allotment also provides habitat for numerous small and non-game birds and mammals common to the Great Basin, as well as, sage grouse and California bighorn sheep habitat (BLM 2004c).

Mule deer and pronghorn antelope use the project area year-round. Some fawning/kidding has been observed within the project area. Rocky Mountain elk have been seen occasionally on Juniper Mountain, however, they spend most of their time on the National Forest and near Colvin Timbers to the south. Numerous other animals common to the sagebrush-steppe and juniper woodland fringe occur within the project area. Appendix H-2 of the Lakeview Proposed RMP/Final EIS (BLM 2003a) contains more information on typical Great Basin wildlife species assemblages that may occur in the project area.

Special Status Wildlife:

California bighorn sheep (BLM sensitive species) have occasionally been seen near the project area with the majority of sheep habitat occurring to the west on Abert Rim. Greater sage-grouse (BLM sensitive species) use the area year-round and broods are regularly observed within the project area. There are 10-12 sage-grouse strutting grounds (leks) located on the allotment approximately five miles to the south of Horseshoe Pasture. Sage-grouse and their broods have been seen using all of the springs surrounding Juniper Mountain at certain times of the year. There is no pygmy rabbit (BLM sensitive species) habitat specifically within the Horseshoe Pasture. The nearest known pygmy rabbit habitat in the allotment occurs 4 miles to the south of the project area.

Areas of Critical Environmental Concern/Research Natural Areas (ACEC/RNA):

A detailed description of the area's relevant and important values that led to the Juniper Mountain being designated as an ACEC is found in the *Lakeview Proposed RMP/Final EIS*, Appendix I - Areas of Critical Environmental Concern, pages A-201 thru A-203 (BLM 2003a). The following discussion is a brief summary.

Juniper Mountain was designated as both an ACEC and RNA in 2003 (BLM 2003b). It is described as an area of about 6,335 acres containing a relatively isolated mountain rising to over 6,000 feet elevation (Map 3). Prior to designation, most of the mountain was covered with a western juniper woodland that was expanding into the surrounding sagebrush/grassland steppe of mountain big sagebrush and mixed perennial bunchgrasses. The northern, eastern, and southern aspects of Juniper Mountain were occupied by a dense, old-growth juniper woodland. This stand was truly unique in that: 1) it was the only old-growth woodland of both its size and tree density within the Klamath, High Desert, or Snake River Ecological Provinces, 2) tree canopy and density were considerably greater than the old-growth juniper woodlands occupying the Mazama Province, and 3) the woodland was growing on igneous derived soils rather than the aeolian sands that typify the old growth woodlands of the Mazama Province. The overstory tree canopy was 400 to 600 years old. A few trees within the stand were estimated to be near 1,000 years old (Dr. Rick Miller, personal communication). Tree canopy cover ranged between 30 percent on the south aspect to 50 percent on the north aspect. Although there was evidence of small fires throughout the woodland, a stand replacement burn had not occurred for at least 600 years. In 2001, a major wildfire burned approximately one half of the ACEC/RNA's stand of old-growth juniper trees.

The presence of the old-growth western juniper forest also contributed to the area being designated as a RNA. Also, the Oregon Natural Heritage Plan (ONHP) determined that Juniper Mountain contained two (plant community) cells for the Basin and Range province (ONHP 2003):

- 1) Western juniper/big sagebrush/Idaho fescue
- 2) Western juniper/big sagebrush-bitterbrush steppe

Regarding the criteria for the RNA designation, "the old growth woodland on Juniper Mountain and adjacent shrub steppe communities provides an excellent outdoor research laboratory. It is an example of the successional endpoint (in the absence of major disturbance) for several mountain big sagebrush grassland communities common to the Intermountain Shrub Region. Currently, millions of acres of these shrub steppe communities are being encroached by western juniper within these ecological provinces. However, these stands are in various stages of woodland succession and less than 120 years old. The old-growth woodland on Juniper Mountain would allow researchers to study structure, function, and processes, which occur in climax juniper woodlands that have persisted for hundreds of years. Anthropogenic disturbance within both the woodland and adjacent shrub steppe communities has been minimal. Plant species composition within the western juniper woodlands and shrub steppe is in excellent condition

throughout most of the area.” (Dr. Rick Miller, personal communication, 1999, as stated in BLM 2000). The fourth criteria in the designation as an RNA was the high degree of biodiversity of plant species and plant communities. Despite the wildfire, one researcher felt the area still met the standards for a RNA because the other criteria that led to RNA designation were still present (Dr. Rick Miller, personal communication, 2004).

Wilderness:

The allotment is not located within any area currently designated as wilderness or identified by the BLM as wilderness study area (WSA) (BLM 1980, BLM 1989, BLM 1991, BLM 2003b). However, ONDA has provided the BLM with a copy of a wilderness inventory they completed in April 2005. This inventory identified about 67,948 acres encompassing most of the Juniper Mountain Allotment as a proposed WSA with the name of Juniper Mountain Proposed WSA (Map 2). The BLM reviewed this new information to verify the accuracy of the information presented by ONDA and determine if there was a need to update or maintain BLM’s existing wilderness inventory (see Appendix A). This evaluation found portions of the proposed WSA contained individual characteristics of wilderness. However, in order to make a determination that an area, in fact, has “wilderness character”, it must meet all of the wilderness criteria (roadless area covering 5,000 or more acres, natural condition, and have an outstanding opportunity either for solitude or for primitive or unconfined recreation) in the same geographic area. The BLM did not find any area where all of the required wilderness characteristics were present. The BLM previously determined that this area lacked wilderness character in 1980 (BLM 1980). Thus, the information submitted by ONDA does not represent new information that demonstrates the presence of wilderness characteristics in the area. Based on the recent evaluation of current resource data contained in Appendix A, the BLM finds that this area continues to lack wilderness character as of this point in time. The BLM concludes that there are no wilderness values present within the immediate project area or within the larger surrounding lands referred to as the Juniper Mountain Proposed WSA. For these reasons, wilderness values or characteristics need not and will not be considered further within this EA.

Cultural/Historic Resources:

Cultural resource surveys have been completed in the project area. No such resources were found along the proposed fence line alignment or cattle guard locations. However, a large lithic scatter was found at the spring and riparian area in Horseshoe Meadow.

Socioeconomic Conditions:

The public lands within the Juniper Mountain Allotment are divided between Lake and Harney County with the County line dividing most of the allotment equally between the two. The main economic base (livestock permittee) is located in Lake County. The Lakeview Proposed RMP/Final EIS (see Chapter 2, BLM 2003a) describes the general economic conditions in Lake and Harney Counties. Livestock production is a major component of Lake County’s economy, providing 43% of total agricultural commodity sales (Oregon State University 1995). Gross farm/ranch sales in Lake County totaled \$41.8 million in 1998 (Oregon State University Extension Service 1999).

Recreation Opportunities:

Though no recreational use data has been collected specifically from the project area or surrounding allotment, staff observations indicate recreational use of the area is light or low. No developed recreation sites exist in the allotment. Several primitive “hunter camps” are located along major roads in the allotment. Known recreational activities tend to be dispersed across the area and may include hunting, wildlife observation, motorized sight-seeing, and dispersed camping associated with hunting. During development of the *Lakeview RMP/ROD* (BLM 2003b), all public lands within the Lakeview planning area, including the Juniper Mountain allotment, were classified into one of six recreation opportunity spectrum (ROS) classes (primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded natural, rural, and urban). The ROS classification recognizes that the recreational resource base is not uniform across the planning area and varies in its potential to provide different types of recreational opportunities. These ROS classes are described and defined in more detail in Appendix M2 of the *Draft Lakeview RMP/EIS* (pages A-287 to A-288, BLM 2001). Table M2-1 (page A-291, BLM 2001) identifies and defines the criteria used in developing the ROS classification for the planning area (remoteness, size, evidence of human use, social setting, and managerial setting). The allotment falls mainly within the semi-primitive, motorized ROS class. Small portions in the southern part of the allotment along main roads are classified as roaded natural (see Map R-3; BLM 2003b). Vehicle travel within the Juniper Mountain ACEC/RNA is limited to designated roads and trails, as

outlined in the *Lakeview RMP/ROD* (see Map R-9; BLM 2003b).

Visual Quality:

The allotment is located within visual resource management (VRM) Class IV, the lowest of all scenic quality management classes (Map VRM-3, BLM 2003b). The objective of this class is to allow for management activities which may cause major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimizing disturbance, and designing projects to conform to the characteristic landscape (see Appendix M3, BLM 2001).

CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

Introduction:

There are no designated wilderness areas, WSAs, or areas containing wilderness character, wild and scenic rivers, known hazardous waste areas, areas of religious concern, threatened or endangered species, special status plants, or prime or unique farmlands in the immediate project area. No significant or disproportionate impacts would occur to low income or minority populations. Neither adverse nor beneficial impact is anticipated to floodplains, air quality, land tenure, or mineral and energy resources.

Impacts to hydrology and water quality, soils and biotic crusts, range and woodland vegetation, riparian vegetation, noxious weeds, cultural plants, ACECs, RNAs, wildlife habitat, special status animals, livestock grazing management, cultural and historic resources, economic conditions, recreation, and visual quality are discussed in the following section.

ALTERNATIVE 1 - NO ACTION

Hydrology and Water Quality Impacts:

Due to the inability to provide periods of rest in the Horseshoe Meadow under this alternative, the degraded hydrologic conditions (ie. "functioning at risk" rating) would continue into the foreseeable future or may even become even more degraded over time. Because livestock currently tend to drift into the meadow area from adjacent pastures, there would be less impact to upland sites in other pastures than at the meadow, but yearly use of the uplands on west side of Juniper Mountain (with no rest or control) would continue to reduce ground cover on some upland areas adjacent to the meadow area. Decreased ground cover could result in increased erosion and soil loss with an associated loss of water holding capabilities. While extensive migration or expansion of the existing headcuts is not expected, they would not recover or stabilize. Given the right series of conditions (ie severe thunderstorm), they could move upstream resulting in a lowered water table adjacent to the drainage.

Water quality in Horseshoe Meadow could continue to be negatively impacted due to the associated poor recovery expectations of the surrounding vegetation, soils, and channel conditions. Temperatures would continue to be higher than would be typical for a hydrologic system in a recovered condition. Flows from existing springs would continue to be intermittent in nature.

Soil and Biotic Crust Impacts:

Soil erosion within the Horseshoe Meadow would continue and could increase over time. There would be no additional impacts or changes in existing impacts to upland soils in the project area under this alternative, as no construction or other management changes would occur.

There is currently very little information on biotic crusts available of relevance specifically to the project area or the larger Northern Great Basin ecological province. A few studies have been conducted in other parts of the west, but the species assemblages, soil types, and climates are very different from the project area making direct comparisons difficult. The few studies that have been conducted of direct relevance to the project area indicate that livestock grazing does have some effect on biotic crust composition and total crust cover. However, other factors such as soil chemistry, climate gradients, and other types of disturbances such as wildfire also have a significant bearing on

species richness and abundance at any given site. Ponzetti and McCune (2001) found that, in contrast to other study sites, the Juniper Mountain (CCC enclosure) site had higher biotic crust species diversity in the grazed transect than did the ungrazed transect. Under this alternative, biotic crust species diversity and total cover in the Horseshoe Pasture would not be expected to change much from current conditions unless some other disturbance such as a wildfire occurred in the area.

Riparian Vegetation Impacts:

The riparian vegetation in Horseshoe Meadow would continue to be used season-long, every year, by at least a few head of cattle as some livestock would continue to drift into the meadow from other adjacent pastures. This continued use (or lack of rest) would not allow for adequate regrowth of the riparian vegetation during the growing season and would, therefore, prevent natural recovery. Boyd and Svejcar (2004) found that late season clipping (vegetative removal) produced less riparian plant regrowth in southeastern Oregon than earlier season clipping. The Horseshoe Meadow area would probably continue to fail Rangeland Health Standard 2 into the foreseeable future due to the current grazing management practices.

Over time, sedges and rushes would continue to be replaced with Kentucky bluegrass and other species less able to hold stream bank soils together. Season long use on riparian areas has been rated as the worst riparian grazing management option available (Platts 1991). While extensive migration or expansion of the headcuts is not expected, they would not recover or stabilize. If these headcuts did expand or move upstream, the resulting lowering of the water table adjacent to upstream portions of the drainage would have a negative impact on riparian vegetation.

Range and Woodland Vegetation Impacts:

Though late season cattle use of the Horseshoe Pasture would continue due to cattle drift from adjacent pastures (Big Juniper, Radio Springs, and Sagebrush Knoll Pastures), there would not be much impact to the upland range or woodland vegetation in the Horseshoe Pasture. Most of the late season cattle use is concentrated on the small Horseshoe Meadow area within the pasture. Most of the upland vegetation in this pasture is in good condition and would retain a static or upward trend under this alternative.

Noxious Weed Impacts:

Bull thistle has been observed in the Horseshoe Meadow area. Thistle locations have been treated in the past and continue to be monitored. Weed sites would continue to be inventoried, monitored, and treated as outlined in the Lakeview Resource Area Integrated Weed Management Program (BLM 2004a). Based on the known weed infestation patterns (along roads and drainages) in the Lakeview Resource Area, livestock use is not considered to be a major vector of weed seed transport (Map 1, BLM 2004a). Since existing management would not change under this alternative, the low level of risk of this weed species expanding or new species invading the pasture would not change into the foreseeable future. The impacts of this on-going weed treatment program are described in detail in that document and will not be repeated here.

Cultural Plant Species Impacts:

Depending on the time of year and longevity that the pasture is used, cultural plants in the Horseshoe Pasture could be negatively affected. Spring and early season grazing can have more impact on cultural plants. This is not only because the plants themselves may be grazed, but the soils on these low sagebrush and meadow sites are more vulnerable to disturbance when wet. Since current management does not appear to be detrimental to existing cultural plant species, there would be no change or additional impacts to such species populations or habitat conditions in the Horseshoe Pasture under this alternative.

ACEC/RNA Impacts:

There would be no impacts to the Juniper Mountain ACEC/RNA relevant and important values due to continuing current management practices. The values associated with the ACEC/RNA are tied directly to the presence of old-growth juniper stands and to the Heritage cells (plant communities) associated with these juniper stands. As noted previously, approximately one-half of the old growth juniper stands in the ACEC/RNA were killed in the 2001 wildfire. Though the remaining old-growth stands and associated plant communities (north, east, and south slopes

of Juniper Mountain) could change in the future in response to natural causes such as drought, succession, or another wildfire, they would not change significantly due to continuing current livestock management.

Specifically within the Horseshoe Meadow area (west slope of Juniper Mountain) the juniper-associated plant community cells do not exist, therefore there would be no impact to ACEC values. However, the RNA management goal that biodiverse plant communities remain healthy across the entire RNA is also applicable to the Horseshoe Meadow area. This goal may not be met specifically in the Horseshoe Meadow portion of the RNA under continuation of current management. At present there is a paucity of plant community variation and diversity in the Horseshoe Meadow area; this condition may be monitored, but would not be expected to improve naturally.

Wildlife Habitat and Special Status Animal Species Impacts:

The current grazing system does not provide adequate rest for the improvement of riparian vegetation/habitat in the Horseshoe Pasture due to late season or season-long use. There would be some continued negative, long-term impacts to mule deer fawning habitat, pronghorn antelope foraging/kidding habitat, sage-grouse nesting/brood-rearing habitat, and other associated sagebrush-steppe wildlife species from continued cattle drift into the Horseshoe Pasture, associated late season use of the riparian area, and from cattle trailing from pasture to pasture over the top of Juniper Mountain. This alternative would not be consistent with the Oregon Sage Grouse conservation guidelines #2a (ODFW, 2005; page 75). There would be no impacts to elk, bighorn sheep, or pygmy rabbit habitat as these species do not use the Horseshoe Pasture.

Cultural and Historic Resource Impacts:

The lithic scatter in the Horseshoe Meadow area would continue to be subjected to livestock trampling and “punching” by the hoofs of livestock when the soil is wet and livestock are in the area.

Livestock Grazing Impacts:

Under this alternative, the current grazing system would continue. Water availability would continue to be a driving factor in which pastures are used and which are rested in a given year or season. The incomplete pasture division fences in the northern part of the allotment would continue to allow cattle from adjacent pastures to cross over Juniper Mountain into the Horseshoe Pasture resulting in unauthorized livestock use, and continued riparian impacts in the Horseshoe Meadow. Though this alternative would allow continued livestock grazing at authorized levels, it would result in continuing to fail to meet Rangeland Health Standard 2 in the Horseshoe Pasture. Thus, this alternative would not meet all of the objectives of the purpose and need for the proposed action.

Socioeconomic Impacts:

Under this alternative there would be no changes to socioeconomic conditions of the permittee or the Lake and Harney County economies.

Recreation Impacts:

There would be no impacts or changes to existing recreation opportunities under this alternative.

Visual Impacts:

This alternative would not change the existing scenic quality of the area and would meet the management objectives of VRM Class IV.

ALTERNATIVE 2 - PROPOSED ACTION

Introduction:

The general effects of fence and cattle guard construction would consist of some surface disturbance associated with the construction phase. Cattle guards would be constructed in existing disturbed road surfaces and involve very little additional ground disturbance or impacts. Cattle guard construction is typically considered to be such a minor activity that it is categorically excluded from analysis under NEPA (DOI 2004). Cattle guards are typically

constructed in previously disturbed roadbeds. It discussed in this EA mainly from the perspective of potential cumulative effects. Fence related disturbances could include: brushing out vegetation within 10-foot wide swath along the fence line with chain saws, building of rock jacks, travel up and down the fence corridor with an all-terrain vehicle (ATV) to move fence supplies and lay/stretch the wires, and limbing of live old-growth junipers (up to shoulder height) in the fence line. Dead junipers in the fence line would be felled. The frequency of trips would be limited to the minimum necessary to complete the project and would be controlled to prevent the development of new trails on the landscape. These disturbances would be short term, occurring only during the construction phase and would be largely unnoticeable within a few years of completion of the project. If new routes are created along the fence line, they would be signed closed and rehabilitated as necessary.

Hydrology and Water Quality Impacts:

The new fences would prevent cattle from drifting into the Horseshoe Pasture and allow for periodic rest of the entire pasture. Rest would allow the Horseshoe Meadow and the associated channel to recover naturally over time. With improved condition, both the meadow system and adjacent uplands should move the watershed towards meeting the goal of capturing, storing, and safely releasing water longer into the year. Providing year-long rest periodically and modifying season of use on other years would allow riparian vegetation to regrow or recover, which is critical to stabilizing the site. As vegetation conditions improve and soils become less compacted, water from the spring should run longer into the year than current conditions allow. With improved cover over the channel and more moisture holding capability in the soils, water quality could improve slightly.

Periodic rest should also allow upland areas in the pasture to be less susceptible to erosion as ground cover increases with soil stabilizing grasses.

Soils and Biotic Crust Impacts:

There would be some minor, short-term, site-specific effects to soils in the project area during project construction, but there would be little lasting effects as the small, disturbed area (estimated at 1.2 acres of disturbance; 10 feet wide swath for the total of 5 miles of fence; 0.001 percent of the public acres within the allotment) would be expected to revegetate naturally within one or two growing seasons. The periodic rest provided to soils in the Horseshoe Pasture should allow for renewed vigor of plant communities within the pasture with a corresponding increase in plant cover and root holding capacity, followed by a reduction in soil erosion potential.

The soils affected by the construction of the fence are 95% shallow and lithic, so few, if any, microbiotic crusts would be expected there, especially since the aspect is to the west (Belnap *et al.* 2001). There could be some minor, short-term, site-specific effects to biotic crusts in the project construction zone (approximately 1.2 acres), if present. However, the disturbed area could recover within a couple of growing seasons due to natural recruitment from the surrounding undisturbed area. The periodic rest provided to biotic crusts in the Horseshoe Pasture should allow for increased vigor and density of crust cover within the pasture as a whole over the long term. Impacts to crusts in other pastures in the allotment would be similar to Alternative 1.

Cattle trailing along the proposed new fence line should be minimal since it would be constructed along ridge lines and side slopes in rough, rocky terrain that is typically not prone to cattle trailing use. Therefore, impacts to soils and biotic crusts from additional cattle trailing are not expected.

The proposed cattle guard locations represent sites that have previously been disturbed by road construction and vehicle travel. Construction in these small disturbed areas would have little additional impact on soils or biotic crusts.

Riparian Vegetation Impacts:

Numerous studies have shown that controlled early spring season grazing can promote riparian recovery. Kruger (1983) found that in the spring cattle often avoid riparian zones because of colder temperatures, soil wetness, and forage immaturity. Spring grazing can encourage cattle to make more use adjacent uplands where forage maturity and microclimate are more favorable (Platts 1984). Construction of the fence would prevent unauthorized late season grazing use and, therefore, allow for periodic rest and limited utilization (during years of authorized early season use) of the riparian vegetation. Regrowth of riparian vegetation is facilitated by the absence of summer grazing (Elmore and Kaufman 1993). Riparian vegetation should become more diverse and vigorous over time.

Over the long-term, the riparian vegetation should expand to help stabilize the existing headcuts. Compaction from hoof action would be reduced and vegetation root masses would expand to form better soil and moisture holding capabilities. Soil moisture should extend or expand further downstream from the spring area and water flows should last longer into the summer. The small patches of existing sedges should expand as the water table comes up. Thus, the riparian system as a whole in the Horseshoe Pasture would recover.

Rangeland management professors from Oregon State University who visited the site in October 2006 were in agreement that the proposed fence project would benefit the riparian area by allowing for an effective rest rotation grazing system that would provide rest years and allow adequate time for riparian vegetation regrowth during years with authorized spring grazing use (Notes of October 3, 2006 field trip).

Range and Woodland Vegetation Impacts:

Up to 1.2 acres of existing vegetation directly along the proposed fence line would need to be trimmed or removed with chain saws to aid in fence construction, primarily in areas where the fence traverses stands of juniper. This would include trimming of live or felling of dead individual trees. The live old-growth juniper remaining following the 2001 wildfire is found primarily on the southern aspect of the mountain, is still intact, and would not be affected by the proposed fence except for minimal limbing of trees in the direct line of the fence. Most of the proposed fence would be located on the ridge top. The majority of the vegetation in this area is composed of bunchgrasses and low sagebrush which would be removed during fence construction. ATV travel along the fence line would also trample shorter vegetation such as grasses and sagebrush. Most of this disturbance would be short-term, occurring only during the construction phase. Many trampled or trimmed plants would recover over time. New plants would also resprout naturally in the disturbed area from existing seed sources. Thus, project construction would have little or no long-term effects on total vegetative cover or health in the pasture. Though upland vegetation in this pasture would benefit from the periodic rest provided by the proposed fence, most of the upland vegetation in this pasture is already in good condition and would retain a static or upward trend.

Cattle trailing along the proposed new fence line should be minimal since it would be constructed along ridge lines and side slopes in rough, rocky terrain, typically not prone to cattle trailing use.

The proposed cattle guard locations represent sites that have previously been disturbed by road construction and vehicle travel and are devoid of vegetation. Construction in these small disturbed areas would have no impact on upland vegetation.

Noxious Weed Impacts:

Bull thistle in the Horseshoe Meadow area has been treated in the past and continues to be monitored. Although there are no noxious weeds present in the proposed project location, project construction would disturb about 1.2 acres of native vegetation. Ground disturbance increases the potential risk of weed spread and invasion. The standard weed prevention procedures outlined in the *Integrated Weed Management Program* (BLM 2004a) and the *Lakeview RMP/ROD*, Appendix D - Best Management Practices, Noxious Weed Management section, page A-6 (BLM 2003b) would be followed during project implementation and would greatly reduce the potential for noxious weed invasion into the construction area. The risk of noxious weed spread or invasion due to continuing to graze the pasture as part of a rest rotation grazing system would be similar to Alternative 1. The impacts of continuing this weed treatment program are described in greater detail in the referenced EA document and will not be repeated here.

Cultural Plant Impacts:

The cultural plant species that have been documented in the fence construction area are few and are resilient to disturbance; they should recover naturally or repopulate the disturbed area over time from surrounding population seed sources. Impacts to cultural plants within the larger Horseshoe Pasture would be similar to Alternative 1.

ACEC/RNA Impacts:

The ACEC/RNA values are tied to the existing old-growth juniper plant communities, the two RNA plant community cells, and the overall biodiversity of the plant communities. Though the proposed fence would require some limbing or possible felling of individual dead juniper trees to allow for fence construction, this would be limited to small, isolated areas (less than 1.2 acres) in the direct line of the proposed fence. These proposed

vegetation manipulations would not impact or alter the remaining (post-wildfire) old-growth stand characteristics or botanical values of the ACEC/RNA. The proposed cattle guards would be constructed in the road forming the western boundary of the ACEC/RNA and would, therefore, not have any impact on ACEC/RNA values. The management goal regarding maintaining healthy, biodiverse plant communities across the entire RNA, including the Horseshoe Meadow area, may need to be monitored in the future to determine if the goal is being met following project implementation.

Wildlife and Special Status Species Impacts:

Mule deer, pronghorn antelope, sage-grouse and other associated sagebrush steppe wildlife species habitat in the Horseshoe Pasture would see some long-term benefits under this alternative. The proposed fence would provide needed rest from livestock grazing in the Horseshoe Pasture, especially during the late season when riparian vegetation is most vulnerable, and would allow some riparian meadow restoration, directly benefiting foraging habitat for sage-grouse and their broods. The fence should also minimize trailing impacts through mule deer and pronghorn antelope fawning/kidding habitat which is limited in distribution within the allotment.

Wildlife impacts from fence construction would be minimized by restricting site preparation for fence construction to the immediate area of the proposed fence. The proposed fence project would comply with conservation guidelines #2a(ii) (page 75) and #4 (page 76) of the Oregon Sage-Grouse Plan (ODFW 2005). There would be no impacts to elk, bighorn sheep, or pygmy rabbit habitat as these species do not routinely use the Horseshoe Pasture.

Cultural/Historic Resource Impacts:

The cultural resource survey did not find any cultural or historic resource values in the proposed fence or cattleguard construction area, therefore, no impacts would occur to such resources. The proposed fencing would eliminate unauthorized livestock trampling and soil “punching” in wet soil within the large lithic scatter that is present at the spring and riparian area during rest years.

Livestock Grazing Impacts:

The preferred plan would allow for more effective implementation of a rest rotation system of grazing management. The proposed fence would provide an effective barrier to prevent cattle drift from adjacent pastures into the Horseshoe Pasture protecting the Horseshoe Meadow area from late season grazing. The Horseshoe Pasture would continue to be used in the early spring as part of the rest rotation grazing system. The consensus of the ID team during the November 2004 field tour was that early season cattle grazing within the Horseshoe Meadow area is a compatible use, provided grazing use ends early enough in the growing season to allow adequate regrowth of riparian vegetation following grazing. This regrowth of the riparian vegetation is critical to the proper functioning of the Horseshoe Meadow area. The overall effectiveness of the rest rotation grazing system would be improved, as all the pastures in the allotment would have adequate fencing to control livestock movement and prevent drift into adjacent pastures.

Implementation of this alternative should result in improved riparian conditions in the Horseshoe Pasture, while still allowing for continued livestock grazing at permitted forage levels. Riparian conditions would meet or move towards meeting Rangeland Health Standard 2. Thus, this alternative would meet all of the stated objectives of the purpose and need for the proposed action.

Economic Impacts:

The proposed fencing is estimated to cost about \$20,000 to construct (5 miles of fence at \$4,000 per mile). The 2 cattle guards are estimated to cost \$6,000 (\$3,000 each). Implementation of the preferred plan would be of long-term economic value to both the permittee and the local economies. Implementation and continued livestock grazing at permitted levels would have similar positive effects on the Lake and Harney County economies as Alternative 1. The preferred plan would also be of benefit to the permittee because a properly constructed and maintained fence provides the greatest measure of control for cattle. Although the permittee would have increased time and labor costs associated with additional fence maintenance across the allotment compared to Alternative 1, the benefits of the proposed fence would exceed these additional costs. Implementation of the preferred plan would save the permittee from substantial costs associated with increased riding/herding (in Alternative 5) or potentially significant loss of income (under Alternatives 3 and 4).

Recreation Impacts:

There would be no direct impacts to recreation opportunities under this alternative. As the quality of the riparian area improves, it could improve both wildlife viewing and hunting opportunities within the Horseshoe Meadow area.

Visual Impacts:

The construction of the fence and cattleguards under this alternative would meet or be consistent with the management objectives of VRM Class IV. The visual quality of the Horseshoe Meadow area would improve as the riparian vegetation becomes more diverse and vigorous.

ALTERNATIVE 3- REDUCED GRAZING LEVELS**Hydrology and Water Quality Impacts:**

Some improvement may be expected in hydrologic function as it relates to factors such as vegetative ground cover on upland areas in the Horseshoe Pasture. Livestock trails should show some recovery due to less total trailing use and revegetate.

Because of livestock's natural tendency to concentrate on riparian areas later in the grazing season (BLM 1998a, Wyman 2006), the hydrologic function in the riparian area in Horseshoe Meadow would likely continue to decline. Even though total livestock use would be reduced by 50% under this alternative, the lack of solid pasture barrier would still allow some livestock to drift into the Horseshoe Pasture from adjacent pastures. The negative effects of season long or late season use on drainage channels and head-cuts would be especially apparent in Horseshoe Meadow. Water quality would continue to be affected negatively by the declining condition of the riparian vegetation surrounding the spring areas. The area would continue to fail rangeland health standard 2. These negative impacts would be similar to Alternative 1.

Soils and Biotic Crust Impacts:

The impact of livestock hoof action and trampling on upland area soils and biotic crusts would be lessened by approximately 50% compared to Alternatives 1 or 2. Soil erosion within the Horseshoe Meadow would continue due to the lack of a barrier and tendency of livestock to drift into the Horseshoe Pasture and concentrate in the riparian area late in the season or all year long. This impact on riparian soils would be similar to Alternative 1.

Livestock use may have some effect on biotic crust cover and species composition. Impacts would vary depending on the time of year and length of time in the area. Under this alternative total livestock use across the pasture would be reduced by 50% which could correlate to a reduction in trampling of existing crusts in the pasture compared to Alternative 1. Biotic crusts are very long lived, but recover from disturbance slowly (Belnap *et al.* 2001).

Riparian Vegetation Impacts:

Because of livestock's natural tendency to concentrate on riparian areas especially later in the grazing season when upland vegetation dries out and becomes less palatable, the riparian conditions in Horseshoe Meadow would continue to decline. Even though total livestock use would be reduced by 50% under this alternative, the lack of solid pasture barrier would still allow some livestock to drift into the Horseshoe Pasture from adjacent pastures. The negative effects of this season long or late season use would be similar to Alternative 1.

Range and Woodland Vegetation Impacts:

Impacts to upland range and woodland vegetation communities in the Horseshoe Pasture would be similar to, but somewhat less in magnitude than Alternative 1.

Noxious Weed Impacts:

The existing bull thistle and other potential weed sites in the pasture would continue to be inventoried, monitored, and treated as outlined in the Lakeview Resource Area Integrated Weed Management Program (BLM 2004a).

Implementation of this alternative would have little or no effect on treatment of known sites under this on-going weed program. The risk of noxious weed spread or invasion due to continuing management of the pasture as part of a rest rotation grazing system would be similar to Alternative 1.

Cultural Plant Impacts:

Plant surveys conducted in the pasture found only a few cultural plant species present. A 50% reduction in livestock use could benefit cultural plant species by reducing total grazing pressure and trampling effects. However, grazing use every year, even at reduced numbers would still allow some livestock to congregate in the riparian area season-long, which could be detrimental to cultural plants in the Horseshoe Pasture similar to Alternative 1.

ACEC/RNA Impacts:

The impacts to the Juniper Mountain ACEC/RNA values would be similar to Alternative 1. The management goal regarding maintaining healthy, biodiverse plant communities across the entire RNA, including the Horseshoe Meadow area, may need to be monitored in the future to determine if the goal is being met.

Wildlife and Special Status Species Impacts:

The impacts of this alternative on wildlife and special status animal species habitat in the Horseshoe Pasture would be similar to, but slightly less than Alternative 1. A 50% reduction in grazing use each year could result in some increase in grass and forb forage species available for wildlife use in the pasture. This alternative would be consistent with conservation guidelines #2a(ii), 2a(iii), and 2a(v) of the Oregon Sage-Grouse Plan (ODFW 2005; page 75).

Cultural/Historic Resource Impacts:

Even though livestock grazing would be reduced by 50%, some of the remaining livestock would still tend to congregate in the Horseshoe Spring and Meadow area due to the lack of a barrier fence. This would allow trampling and soil "punching" in wet soils by livestock of a known lithic scatter site. This impact would be similar to that described for Alternative 1, but may be of slightly less intensity.

Livestock Grazing Impacts:

The lack of a solid, connected pasture boundary fence would still allow livestock to drift into the Horseshoe Pasture from 3 adjacent pastures within the allotment during years or seasons when grazing is authorized in these adjacent pastures in a similar fashion as Alternative 1. Despite the 50% reduction in total livestock use across the allotment, this continued unauthorized use of the Horseshoe Pasture would likely not allow for adequate rest or recovery of the riparian area from late season grazing.

Implementation of this alternative would not allow for continued livestock grazing at permitted forage levels or meet or move towards meeting Rangeland Health Standard 2 in the Horseshoe Meadow area. Thus, this alternative would not meet any of the objectives of the purpose and need for the proposed action.

Economic Impacts:

A permanent reduction of grazing levels by 50% within the Juniper Mountain Allotment would place extreme economic hardship on the permittee in the form of lost grazing opportunities and lost personal/business income. A 50% reduction of grazing privileges in the Juniper Mountain Allotment would be equal to a 38% reduction of the permittee's total active grazing privileges on all BLM lands. Presently, there are no additional AUMs available on other public lands where the BLM could transfer this 1,826 AUMs of lost grazing use. The availability of AUMs on private lands within Lake County is also scarce to non-existent. In addition, AUMs from private lands, even if available, would be substantially more costly to the permittee's operation than are AUMs from public lands. Currently the average price of an AUM on private, non-irrigated grazing lands within Lake County is \$8.00 to \$10.00 per month per cow/calf (Pete Schrader, Oregon State University Extension Service personal communication, 2006) compared to \$1.56 per AUM on BLM administered lands. The permittee would incur an additional \$11,760 to 15,410 costs per year to provide forage for his entire herd or would need to permanently reduce his herd. This herd reduction would result in less annual revenue generated by the permittee and would have an associated negative

multiplier effect on the local economy.

Recreation Impacts:

There would be no negative impacts to existing recreation opportunities under this alternative. If the quality of the riparian area improves, it could improve both wildlife viewing and hunting opportunities within the Horseshoe meadow.

Visual Impacts:

This alternative would not change the existing scenic quality of the area and would meet the management objectives of VRM Class IV.

ALTERNATIVE 4 – FULL REST EVERY OTHER YEAR

Hydrology and Water Quality Impacts:

Despite every other year rest provided under this alternative, cattle would likely continue to congregate in the Horseshoe Meadow area during use years. While an increase in ground cover and some riparian plant vigor would be restored during rest years, late season or season long use on the alternate years would likely negate the gains made. Use would be especially intense on the riparian area as stock move to the greener vegetation late in the summer. Therefore, the hydrologic components of the Horseshoe Pasture environment that allow the system to capture, store, and safely release water would continue to decline over time similar to Alternative 1. There would be a gradual decline in overall watershed conditions. Over the long-term, the headcuts and eroding banks in the Horseshoe meadow would expand in size similar to Alternative 1. Water quality would be affected negatively by the declining condition of the riparian vegetation in the spring area.

Soils and Biotic Crust Impacts:

The rest provided to soils in the Horseshoe Pasture should allow for a temporary increase in vigor of plant communities within the pasture with a corresponding increase in plant cover and root soil holding capacity, every other year. This improved condition would be temporary followed by a reduction in soil erosion potential during grazed years. This benefit would be greater than Alternatives 1 or 3, but less than Alternative 2.

Livestock use in the pasture every other year may have some negative effect on biotic crusts. Impacts would vary depending on the time of year and length of time in a given area. Biotic crusts are very long lived, but recover from disturbance slowly (Belnap et al. 2001). Gains in total crust cover during rest years could be lost during grazed years. The impacts would be less than Alternative 1, but greater than Alternatives 2 or 3.

Riparian Vegetation Impacts:

Despite every other year rest provided under this alternative, cattle would continue to congregate in the Horseshoe Meadow area during use years. Riparian vegetation would be reduced in vigor and total cover and would be replaced by species less able to protect banks. While some temporary gains would be made to riparian plant vigor in rest years they would be lost during late season or season long use in the grazed years. These effects would be similar to Alternative 1.

Range and Woodland Vegetation Impacts:

Impacts to upland range and woodland vegetation communities in the Horseshoe Pasture would be similar to, but somewhat less in magnitude than either Alternatives 1 or 2. Impacts would be slightly greater than Alternative 3.

Cultural Plant Impacts:

The impacts to cultural plants in the Horseshoe Pasture would be similar to Alternative 1 and more than Alternative 2.

Noxious Weed Impacts:

Impacts would be similar to Alternative 3.

ACEC/RNA Impacts:

This alternative would have little impact on the ACEC/RNA values. The management goal regarding maintaining healthy, biodiverse plant communities across the entire RNA, including the Horseshoe Meadow area, may need to be monitored in the future to determine if the goal is met if this alternative is implemented.

Wildlife and Special Status Species Impacts:

The impacts of this alternative to wildlife and special status species habitat in the Horseshoe Pasture would be similar to that of the Alternatives 1 and 3. Some livestock would continue to concentrate in the riparian areas every other year during the late season and which would not allow sufficient riparian habitat improvement. Habitat improvement made during every other year of rest would be temporary and would be lost during grazed years. This alternative would be consistent with conservation guidelines #2a(ii), 2a(iii), and 2a(v) of the Oregon Sage-Grouse Plan (ODFW 2005; page 75). There would be no impacts to elk, bighorn sheep, or pygmy rabbit habitat as these species do not routinely use the Horseshoe Pasture.

Cultural/Historic Resource Impacts:

This alternative would reduce the total trampling and soil “punching” at the lithic scatter site in the Horseshoe Pasture caused by livestock during rest years, but would not eliminate it during grazed years.

Livestock Grazing Impacts:

During rest years the Horseshoe Meadow would receive adequate rest and recovery would move towards meeting Rangeland Health Standard 2. However, during grazed years, this alternative would continue to allow the late season grazing of the Horseshoe Meadow. This late season use, every other year, would likely erase any temporary riparian recovery made during rest years. Overall, this alternative would likely not allow permanent attainment or movement towards attainment of Rangeland Health Standard 2. Further, it would not continue to allow livestock grazing at full permitted forage levels. For these reasons, it would not meet the objectives of the purpose and need for the proposed action.

Economic Impacts:

This alternative would place extreme economic hardship on the permittee in the form of lost grazing opportunities and lost personal income every other year. On years that the Juniper Mountain Allotment was rested the permittee would have to find an additional 3,651 AUMs of forage for his herd during the time he would normally be grazing in the Juniper Mountain Allotment- approximately from March to October every other year. Presently, there are no additional AUMs available on other public lands where the BLM could transfer this 3,651 AUMs of lost grazing use. The availability of AUMs on private lands within Lake County is also scarce to non-existent. In addition, AUMs from private lands, even if available, would be substantially more costly to the permittee’s operation than are AUMs from public lands. Currently the average price of an AUM on private, non-irrigated grazing lands within Lake County is \$8.00 to \$10.00 per month per cow/calf (Pete Schrader, Oregon State University Extension Service personal communication, 2006) compared to \$1.56 per AUM on BLM administered lands. The permittee would incur an additional \$23,530 to 30,820 costs per year to provide forage for his entire herd. The likelihood of finding this additional forage on a permanent basis for every other year of use is low, making the only other alternative for the permittee to permanently reduce his herd. This herd reduction would result in less annual revenue generated by the permittee and would have an associated negative multiplier effect on the local economy.

Recreation Impacts:

The impacts to recreation opportunities under this alternative would be similar to Alternative 1.

Visual Impacts:

This alternative would not change the existing scenic quality of the area and would meet the management objectives of VRM Class IV.

ALTERNATIVE 5 – INCREASED HERDING/USE OF RIDERS

Introduction:

The impacts of this alternative would depend largely on the effectiveness of herding in keeping livestock out of the Horseshoe Pasture during years or seasons of scheduled rest. Without solid pasture fencing forming a barrier to prevent livestock movement from other pastures, cattle would tend to move quickly back to known water sources/riparian zones in the Horseshoe Pasture after they have been moved out of the area. It is likely that daily or twice-daily herding of stock out from the Horseshoe Pasture would be required for a minimally effective herding system. That is, a system that keeps pushing cows back out of the riparian zone such that they do not have time to congregate for long periods of time.

Hydrology and Water Quality Impacts:

If herding is effective in keeping livestock out of the Horseshoe Pasture, such that rest and recovery of vegetation both on uplands and riparian areas occurs, then hydrologic components and water quality in the pasture would improve compared to Alternative 1. If herding is not effective, conditions within the meadow would decline similar to Alternative 1. As stock move back and forth between adjacent pastures, they would be expected to use established trails or create new trails. This increased trailing would negatively impact the watershed from increased erosion originating on the trails.

Soils and Biotic Crust Impacts:

Impacts to soils over most of the pasture would be similar to Alternative 1. However, there would be increased erosion potential associated with increased trailing.

Impacts to biotic crust species diversity and total cover over most of the pasture would be similar to Alternative 1. Increased trailing could reduce crust cover slightly due to trampling.

Riparian Vegetation Impacts:

Livestock would be expected to seek out and concentrate in the riparian area in Horseshoe Meadow as they have in the past, at least for short periods of time. If herding is effective in moving livestock out of the Horseshoe Pasture, such that they cannot concentrate in riparian areas for long periods of time, then the riparian areas would improve compared to Alternative 1. However, if herding is not effective, conditions within the meadow would decline similar to Alternative 1.

Range and Woodland Vegetation Impacts:

The impacts to upland range and woodland vegetation in the Horseshoe Pasture under this alternative would be similar to Alternative 1. Increased trailing could slightly increase trampling effects on vegetation.

Cultural Plant Impacts:

If riders were not successful in keeping cows out of the riparian area, impacts to cultural plants in the Horseshoe Pasture would be similar to Alternative 1 due to the tendency of livestock to concentrate there. If riders are successful in keeping cows out of the riparian area, the impacts would be more similar to Alternative 2.

Noxious Weed Impacts:

Impacts would be similar to Alternative 1.

ACEC/RNA Impacts:

Impacts would be similar to Alternative 1.

Wildlife and Special Status Species Impacts:

The impacts of this alternative on wildlife and special status species habitat in the Horseshoe Pasture would depend on the effectiveness of the herding program and the amount of riparian habitat recovery that actually results. If herding is effective in keeping livestock from concentrating in the riparian area for long periods of time, then the riparian habitat would improve and be of greater benefit to mule deer, pronghorn antelope, and sage-grouse compared to Alternative 1. However, if herding is not effective, riparian conditions within the meadow would decline and impacts to these wildlife species would be similar to Alternatives 1, 3, and 4. There would be no impacts to elk, bighorn sheep, or pygmy rabbit habitat as these species do not routinely use the Horseshoe Pasture.

Cultural/Historic Resource Impacts:

Unless the riders are fully successful in keeping livestock out of the Horseshoe Pasture there would continue to be livestock trampling and soil “punching” of the lithic scatter site located at the spring and riparian area.

Livestock Grazing Impacts:

To stand the greatest chance of being effective, this alternative would require riders to be present at least during daylight hours, seven days a week, during the authorized season of use (March to October) in the 3 adjacent pastures to attempt to form a barrier to cattle movement into the Horseshoe Pasture during scheduled periods of rest. This additional herding would be over and above that needed to move cattle into different pastures at different times during the grazing season. Riders would also need to patrol the Horseshoe Meadow area and push out any cows that got into the area. It is likely that daily or twice-daily herding of stock out from the Horseshoe Pasture would be required to be minimally effective. It is assumed that riding would not be practical after dark and some cattle could move back into the Horseshoe Pasture during this time.

The number of cattle that might make it into the meadow and need to be moved on a daily basis is difficult to estimate. During the 2006 grazing season, the BLM tested the potential effectiveness of this alternative by requesting that the permittee control unauthorized livestock use in the Horseshoe Pasture using additional herding. The permittee attempted to increase his riding and herding efforts with little success. Compliance checks for unauthorized cattle use in the Horseshoe Pasture were conducted by BLM staff 2-3 times per month from June through August. Unauthorized cattle (from adjacent pastures where cattle were authorized to graze) were observed in the Horseshoe Pasture every time but one. After each sighting of unauthorized cattle, the permittee was notified as soon as possible to move his cattle. It is unlikely that riders could completely prevent (ie exclude) cattle from moving into the rested pasture with the same effectiveness as a properly constructed and maintained fence.

This alternative would allow for continued grazing at authorized levels. However, the results of the herding effort described above cast serious doubt on the potential feasibility and effectiveness of this alternative to keep livestock out of the Horseshoe Pasture for an adequate amount of time to allow for riparian recovery and meeting of rangeland health standard 2, if implemented on a permanent basis. For this reason, the BLM does not find this alternative to meet the objectives of the purpose and need for the proposed action.

Economic Impacts:

Requiring the use of riders would place an increased economic burden upon the permittee during years when the Horseshoe Pasture is schedule for rest and adjacent pastures are being grazed. The permittee provided the following estimate of the additional costs of herding cattle per trip (letter dated June 10, 2006).

Assuming 138 miles round trip distance from the base ranch location to the Horseshoe Pasture:

23 gallons of gas for stock truck at \$3.00/gallon= \$69.00/trip.
Maintenance of equipment (stock truck) = \$124.20/trip.
3 riders/cowboys a day at \$100.00 per rider/day = \$300.00.
Total costs per trip = \$493

In a typical grazing season, the permittee would turn out his cattle in early April and remove them from the

allotment in late September or early October, depending on feed availability and water. To keep unauthorized cattle out of the Horseshoe Pasture during the scheduled grazing season of the surrounding pastures would, at a minimum require 5 months (June-October) and potentially 7 months (April-October) of riding on a daily basis. The total cost estimate for this level of increased herding would range from \$74,000 to \$103,500 per grazing season.

Recreation Impacts:

The impacts to recreation opportunities under this alternative would be similar to Alternative 3.

Visual Impacts:

The visual quality of the Horseshoe Meadow area could improve if herding is effective and the riparian vegetation becomes more diverse and vigorous. This alternative would meet the management objectives of VRM Class IV.

CUMULATIVE IMPACTS

Introduction:

ONDA raised cumulative effect issues specifically with respect to wilderness resources, new fencing, sage grouse and pygmy rabbit population and habitat impacts, weeds, and microbiotic crusts, during the comment period on the original EA, as well as during later protest, appeal, and litigation submittals.

For the purposes of this analysis, cumulative impacts are considered at the allotment scale. The main reason for choosing this analysis scale is because the BLM has a good idea of other potential reasonably foreseeable actions that may occur within the allotment. Many of these potential future actions have been identified in the *Lakeview Resource Management Plan/Record of Decision*, Appendix E (BLM 2003b) or other documents (BLM 2004c). The timeframe of analysis is defined as the same 15-20 year expected life of the RMP/ROD.

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”.

Known Past Activities:

During public involvement opportunities for this proposal, no reviewer identified any need to exhaustively list individual past actions or to analyze, compare, or describe the environmental effects of individual past actions, in order to complete an analysis which would be useful for illuminating or predicting the effects of the proposed action.

Appendix A documents a number of past disturbances that have occurred in and immediately surrounding the

allotment over time as part of past or current management activities. These disturbances include road construction and maintenance, routes created by off-highway vehicle use, range improvement project construction and maintenance (fences, seedings, pipelines, waterholes, reservoirs, developed springs, and wells) and wildlife guzzlers. Appendix A documents the presence of these disturbances within a citizen wilderness study area (WSA) proposal. However, the proposed WSA boundary does not coincide 100% with the allotment boundary (Map 2). Based on a GIS analysis of current data for the allotment, at least 79.3 miles of roads and 67.1 miles of unmaintained routes have been constructed or created within the allotment in the past. In addition, about 66.5 miles of fence, 0.7 miles of pipelines, 54 waterholes, 20 reservoirs, 6 springs, 3 guzzlers, and 1 well have been constructed within the allotment.

About 42 acres in the allotment were seeded with non-native grasses following one historic wildfire. In 2001, another wildfire burned approximately 4,565 acres of the northeastern portion of the allotment. This area was allowed to revegetate naturally.

All of these past activities have affected or shaped the landscape into what it is today. Current conditions are described further in the “Affected Environment” section of this document, as well as in the recent rangeland health assessment for the allotment (BLM 2004c).

Reasonably Foreseeable Activities:

The *Lakeview RMP/ROD*, Appendix E, page A-145 (BLM 2003b), lists removal or control of invasive juniper (non old-growth) as a possible future management action that could occur in the allotment during the 15-20 year life of the land use plan. However, it did not state specifically how many acres of treatment were proposed. Though it did not state specifically where on the allotment juniper treatment may occur, most of the juniper habitat on the allotment is located on or immediately around Juniper Mountain proper.

The *Lakeview RMP/ROD* also identified special management direction for the 6,355 acre Juniper Mountain ACEC/RNA portion of the allotment (pages 57-60, 67-68, and Map SMA-17; BLM 2003b). This management direction identified about 4.3 miles of existing roads that would be closed during the life of the plan, including the road (7155-0-1AA) adjacent to the riparian zone in the Horseshoe Pasture, limiting OHV use within the ACEC to designated roads and trails, and closing an existing wood cutting area inside the ACEC boundary. New rights-of-ways and mineral development would be avoided or subject to restrictions, if proposed. Livestock grazing would continue within the ACEC/RNA, but could be adjusted using a variety of methods, to protect the relevant and important values.

In addition, on page 100, the RMP/ROD anticipated numerous types of operation and maintenance activities would occur in the allotment throughout the life of the plan including such things as “routine maintenance of existing roads, ditches, culverts, water control structures, recreation facilities, reservoirs, wells, pipelines, waterholes, fences, cattle guards, seedings, fish and wildlife structures, signs, and other similar facilities/projects”. The rangeland health assessment also recommended several existing water developments be maintained in order to improve riparian conditions (BLM 2004c). It is possible that all of the existing roads in the BLM Transportation Plan, and all fences, pipelines, and other water/range improvement projects found in the allotment could receive some level of maintenance during the life of the RMP/ROD, depending upon need and funding availability. The proposed fence project (Alternative 2) may also require some limited maintenance during this timeframe.

It is also possible that future noxious weed treatments could be necessary in small, site-specific portions of the allotment. Any such sites would be identified, treated, and monitored in accordance with the *Integrated Noxious Weed Control Program EA#OR-010-2004-03* (BLM 2004a). This prevention and treatment program would continue regardless of the alternative adopted as the final decision.

Cumulative Impacts Associated with All Alternatives Analyzed in Detail:

The cumulative effects of livestock grazing management (including fencing and water developments), noxious weed management, transportation management, juniper woodland management, and fire management, and operation and maintenance activities at the resource area scale are described and analyzed in Chapter 4 of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a) and will not be repeated here.

Future juniper treatment(s) on the allotment could involve the use of mechanical or prescribed fire methods primarily in post-settlement (less than 130 year old) stands in the Horseshoe Meadow and other northern pastures,

though some limited treatment could involve removal of young juniper within old-growth stands to preserve the old-growth character associated with these stands. Such treatments could occur both inside and outside of the ACEC boundary and would be conducted in accordance with Forest and Woodlands management direction, pages 33-35, of the *Lakeview RMP/ROD* (BLM 2003b). As a result, the overall health and diversity of the existing riparian, sagebrush, and old-growth juniper plant communities in the allotment would be improved by removing competition and releasing native grasses and shrubs (page 4-25; BLM 2003a). Such treatments could, over the long-term serve to maintain the existing static or upward condition trends or even reverse the downward trend of some vegetation communities (BLM 2004c) in treated portions of the allotment

The proposed road closures and vehicle designation within the ACEC/RNA would benefit botanical resources and could reduce off-road vehicle disturbance, vegetation destruction, soil compaction, and erosion impacts associated with precipitation events in localized areas within the ACEC, including the riparian zone in the meadow of Horseshoe Pasture. The beneficial effects of these closures have already addressed in the *Lakeview Proposed RMP/Final EIS* (page 4-97; BLM 2003a).

The types of routine operation and maintenance activities of existing facilities that are expected to occur on the allotment are currently categorically excluded from NEPA analysis due to the negligible level of negative impacts anticipated, even when considered at a cumulative, national scale. The cumulative negative effects of these activities at the allotment scale are, likewise considered negligible. However, the riparian exclosure and water development maintenance activities that are anticipated at Coffee Pot, Southside, Juniper, and Radio Springs would individually and cumulatively improve water quality and riparian vegetation conditions. These actions would rapidly move the small associated riparian zones in these areas towards meeting Rangeland Health Standard 2 in a relatively short period of time (BLM 2004c and 2005), once implemented. A site visit with ONDA in September 2006 did not reveal any concerns related specifically to the potential impacts associated with the maintenance of existing water developments (site visit field notes dated September 22, 2006).

The extent of future noxious weed treatment and the anticipated impacts associated with such treatment would likely be small, but is highly speculative and difficult to accurately estimate. Based on the current knowledge of where noxious weeds exist, common vectors of weed transport in the Lakeview Resource Area (vehicle use and water transport) (Map 1; BLM 2004a) and the low risk of existing sites expanding or new sites developing in the allotment, the cumulative impacts associated with future treatments are expected to be similar to and within the range of those identified and previously analyzed in the *Integrated Noxious Weed Control Program EA#OR-010-2004-03*; namely there would be a reduction in the overall introduction, spread, and establishment of noxious weeds across the landscape, higher awareness and education of the noxious weed problem, better inventory of weed locations, and improved upland and riparian ecosystem health (page 14; BLM 2004a).

Though it is difficult to predict with any certainty, the big sagebrush and juniper habitats present in the allotment could be subject to another wildfire(s) in the foreseeable future if the right conditions occur. The *Lakeview Proposed RMP/Final EIS* describes typical fire return intervals for these vegetation types (page 2-83, BLM 2003a). The amount and age of old-growth juniper present on Juniper Mountain indicates a much longer fire return interval for this area than are typical for juniper woodland habitats elsewhere in the resource area. The impacts of any future wildfire(s) would vary depending upon the fuel loads, moisture content, intensity of the burn, amount of area burned, and fire suppression tactics and rehabilitation methods used. In general, wildfire moves later vegetative seral stages (shrub and woodland) back to earlier vegetative stages (grass and forb), removes crust cover, and can make an area more susceptible to noxious weed or cheatgrass invasion. None of the alternatives would reduce future wildfire risk, but the invasive juniper treatments mentioned above, in conjunction with creating a new firewood collection area outside the ACEC/RNA could reduce woody fuel loads in small portions of the allotment over the long-term.

Based on the analysis contained in Appendix A, no areas with wilderness character (ie. containing all of the required wilderness values) exist within the project area or within the larger surrounding allotment. Therefore, there would be no cumulative or other impacts to such wilderness character from any of the alternatives analyzed in detail.

Other than the direct impacts already described in Chapter 3, there would no cumulative or other impacts to hydrology, soils, ACEC/RNA, wildlife (including sage-grouse or pygmy rabbit populations and their habitat), cultural, livestock grazing, economics, recreation, or visual resource values expected from any of the alternatives analyzed in detail.

Cumulative Impacts Associated with Alternative 1 – No Action:

In addition to the cumulative effects described above that would common to all alternatives, the following cumulative effects could occur specifically related to this alternative. These cumulative effects are similar to or within the range of those already analyzed in Chapter 4 of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a).

Biotic crust species diversity and total cover would not be expected to change much over the allotment as a whole under current management unless some other major disturbance such as a wild or prescribed fire occurred in an area occupied by crust cover. The juniper treatments described above could reduce crust cover specifically in the treatment area, particularly if prescribed fire is used as the treatment method. However, prescribed fire implemented under controlled conditions would be less damaging to crust cover than uncontrolled wildfire. Based on the available information from the on-going fire recovery study in the northeast part of the allotment, the total moss cover within the 2001 wildfire area would be expected to increase gradually over time, and may eventually return to pre-fire levels, though recovery in grazed areas may be slower than in ungrazed areas. Biotic crusts are very long lived, but recover from disturbance slowly (Belnap *et al.* 2001).

The continuing of current livestock management in the allotment, in conjunction with the impacts most of the other foreseeable future actions described above, would likely result in a continuing long-term static or upward condition trend across at least 73% of the upland range and woodland vegetation communities of the allotment (BLM 2004c). The only reasonably foreseeable future action that would likely alter this on-going trend would be wildfire, which would result in a change in vegetative communities similar to that described above as common to all alternatives.

Plant surveys conducted in the allotment have found only a few cultural plant species present. Current management does not appear to be detrimental to existing cultural plant species populations. There would be no change or additional cumulative impacts to such species populations or habitat conditions across the allotment under this alternative.

Cumulative Impacts Associated with Alternative 2 (Preferred Plan):

In addition to the cumulative effects described above that would common to all alternatives, the following cumulative effects could occur specifically related to this alternative. These cumulative effects are similar to or within the range of those already analyzed in Chapter 4 of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a).

Impacts to crust cover across the allotment would be similar to Alternative 1.

Continuing of current livestock management in the southern pastures of the allotment and construction of the proposed fence, in conjunction with the impacts of other foreseeable future actions described above, would likely result in a continuing long-term static or upward trend in the condition of upland vegetation communities across the allotment. The only reasonably foreseeable future action that would likely alter this on-going trend would be wildfire, which would result in a change in vegetative communities similar to that described above as common to all alternatives.

Impacts to cultural plants within the allotment would be similar to Alternative 1.

The proposed 5 miles of new fence, when added to the 66.5 miles of existing fence in the allotment, and the continued maintenance of the existing water developments and other range improvement projects, would cumulatively benefit or contribute to the ability for the permittee to operate an effective rest-rotation system where all pastures in the allotment meet or are moving rapidly towards meeting all of the 5 rangeland health standards.

Cumulative Impacts Associated with Alternative 3:

In addition to the cumulative effects described above that would common to all alternatives, the following cumulative effects could occur specifically related to this alternative. These cumulative effects are similar to or within the range of those already analyzed in Chapter 4 of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a).

Impacts on biotic crusts across the allotment would vary depending on the time of year and length of time in a given area. Under this alternative, the 50% reduction in livestock use could correlate to a reduction in trampling of existing crusts across the allotment and an increase in total crust cover compared to Alternative 1. Potential future

wildfire effects on crust cover would be similar to Alternative 1.

Since 73% of the allotment already exhibits a long-term static or upward trend in the condition of upland vegetation communities, reducing livestock grazing 50% every year, in conjunction with the impacts of other foreseeable future actions described above, would likely result in only a slight overall improvement in upland vegetation communities across the allotment. The only reasonably foreseeable future action that would likely alter this on-going trend would be wildfire, which would result in a change in vegetative communities similar to that described above as common to all alternatives. Less grazing pressure could translate into more grass and forb plant species being available as browse for wildlife species every year.

A 50% reduction in livestock use across the allotment could benefit cultural plant species across the allotment by reducing total grazing pressure and trampling effects on these plants compared to Alternative 1.

Cumulative Additive Impacts Associated with Alternative 4:

In addition to the cumulative effects described above that would common to all alternatives, the following cumulative effects could occur specifically related to this alternative. These cumulative effects are similar to or within the range of those already analyzed in Chapter 4 of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a).

Impacts on biotic crusts across the allotment would vary depending on the time of year and length of time livestock are in a given area. While the year of rest provided under this alternative would benefit biotic crusts, these gains would likely be reduced or lost during every other year of use. Biotic crusts are very long lived, but recover from disturbance slowly (Belnap *et al.* 2001). In this respect, these trampling impacts would be similar in nature, but slightly less than Alternative 1. Potential future wildfire effects on crust cover would be similar to Alternative 1.

Impacts to upland range and woodland vegetation communities across the allotment would similar to Alternative 3. More grass and forb species could be available as browse for wildlife species during rest years.

The impacts to cultural plants across the allotment would be similar to Alternatives 1 and 2, but less than Alternative 3.

Cumulative Additive Impacts Associated with Alternative 5:

In addition to the cumulative effects described above that would common to all alternatives, the following cumulative effects could occur specifically related to this alternative. These cumulative effects are similar to or within the range of those already analyzed in Chapter 4 of the *Lakeview Proposed RMP/Final EIS* (BLM 2003a).

Impacts to biotic crusts, upland range and woodland vegetation, and cultural plants across most of the allotment would be similar to Alternative 1.

SECONDARY AND INDIRECT IMPACTS

There would be no secondary or indirect impacts expected from any of the alternatives analyzed in detail.

IRREVERSIBLE/IRRETRIEVABLE IMPACTS

Other than the staff time, funding, and fossil fuels expended to plan, design, and construct/implement a given alternative, there would be no irreversible or irretrievable impacts associated with any of the action alternatives (2-5) considered. Continuation of the no action alternative could result in an irreversible negative change in vegetation, riparian, and hydrologic conditions in the Horseshoe Pasture.

CHAPTER 5 - CONSULTATION AND PUBLIC INPUT

Public Involvement, Coordination, and Native American Consultation:

The original EA and FONSI were completed in February 2005. Public coordination and native American

consultation for this proposal involved notifying all interested agencies, groups, tribes, and individuals of the availability of the original EA/FONSI for a 30-day comment period via a letter dated March 1, 2005. In addition, a notice of document availability was published the *Lake County Examiner*. These earlier documents were also posted on the Lakeview District's planning webpage.

In response, only one party (ONDA) requested a copy of the EA and the Rangeland Health Assessment for the allotment for review. ONDA in turn, provided comments on the EA during the comment period. The BLM subsequently transmitted a response to these comments along with the proposed decision to ONDA in April 2005. ONDA subsequently protested, appealed, and then initiated litigation in Federal Court over the adoption of the final decision. The BLM asked the court to remand the decision back to the BLM in May 2006, and has subsequently updated the EA to address ONDA's concerns (refer to following section) and has issued the new EA and FONSI for an additional 30-day public comment period.

Public Views and Concerns:

The main issues raised by ONDA in their previous comments, protest, appeal, and litigation related to:

- 1) adequacy of the range of alternatives,
 - 2) need to address impacts to sage-grouse, pygmy rabbits, microbiotic crusts, and wilderness values, including cumulative impacts to these resource values
 - 3) need to consider new information, including a wilderness inventory provided by ONDA,
 - 4) need to collect or update relevant information on the wilderness resource on its own.
 - 5) need to make changes to the existing grazing management to comply with the rangeland health regulations.
- All of these issues have been addressed within the text of this revised EA.

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Vern Stofleth	Wildlife Resources
Erin McConnell	Noxious Weeds
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Lucile Housley	Botany and ACEC/RNA Resources
Bill Cannon	Archeology and Historic Resources
Gretchen Burris	Recreation and Wilderness Resources

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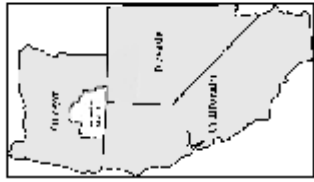
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Map 1 - General Project Location



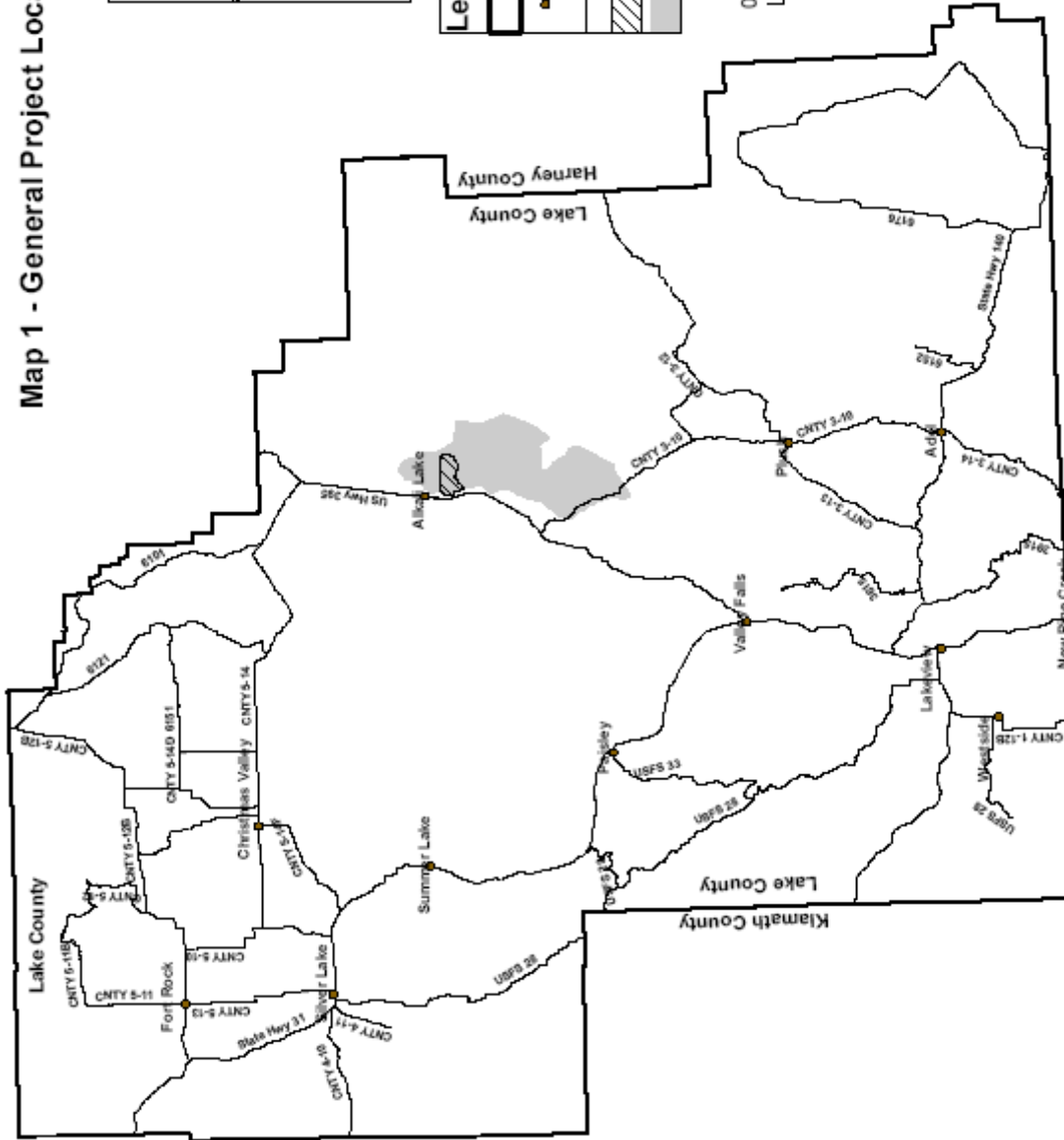
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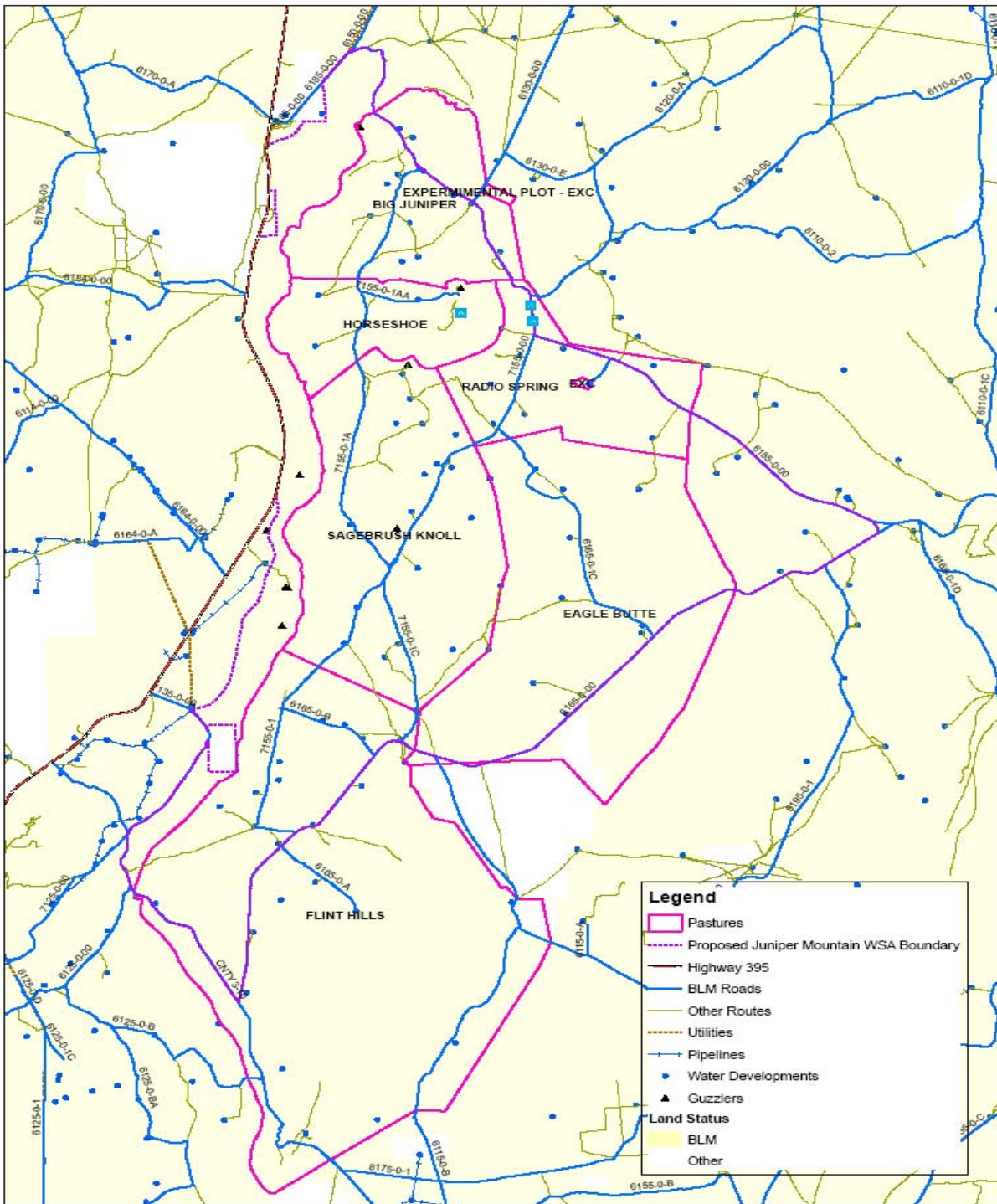
- Lakeview Resource Area
- Cities
- Major Roads
- Horseshoe Pasture
- Juniper Mountain Allotment

0 5 10 20 Miles



Map of Texas showing the location of the project area in the western part of the state, near the border with Oklahoma.

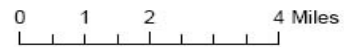


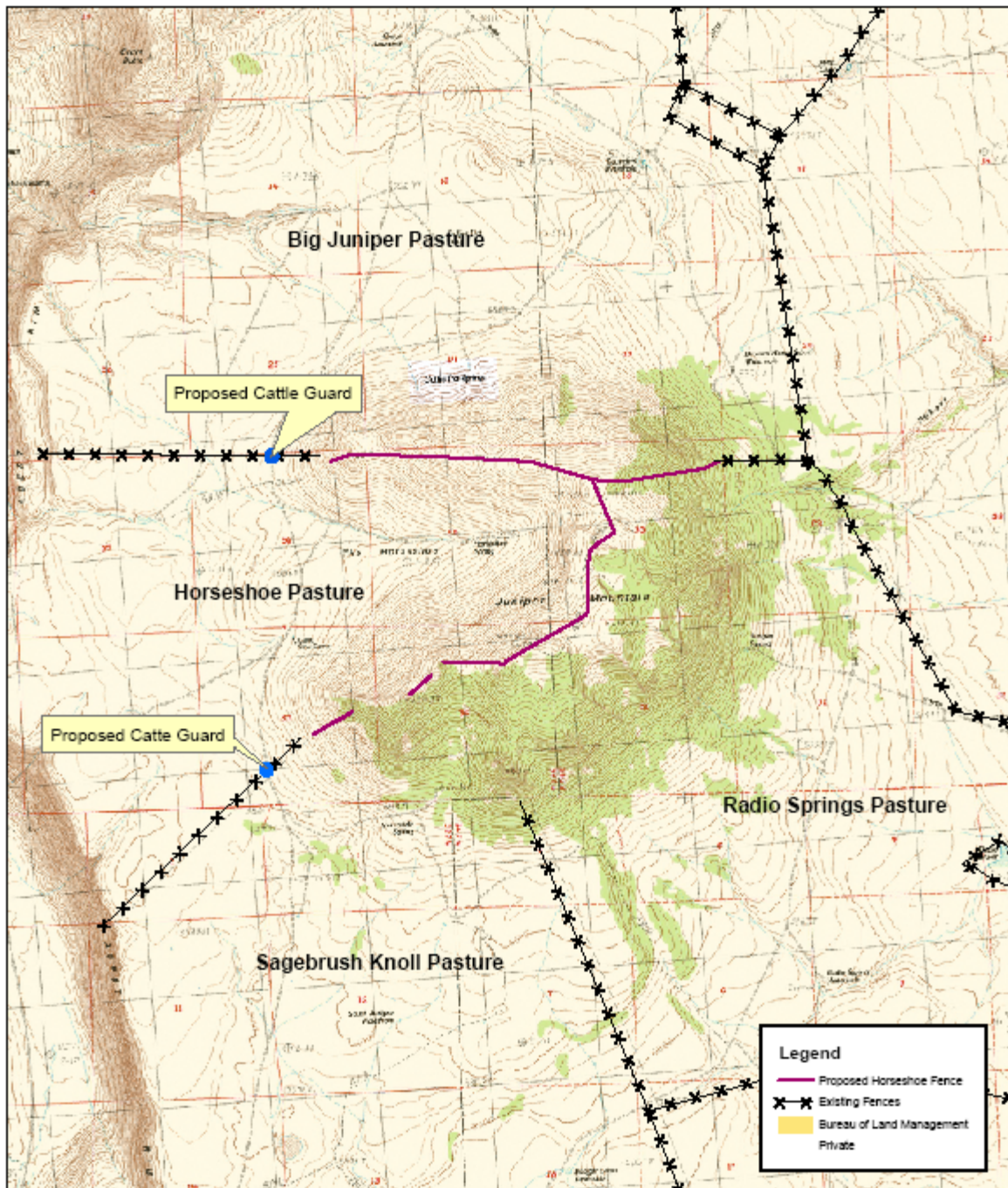


Map 2 - Juniper Mountain Allotment

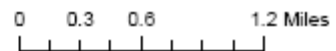
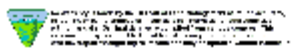


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Map 3 - Proposed Horseshoe Fence



Appendix A – Wilderness Characteristics Evaluation for Juniper Mountain Proposed WSA

Note: The attached evaluation was prepared to document the BLM's findings regarding the presence of wilderness characteristics in the Juniper Mountain area. The evaluation was conducted in accordance with the requirements of Section 201 of the Federal Land Policy and Management Act of 1976, as amended, regarding preparation and maintenance of resource inventories. Information from the previous wilderness inventory (BLM 1979, 1980), as updated by the attached evaluation, was used by the BLM to determine where in the project area parcels containing wilderness character are located, so that impacts on wilderness character could be evaluated in the EA. The evaluation is being reproduced here as additional background and to provide clarity to the NEPA analysis contained in the EA. It represents an evaluation of current resource conditions, based on current resource data, related to wilderness character. It does not represent a formal land use allocation or a final agency decision subject to administrative remedies under either 43 CFR parts 4 or 1610.5-2.