



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Carson City Field Office  
5665 Morgan Hill Road  
Carson City, Nevada 89701  
<http://www.nv.blm.gov/carson/>

In Reply Refer To:

4110 (NV-032)

Dear Interested Party:

Enclosed is a copy of the Antelope Mountain Grazing Allotment Environmental Assessment (EA-NV-030-07 -011). Please review the enclosed document and provide written comments before May 24, 2007.

Please mail comments to: Bureau of Land Management  
Carson City Field Office  
Attn: Rita Suminski  
5665 Morgan Mill Road  
Carson City, Nevada 89701

Comments may also be faxed or e-mailed to: (775) 885-6129 or [rsuminsk@nv.blm.gov](mailto:rsuminsk@nv.blm.gov).

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we can not guarantee that we will be able to do so.

If you have any questions regarding the Antelope Mountain Grazing Allotment Environmental Assessment, please contact Rita Suminski in this office at (775) 885-6129.

Sincerely,

/s/

Elayn Briggs  
Assistant Manager, Renewable Resources

Enclosure: Environmental Assessment Antelope Mountain Allotment EA-NV-030-07-011

Environmental Assessment

Antelope Mountain Allotment Grazing Permit Renewal

EA-NV-030-07- 011

April 2007

U.S. Department of Interior  
Bureau of Land Management  
Carson City Field Office  
5665 Morgan Mill Road  
Carson City, Nevada 89701

## **INTRODUCTION / PURPOSE AND NEED**

### **A. Introduction:**

This Environmental Assessment (EA) analyzes the impacts resulting from the use of the Antelope Mountain Allotment (Figure 1) for grazing purposes. It analyzes the impacts that are anticipated to result from the implementation of the proposed action, modification of the existing utilization levels by adoption of the technical recommendations presented in the Antelope Mountain Allotment Standards and Guidelines Analysis (2006), the No Action Alternative, and No Grazing alternative.

On February 12, 1997, Secretary of the Interior Bruce Babbitt approved the Standards and Guidelines for Rangeland Health and Grazing Management to be applied to BLM public lands in the State of Nevada. These standards and guidelines were developed in consultation with the Resource Advisory Councils (RAC) for the Bureau of Land Management (BLM) in Nevada to help ensure that grazing use of these public lands result in productive and sustainable rangelands for the use and enjoyment of future generations.

Standards and Guidelines are being implemented through two processes; (1) determination that the terms and conditions of the grazing permit are consistent with the Standards and Guidelines applicable to the allotment and (2) the allotment evaluation process to determine whether or not the current grazing utilization is expected to achieve the specific resource goals and objectives identified for the Antelope Mountain Allotment in the applicable Resource Management Plan (RMP) and Rangeland Program Summary (RPS).

The EA references parts of the 2006 Antelope Mountain Allotment Standards and Guidelines Analysis and Standards and Guidelines developed for the Sierra Front - Northwestern Great Basin Area (the specific area that includes the Antelope Mountain Allotment).

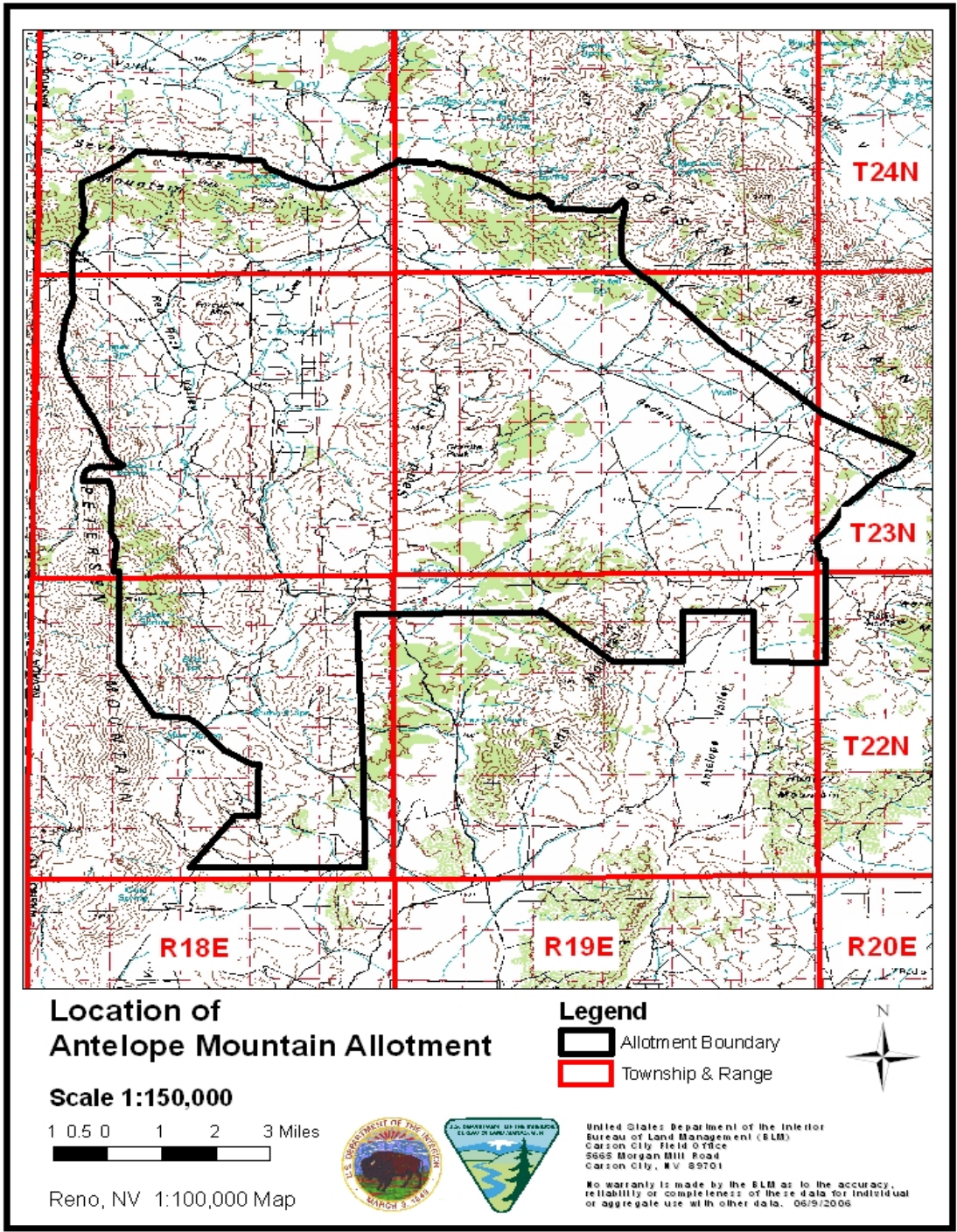


Figure 1. Antelope Mountain Livestock Grazing Allotment, Nevada.

**B. Purpose and Need:**

The purpose of the proposed action is two fold; (1) Administer grazing and implement grazing practices on the Antelope Mountain Allotment in a manner consistent with the attainment of site specific objectives for the Antelope Mountain Allotment found in the Carson City Field Office Consolidated Resource Management Plan 2001 and (2) Implement grazing practices that would ensure compliance with the Standards and Guidelines for Rangeland Health and Grazing Management.

The need for the proposed action stems from BLM mandates to conduct grazing activities in an ecologically sound manner. Grazing use of the Antelope Mountain Allotment as well as requirements to conduct grazing activities in a manner consistent with the principles of multiple use and sustained yield and in an ecologically sound manner are found in the provisions of the Taylor Grazing Act of 1934, the Federal Land Policy and Management Act of 1976 (FLPMA), the 1995 Standards and Guidelines for the Rangeland Health and Grazing Management, as well as various other federal laws and regulations.

**C. Land Use Plan Conformance Statement:**

The proposed action and alternatives described below are in conformance with the Carson City Field Office Consolidated Resource Management Plan, pages LSG-2.

1. Maintain or improve the condition of the public rangelands to enhance productivity for all rangeland and watershed values.
2. Initially, manage livestock use at existing levels.
3. Provide adequate, high quality forage for livestock by improving rangeland condition.
4. Improve overall range administration.

**I. PROPOSED ACTION AND ALTERNATIVES**

Three alternatives are described in detail, the proposed action, the no action and the no grazing alternatives. Table 1 shows a comparison of the three alternatives. Details of the alternatives are as follows:

**A. Proposed Action Alternative**

A term grazing permit would be issued in order to implement technical recommendations in the 2006 Antelope Mountain Allotment Standards and Guidelines Analysis. This action would improve management of the range resource.

The following technical recommendations would be included in the term grazing permit:

1. In the Antelope Mountain Allotment, 967 cattle would be grazed with a period of use (April 15 to October 31) each year, for a total of 6,362 AUMs.
2. Limit utilization on desirable shrubs Antelope bitterbrush, Spiny hopsage, Budsage, Four-wing saltbush, and winterfat so as not to exceed 45% in the upland key areas in the allotment.
3. Limit utilization on desirable grasses Indian ricegrass, Thurber's needlegrass, Galleta grass, and Sandberg Bluegrass so as not to exceed 45% in the upland key areas in the allotment.
4. Three year Deferred Grazing Rotation.
  - a. First Year – (1) Pasture 1 (04/15 to 10/31),  
(2) Pasture 2 (07/15 to 10/31),  
(3) Pasture 3 (06/01 to 10/31),  
(4) Peterson Pasture (07/15 to 10/31).
  - b. Second Year – (1) Pasture 1 (06/01 to 10/31),  
(2) Pasture 2 (04/15 to 10/31),  
(3) Pasture 3 (07/15 to 10/31),  
(4) Peterson Pasture (Rest).
  - c. Third Year – (1) Pasture 1 (07/15 to 10/31),  
(2) Pasture 2 (06/01 to 10/31),  
(3) Pasture 3 (04/15 to 10/31),  
(4) Peterson Pasture (Rest).
5. Five new range improvement projects which are three riparian enclosures and two water haul sites.

**B. No Action Alternative**

Under this alternative, current management would be maintained. No range improvement projects would be completed.

1. Stocking rates, AUMs and season of use would be the same as the proposed action.
2. Limit utilization on desirable shrubs (Antelope bitterbrush, Spiny hopsage, Budsage, Four-wing saltbush, and winterfat so as not to exceed 55% in the upland key areas in the allotment.
3. Limit utilization on desirable grasses Indian ricegrass, Thurber's needlegrass, Galleta grass, and Sandberg Bluegrass so as not to exceed 55% in the upland key areas in the allotment.

4. Pasture rotation would remain the same as currently outlined in the Allotment Management Plan.

**C. No Grazing Alternative:**

Under this alternative, no new Term Grazing Permit would be issued, and no grazing would occur on this allotment in the future. There would be no further range improvements constructed on the allotment, and no grazing permittee to maintain current range improvements, including fences and water sources. A permittee would not be present on the allotment to continue proper day-to-day management, so these vital activities would no longer be performed.

**Table 1 – Comparisons of the Different Alternatives for the Antelope Mountain Grazing Allotment.**

	<u>Proposed Action</u>	<u>No Action</u>	<u>No Grazing</u>
Number of Livestock	967	967	0
Active AUMs	6,362	6,362	0
Period of Grazing	April 15 to Oct. 31	April 15 to Oct. 31	No Grazing
Limit Utilization (Shrubs)	45	55	0
Limit Utilization (Grasses)	45	55	0
Grazing System	Three Year Deferred	Three Year Deferred	None
Range Improvements	Three Riparian Enclosures	None	None
	Two Water Haul Sites	None	None

**II. AFFECTED ENVIRONMENT**

**A. SCOPING AND ISSUE IDENTIFICATION:**

On November 9, 2006 a letter was sent to possible interested publics to identify those individuals and organizations interested in specific actions on specific allotments under the jurisdiction of the Carson City Field Office. The purpose of the scoping letter was to gather information and determine who would be further interested in participating in the evaluation process on the Carson City Field Office grazing allotments.

Standard operating procedures direct the BLM to supply the State Clearinghouse with a copy of this document for distribution amongst State Agencies. In addition, copies will be sent to the following entities:

Pyramid Lake Paiute Tribe  
Washoe Tribe of Nevada and California  
Reno-Sparks Indian Colony  
U.S. Fish and Wildlife Service

Grazing Permittee  
Western Watersheds Project  
RCI

The Internal scoping with the BLM staff occurred from April of 2005 through January of 2007, which included the Antelope Mountain Allotment Standards and Guidelines Analysis and this Environmental Assessment.

**B. PROPOSED ACTION:**

**1. General Setting:**

The Antelope Mountain Allotment is primarily made up of the rugged Petersen Mountain and Sand Hills areas. Grazing occurs on the slopes and foothills of these mountains, and in the narrow valleys found in the area. This allotment has historically been a cattle allotment used during the spring, summer and fall. The area is mostly Wyoming Big Sagebrush and Mountain Big Sagebrush plant communities, with other mountain shrubs in the mix. Water sources are scattered.

**2. Critical Elements of the Human Environment:**

The following critical elements are not present or would not be affected by the analyzed alternatives: Air Quality, Areas of Critical Environmental Concern, Prime or Unique Farmlands, Floodplains, Hazardous or Solid Wastes, Wetlands/Riparian, Water Quality, Wilderness, Wild and Scenic Rivers, Environmental Justice, Paleontology, and Forestry.

Both Cultural Resources and Native American Religious Concerns also are present but would not be affected by the alternatives. The analyses conducted to reach these decisions are discussed.

**Cultural Resources**

Following BLM regulations (43 CFR Part 8100) and other federal laws including the National Historic Preservation Act (16 USC § 470f) and its implementing regulations (36 CFR Part 800), as amended, BLM reviewed the immediate region for historic properties prior to a federal undertaking (issuance of a federal permit). By definition, an historic property is a “prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the



National Register of Historic Places” and includes “artifacts, records, and remains that are related to and located within such properties” (36 CFR 800.16(1)(1)).

Based on research of files at the Carson City Field Office and the Nevada State Museum, over 28 past inventories have documented nearly 30 known cultural resources that represent significant past human use of the landscape in and immediately adjacent to the BLM-managed lands of the Antelope Mountain Allotment. These include predominantly prehistoric-period lithic scatters, stone alignments, and camp sites of an extensive period of time ranging from the Paleoarchaic (over 8500 years ago) through the nineteenth-century. Also present are historic-period debris scatters; stone structures and buildings; and roads associated with mining, military deployment, limited settlement, and transportation. The area has and continues to be a place of ranching, and some abandoned ranching features and sites remain (Botti 1976; EDAW 2007a, 2007b; McGuire 2000; Pendleton et al. 1982; Perkins et al. 2005; Young 2006).

Based on review of the reports on areas previously inventoried in or near the allotment, a cursory visit to the allotment by a BLM archaeologist focused at locations with a high potential for cultural resources (such as developed springs), livestock grazing is not a significant impact to historic properties. Based on review of range use data, use of the allotment landscape is slight to moderate, with some heavier use along the Bedell Flat Road and between springs near Red Rock Road (Bird Spring and Juniper Spring) and the springs two to three miles to the southwest, and grazing is not likely to be a significant impact to currently unknown cultural resources. Therefore, relative to cultural resources, there exists no need to alter the proposed term grazing allotment permit proposed action for the Belleville allotment in order to prevent unnecessary or undue degradation.

Additional allotment improvements may be part of the issuance of this grazing permit, but all proposed project improvements, repairs, expansions, or removals have the potential to adversely affect cultural resources. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM is required to identify and evaluate cultural resource within the area of potential effect from any range undertaking such as a new, updated, or repaired waterline, fence, water haul location, or other area that concentrates livestock. This identification and evaluation for cultural resources at or near a water source must be accomplished by a professional archaeologist per BLM guidelines. Any historic properties within a proposed improvement project area will be avoided by proposed improvements. If these cannot be accomplished, specific project undertakings will be cancelled, or the allotment use will be modified to result in no adverse effect to the historic property(ies) pursuant to 36 CFR Part 800, and in consultation with the local tribal entities and the Nevada State Historic Preservation Office.

### **Native American Religious Concerns**

The Native American tribes that have cultural affiliation with the area within the allotment are the Washoe Tribe of Nevada and California, the Pyramid Lake Paiute Tribe, and the Reno-Sparks

Indian Colony. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, a consultation letter with a general summary of the proposed lease renewal program, and map of the allotment location were sent to the Tribes on June 26, 2006 concerning the Antelope Mountain grazing permit renewal. During various face to face meetings and phone calls since that date, the Tribes have shared information concerning grazing activities within their aboriginal territory. The Tribes have each stated that any impacts to cultural resources should be avoided, however to date there are no Native American religious concerns relative to this grazing permit renewal.

Any proposed improvements may potentially have an effect on tribal concerns. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM would review known tribal concerns and conduct Native American coordination and consultation, as necessary.

### **3. Resources Present but not Affected (other than critical elements)**

Bureau specialists have further determined that the following resources, although present in the project area, are not affected by the proposed action, or alternatives: Recreation & Visual Resources.

### **4. Resources Present and Brought Forward for Analysis:**

#### **Range**

Livestock grazing is authorized as a cow/calf operation. In the allotment, 967 cattle, representing 6,362 AUMs are permitted from April 1 to October 31 on the Antelope Mountain Allotment. In the spring/summer/fall, livestock graze both shrubs and grasses. Livestock grazing occurs mainly on sandy, 5"- 14" precipitation range sites. This allotment has historically been a cattle allotment during the spring/summer/fall. Because water sources are scattered, two water haul sites were proposed.

#### **Vegetation**

Key upland species on the Antelope Mountain Allotment include five shrubs and four grass species. These are antelope bitterbrush, spiny hopsage, budsage, four-wing saltbush, winterfat, Indian ricegrass, Thurber's needlegrass, galleta grass, and Sandberg bluegrass.

Most of the utilization in this allotment has been measured on Indian ricegrass, Thurber's needlegrass, Galleta grass, and Sandberg Bluegrass. Since this is a spring, summer, and fall allotment, it is important to consider grasses in the management of this allotment. In the spring and summer, grasses and shrubs are growing and are more affected by grazing than at other times of the year. Sufficient foliage must remain on the plants to provide for nutrient storage in the root systems.

## **Wildlife**

Portions of this allotment have been severely affected by wildfires in the past 20 years, especially the Petersen Mountains on the West side (Roide 2006). The allotment area has some general wildlife diversity potential due to elevation changes within it, the variety of habitat types and topographical features present. Wildlife assemblages would be dominated by species associated with low seral, disturbed areas, i.e. the burn areas. There are several unique areas of habitat inclusions including the Sand Hills area. Several terrestrial wildlife habitats occur within the allotment area (Suminski 2007).

This allotment is within the BLM designated Lassen-Washoe Wildlife Habitat Area (BLM 1988). Two large mule deer herds are associated with this allotment, the Doyle and Loyalton-Truckee (California Dept. Game and Fish ND). The western portion of the allotment associated with the Petersen range is a designated critical mule deer winter range. It is in poor to fair condition because of the re-occurring wildfires. The Sand Hills area east of the Petersen range, part of the

Dogskin Mountains, is also a designated critical mule deer winter range. The winter range is in only fair condition. Not many deer remain in this area yearlong. Because so many springs are functionally at risk, fawning areas associated with these would be in poor condition (Suminski 2007).

Historically, antelope were present in all valleys of Nevada (BLM 1988). Antelope are found on the allotment. The burn favored these animals by expanding the low to mid-seral vegetation conditions that are now dominated by bunchgrasses and forbs. No key pronghorn areas have been identified.

Black bear can be found occasionally in some parts of the allotment (Axtell 2007).

A sage grouse lek was formerly active on this allotment. However, due to increased human disturbance (mainly recreation) it was abandoned in the late 1970' or early 1980's. This allotment likely provided nesting habitat in the recent past and still provides sage grouse winter habitat. NDOW believes that this area could be very important to sage grouse during a heavy snow year. Sage grouse currently do use the allotment in low numbers, although these are not associated with a lek. NDOW receives credible reports of sage grouse in the area and still surveys the area for leks (Axtell 2007).

California and mountain quail are present in this allotment. A few mourning doves can be found in the allotment. The exotic species, chukar, can be found on the allotment (BLM 1988).

## **Soils**

The soils within the Antelope Mountain Grazing Allotment vary considerably in physical, chemical, and biological characteristics. Parent material, surface and subsurface textures and rock fragments, elevation, aspect, and slope determine the inherent productivity. Erosion and runoff potential, while affected greatly by these factors, are also dependant upon the basal and

canopy

cover of vegetation on site. Roads, livestock and horse use, mining and other overland activities, and general motorized vehicle use have impacted soils in certain areas. Generally the soils in this allotment are classified as either Aridisols or Mollisols, with much of the area in the seven to ten inch precipitation zone. Soil reactions range from near neutral to moderately alkaline. Detailed descriptions of the soils within the allotment can be found within the Washoe County Soil Survey-South Part, issued in 1983 by the U.S. Dept. of Agriculture-Soil Conservation Service.

### **Invasive, Nonnative Species**

A number of noxious weed infestations have been located within the allotment. The largest infestation is an extensive area of scotch thistle ranging from Bedell Flat west to the base of Petersen Mountain. A few much smaller areas of perennial pepperweed and hoary cress have also been found. All of these infestations have been sprayed with herbicide for a number of years.

### **Recreation**

The Antelope Mountain area hosts an intense amount of dispersed recreation including OHV use, hunting, hiking, vehicle touring and camping. The area is also used by some organized recreational groups, such as a field dog trial group, that hold Special Use Permits applied for and issued by the Carson City Field Office.

### **Wetlands/Riparian**

Twenty-five separate riparian areas were assessed on the Antelope Mountain allotment between April 19 and June 29, 2005. Only a few riparian areas on the allotment were not assessed because of difficult access and a low likelihood of impacts.

Table 1 provides some basic data for each location, and Table 2 summarizes the condition ratings for all assessed sites. More than half the lentic sites were in proper functioning condition (PFC) and 70 percent were PFC or functioning-at-risk (FAR) with an upward trend. Condition ratings depended on location and grazing pressure, though other impacts such as off-highway vehicle impacts were severe at certain sites. The 25 assessed sites could generally be included in one of the following four geographic areas.

1. *Seven Lakes Mountain.* The dry lakes on Seven Lakes Mountain on the north end of the allotment were all rated as PFC. They get little grazing use, but there is some recreation use. Off-highway vehicles could be a significant impact in the future as residential development continues in the surrounding area.
2. *Petersen Mountain.* Numerous springs are found along the east face of Petersen Mountain in the southwest part of the allotment. The springs are on fairly steep terrain, so they do not appear to get much grazing pressure overall. All sites were rated as PFC or FAR with an upward trend, except for Natural Area Spring, Spring #3, and Hillside Spring, which were FAR with an unknown trend, FAR with a downward trend, and non-functional, respectively. Exclusion, Hillside, and Towhee Springs have received enough livestock use to cause impacts, so

exclosures were built in the past. Hillside Spring was rated as non-functional due to livestock impacts, but the exclosure was in disrepair and ineffective when assessed. The fence was repaired later in 2005 by volunteers.

3. *Valley Meadows.* There are several spring-fed meadows in the valley east of Peterson Mountain in the southwest part of the allotment. All of them are functional-at risk, with Summit and Pat's springs, and Spring Meadow having a downward trend. Trough Meadow was in an upward trend. These sites are in the valley and easily accessible by livestock. Exclosures have been constructed, but were in various states of disrepair. Cow trails, channel entrenchment, bank sloughing, and other signs of livestock impact were observed.
4. *Sand Hills South.* Several sources are found in the valley south of Sand Hills in the southern part of the allotment. Bird Spring was rated as PFC, but the others were FAR, and Fred's Creek and Reservoir were rated as non-functional. These areas also had significant grazing impacts, so exclosure repair or construction has been recommended in the 2006 Standards and Guidelines Analysis.

**Table 1. 2005 Riparian Assessment Data for the Antelope Mountain Allotment**

Name	Date Assessed	UTM Northing	UTM Easting	Rating <sup>1</sup>	Acres <sup>2</sup>	Miles	Management Recommendations
Fred's Creek & Reservoir	4/19/2005	4410555	253678	NF	0.13	0.1	New Exclosure
Whitney Spring	4/19/2005	4410764	252779	FAR-?	1.1		Extend Pipeline & Fence Exclosure
Bird Spring	4/19/2005	4409447	251714	PFC	1.3		Repaired fence in FY 2007
Juniper Spring	4/19/2005	4409290	251751	FAR-DN	0.9		Repair Exclosures
Riparian Area #1	4/20/2005	4408705	247172	FAR-UP	0.4		
Exclosure Spring	4/20/2005	4408483	247269	FAR-UP	3.0		Repair Exclosure
Spring #3	4/20/2005	4408199	247053	75% PFC 25% FAR-DN	0.9		
Blitz Spring	4/20/2005	4408021	247122	PFC	1.0		Repair Exclosure
Spring #5	4/20/2005	4407810	247186	PFC	0.4		
Hillside Spring	4/20/2005	4407490	247101	NF	2.7		Repaired fence in FY 2005
Summit Spring	4/27/2005	4406374	247637	FAR-DN	6.5		Repair & Expand Fence & Treat Weeds
Natural Area Spring	4/27/2005	4406427	247053	FAR-?	1.8		
The Source	4/27/2005	4406590	247116	PFC	0.3		
Shoe Meadow	4/27/2005	4406764	247107	PFC	0.5		
Side Hill Draw	4/27/2005	4406793	246806	PFC	0.27	<0.1	
Dandelion Mdw	4/27/2005	4407113	247112	FAR-UP	2.8		New Exclosure
Towhee Spring	5/11/2005	4406205	246688	PFC	0.2		Repair Exclosure
Horse Spring	5/11/2005	4406747	245953	PFC	0.5	<0.1	
Trough Meadow	5/11/2005	4406648	247728	FAR-UP	4.0		Treat Weeds
Pat's Spring Complex	5/11/2005	4406860	247670	FAR-DN	3.3	0.5	Repair Exclosure, Treat Weeds, & Gradient Control
Dry Meadow	6/22/2005	4410708	253516	FAR-?	2.2		
Spring Meadow	6/22/2005	4408174	248052	FAR-DN	0.5		Repair Exclosure & Breach Tank
Little Valley Spg	6/22/2005	4410118	246847	PFC	10	0.5	Treat Weeds
Great Basin Spg	6/29/2005	4422528	247873	PFC	0.01		
Seven Lakes #1	6/29/2005	4423582	245861	PFC	1.4		
Seven Lakes #2	6/29/2005	4423858	246071	PFC	0.5		
Seven Lakes #3	6/29/2005	4423392	246527	PFC	3.3		
Seven Lakes #4	6/29/2005	4423542	246886	PFC	3.4		
Seven Lakes #5	6/29/2005	4423262	247095	PFC	1.9		
Seven Lakes #6	6/29/2005	4424053	247417	PFC	3.2		
Seven Lakes #7	6/29/2005	4423366	248224	PFC	6.2		Treat Weeds

<sup>1</sup> Rating key: PFC = Proper Functioning Condition  
FAR-UP = Functional-At-Risk with an Upward Trend  
FAR-DN = Functional-At-Risk with a Downward Trend  
FAR-? = Functional-At-Risk with an Unknown Trend  
NF = Nonfunctioning

<sup>2</sup> Acreages were measured with GPS except Horse Spring and Little Valley Spring, which were estimated from digital orthophoto quarter quads.

**Table 2. Summary of 2005 Riparian Assessments on the Antelope Mountain Allotment**

Rating	Acres	Percent of Total	Miles	Percent of Total
PFC	35.1	54.3	0.6	50.0
FAR-UP	10.2	15.8	--	--
FAR-DN	11.4	17.6	0.5	41.7
FAR-?	5.1	7.9	--	--
NF	2.8	4.3	0.1	8.3
Total	64.6	100	1.2	100

**Water Quality (Ground & Surface)**

No class or designated waters are located within the grazing allotment. Therefore, only the descriptive water quality standards pertaining to all surface waters in Nevada (NAC 445A.121) apply to water resources on the allotment.

Water quality was not tested, but during rangeland health evaluations and riparian assessments, it appeared that significant impacts to water quality from current land uses were not occurring over the allotment as a whole. Algae blooms were observed, however, in a small pool of water approximately 10 feet in diameter below Juniper Spring. Algae indicates nutrient loading that appeared to be due to livestock use. Juniper Spring was rated as functional-at-risk with a downward trend during the 2005 assessment, largely due to livestock use. An enclosure fence had been built in the past, but was in disrepair and ineffective in keeping livestock out of the riparian area.

**Special Status Species**

Federally Listed Species

Carson wandering skipper (federal endangered) has been located on this allotment as well as potential habitat for this species (Stanford 2004). Bald eagles (federal threatened) are expected to use the allotment as a fly-over area and possibly as a foraging area for carrion. The plant, Webber's ivesia (federal candidate), may have habitat located within this allotment.

BLM Sensitive Species

BLM Manual 6840 defines sensitive species as "...those species not already included as BLM Special Status Species under (1) Federal listed, proposed or candidate species; or (2) State of Nevada listed species. Native species may be listed as "sensitive" if it: (1) could become endangered or extirpated from a state or significant portion of its range; (2) is under review by the FWS/NMFS; or (3) whose numbers or habitat capability are declining so rapidly that Federal listing may become necessary, or (4) has typically small and widely dispersed populations; (5) inhabits ecological refugia, specialized or unique habitats; (6) is state-listed, but is better conserved through application of the BLM sensitive species status." It is BLM policy to provide sensitive species with the same level of protection that is given federal candidate species. The major objective of this protection is to preclude the need for federal listing (BLM 2003).

The NNHP database has no record of any BLM sensitive plant species occurring in the allotment

(Tonenna 2007). Nevada BLM sensitive wildlife species expected, or found in or near the allotment are shown in Appendix A (BLM 2003).

#### Neo-tropical Migratory Birds

On January 11, 2001, President Clinton signed Executive Order 13186 (Land Bird Strategic Allotment) placing emphasis on conservation and management of migratory birds. The species are not protected under the Endangered Species Act, but most are protected under the Migratory Bird Treaty Act of 1918. No BLM policies have been developed to provide guidance on how to incorporate migratory birds into NEPA analysis. However, advice based on past USFWS MOU's, list items the USFWS believes are fundamental for the analysis of impacts to and planning for these birds. These items are (1) effects to highest priority birds listed by Partners in Flight; (2) effects to important bird areas (IBA's); (3) effects to important over wintering areas.

Avifaunal Biomes that are found on the allotment are described by Partners in Flight (PIF) [Beidleman 2000], PIF-Nevada (Neel 1999) and Nevada Wildlife Action Plan (Nevada Wildlife Action Plan Team 2006). The Intermountain West is the center of distribution for many western birds. Over half of the biome's Species of Continental Importance have 75% or more of their population here. Many breeding species from this biome migrate to winter in central and western Mexico or in the Southwestern biome (Beidleman 2000). There are no Important Bird Areas (IBA) associated with this allotment. The species of concern listed by PIF that could occur in the allotment are shown in Appendix B.

#### Wild Horses and Burros

The Granite Peak Wild Horse Herd Management Area (HMA) lies completely within the Antelope Mountain Grazing Allotment. The HMA consists of 3,886 acres, with an appropriate management level (AML) range of between 11 to 18 wild horses.

This HMA is small resulting in the movement of wild horses to areas outside of the HMA and even the grazing allotment.

#### **C. No Action and No Livestock Grazing Alternatives**

The description of the affected environment for these alternatives would be the same as that for the proposed action.

### **III. ENVIRONMENTAL CONSEQUENCES**

#### **A. Proposed Action - Livestock Grazing and Construction of Range Improvements:**

##### **Range**

Under the proposed action alternative, 967 cattle would be authorized to graze from April 15<sup>th</sup> through October 31<sup>st</sup> for a total of 6,362 AUMs. Thus there would be no changes in the basic livestock operation.

The number of permitted livestock, kind of livestock and the season of use would remain the same as it



has been for the past ten years.

Under the proposed action the two new water haul sites would facilitate a more scattered pattern of livestock use on the allotment which again, would benefit the livestock operation by improving livestock management. The area that would be opened for livestock use is currently experiencing only slight use (0%-20%).

The three proposed riparian exclosures wouldn't affect livestock operations on this allotment since replacement water is being proposed.

### **Vegetation**

The new exclosures, properly maintained older exclosures, and additional water haul sites will result in livestock being distributed more evenly across the allotment. The livestock will remain on the allotment for the entire grazing season, but each area of use will see lighter utilization than is now occurring. Over time, there should be even more improvement in the condition of the vegetation in the areas being grazed. This system would provide more rest, and should produce larger plants because of better plant reserves.

The two proposed water haul sites would facilitate the reduced utilization level.

Three proposed riparian exclosures will protect the riparian vegetation from livestock grazing. Over time, the willows and riparian shrubs would grow in the proposed riparian enclosures and cover the riparian areas and stream banks.

### **Wildlife**

Because the upland soil and vegetative communities are stable and functional in unburned areas, the general wildlife habitats would be in good condition. General wildlife species assemblages on this allotment will be associated with pioneer, invader and early seral vegetation. This is a function of severe damage caused by the wildfires and the continued re-burn cycle rather than livestock grazing. Wildlife species associated with low seral conditions will dominate the area for the foreseeable future. Livestock grazing isn't contributing to this situation since livestock grazing is occurring in other heavily burned areas where range conditions are good and in an upward trend.

Livestock grazing isn't affecting mule deer habitat that is intact with one exception, the riparian areas associated with springs. Some springs that were functionally at risk would improve under this alternative and fawning areas could improve in condition at these springs. One proposed water haul site is in the valley and would not overlap deer use areas. The second proposed water haul site occurs adjacent to a rougher foothill area that deer would use in winter. This water may

open new country to livestock grazing that could move deer to a less desirable area and/or use previously ungrazed forage (Peek and Krausman 1995, Axtell 2007). This water haul could impact mule deer winter range.

Pronghorn thrive on the early seral vegetative conditions created by the wildfire. Livestock grazing at the moderate level can cause some rangelands to be in a sub-climax vegetative condition which is ideal for pronghorn (Yoakum et al 1993). Forage competition in fall and winter between cattle and pronghorn on rangeland that is in fair to good condition is slight because pronghorn use forbs and shrubs, and cattle use grasses primarily (Yoakum et al 1995; Authenrieth et al 2006). The proposed water haul sites may open up new country to livestock grazing that could move pronghorn to a less desirable area and/or use previously ungrazed forage. Some springs that were functionally at risk would improve under this alternative.

Bears and cattle would not necessarily overlap areas of use. The proposed water hauls shouldn't affect bears. Spring improvement projects wouldn't benefit bears as greatly as some species, but might provide better foraging areas.

Due to the amount of human activity in the area it is unlikely that the lek will ever be used again, so the proposed action would not likely adversely impact sage grouse (Axtell 2007). Because so many riparian areas are functionally at risk, potential sage grouse brood rearing areas associated with these would be in poor condition.

Moderate grazing levels on upland areas as have been practiced in recent years, and that are proposed for this action, would not have an effect on upland game bird species (Guthery 1995).

### **Soils**

The implementation of this alternative would a slight positive effect to the overall soils resource primarily due to protection of riparian areas, and less concentration of livestock in historically used areas.

### **Invasive, Nonnative Species**

The implementation of this alternative would have a slight positive impact on noxious weed populations primarily due to protection of riparian areas, and less concentration of livestock in historically used areas. New noxious weed establishments in riparian areas would probably decrease, and treatment and monitoring of existing infestations would continue.

### **Wetlands/Riparian**

Implementing the technical recommendations of the 2006 Standards and Guidelines Analysis would help maintain or improve riparian conditions on the allotment. Providing additional water

for livestock would relieve pressure on riparian water sources, and building new fences or

repairing existing fences would prevent livestock from disturbing soils, removing vegetative cover, and discharging animal wastes in riparian areas.

### **Water Quality (Ground & Surface)**

Implementing the technical recommendations of the 2006 Standards and Guidelines Analysis would help maintain or improve water quality on the allotment. Providing additional water for livestock would relieve pressure on natural water sources, and building new fences or repairing existing fences would prevent livestock from disturbing soils, removing vegetative cover, and discharging animal wastes to water resources. Repairing the Juniper Spring fence would prevent direct access by livestock and would greatly reduce the nutrient loading that has led to algae growth.

### **Special Status Species**

#### Federally Listed Species

A biological evaluation and assessment prepared for the Carson wandering skipper, bald eagle and Webber's ivesia. A determination of "May Affect, Not Likely To Adversely Affect" from re-issuing this grazing permit was made for the Carson Wandering Skipper. A determination of "No Effect" to the bald eagle was made. The proposed action may impact individuals of Webber's ivesia, but is not likely to result in a trend toward federal listing or loss of viability (Suminski 2007).

#### BLM Sensitive Species

Livestock grazing allows some species to respond positively, some to respond negatively and some to have a mixed response (Finch et al 1993). This means only that some species may use a grazed area more, some may use it less. It doesn't necessarily preclude the presence of a species (Fagerstone and Ramey 1995). Livestock grazing in this allotment is not a threat to the BLM sensitive species that are associated with upland areas because this allotment is in acceptable functioning condition overall for soils and vegetation, and utilization levels are generally moderate. Some springs that were functionally at risk would improve under this alternative but others would remain at risk. The proposed water hauls wouldn't affect most sensitive species that could occur on this allotment. However, bats will use water hauls to forage across. These projects would benefit some bat individuals, but not populations.

#### Neo-tropical Migratory Birds

Livestock grazing allows some species to respond positively, some to respond negatively and some to have a mixed response (Finch et al 1993). This means only that some species may use a grazed area more, some may use it less. It doesn't necessarily preclude the presence of a species. Livestock grazing was not listed as a threat to loggerhead shrike ([www.natureserve.com](http://www.natureserve.com)).

Although overgrazing can be an issue for Brewer's sparrow and sage thrasher

([www.natureserve.com](http://www.natureserve.com), Finch et al 1993) this is not the major issue in this allotment. Rangeland assessments indicate shrubs and grasses are in functional condition.

The burned areas and the continual re-burn cycle are the major issue for shrub nesting birds. Livestock grazing is not making this condition worse because there isn't livestock forage associated with the burn areas and no grazing occurring in the burns.

Standards for riparian areas and wetlands are not being met. BLM Neotropical migratory bird species associated with riparian areas are being impacted by livestock in this habitat type. Some springs that were functionally at risk would improve under this alternative but others would remain at risk. (There aren't enough funds to build protective structures for all that are needed.) The proposed new enclosures, enclosure maintenance and water haul sites are intended to address this situation. The proposed water hauls would not affect neo-tropical migratory birds since bird escape ladders are a standard design feature.

### **Wild Horses and Burros**

The proposed action to add two new water haul sites would likely have little effect on the wild horses as they are capable of moving long distances between forage sites and water sources. If the new water haul sites are placed outside of the HMA it may encourage the horses to spend even more time outside of the HMA. However, this would result in little change as the wild horses already spend much of their time outside of the allotment.

## **B. No Action Alternative - Issue Grazing Permit with Same Terms and Conditions**

Implementation of the No Action Alternative would not change the current number of livestock utilizing the allotment, authorized AUMs, or the season of use. Vegetation utilization patterns would remain the same, and any problems being experienced at this point in time would continue into the future.

### **Vegetation**

Utilization levels of key vegetation species would remain at the current level of 55%. Vegetation improvement would be much slower than under the proposed action. The current use levels would remain the same, and could jeopardize the long term productivity of some sites. This alternative would not meet vegetation objectives for the allotment.

No new water haul sites would be used on the allotment. Livestock distribution would remain in the same, less than desirable, patterns.

No new riparian enclosures would be built on the allotment to protect additional spring sites. Willows

and other riparian vegetation would be limited at the sites where the exclosures will not be built.

### **Wildlife**

Effects to general wildlife and game species would basically be the same as the proposed action from livestock grazing. However, continued livestock grazing without addressing the functionally at risk riparian areas would allow wildlife habitat to degrade further, even to the point of having water cease flowing. The absence of new water haul sites would be beneficial overall to wildlife by disallowing any opening of new country to grazing. This would be more important than possible new water sources for pronghorn and foraging areas for bats.

### **Soils**

The implementation of this alternative would have a negative effect on the soil resource, since erosion and trampling would continue in the vicinity of a number of riparian areas, and utilization of grasses would continue at a higher level.

### **Invasive, Nonnative Species**

The implementation of this alternative would have very little effect on noxious weed populations, since the treatment program would continue. Noxious weed infestations would be sprayed with the appropriate herbicides and monitored.

### **Recreation**

Recreational use of the area would not be affected by continuation of grazing in the area under the current system. Any possible conflicts between new water haul sites and field dog trials would be eliminated by the lack of new water haul areas.

### **Wetlands/Riparian**

Continuing current management would maintain or improve riparian conditions somewhat if existing riparian exclosure fences are repaired. Alternate water sources would not be provided and no new fencing would be constructed, so the improvement of riparian areas would be less than that realized under the Proposed Action.

### **Water Quality (Ground & Surface)**

Continuing current management would maintain or improve water quality somewhat if existing riparian exclosure fences are repaired. Alternate water sources would not be provided and no new fencing would be constructed, so water quality improvement would be less than that realized under the Proposed Action.

### **Special Status Species**

### Federally Listed Species

Effects to Carson wandering skipper and bald eagle would be the same as the proposed action from livestock grazing except for the Webber's ivesia. Livestock trampling and overgrazing are a general concern for this plant (www.natureserve.com). Since this plant is associated with shallower soils that don't produce preferred forage that could attract livestock, trampling wouldn't be an issue in this allotment. Current livestock grazing levels are moderate and rangeland assessments show vegetation to be in a functional condition. This plant wouldn't be attractive to livestock since preferred forage is readily available. Utilization levels would remain at 55% under this alternative meaning that in years such as during a drought, all vegetation would be more stressed including the ivesia. Water hauling would not be used to distribute livestock further. Although this wouldn't create an impact to the ivesia, it wouldn't be as ideal as the proposed action (Suminski 2007).

### BLM Sensitive Species

Effects to BLM sensitive species would basically be the same as the proposed action from livestock grazing. However, continued livestock grazing without addressing the functionally at risk riparian areas would allow wildlife habitat to degrade further, even to the point of having water cease flowing. Not having the water hauls would be beneficial overall to wildlife by disallowing any opening of new country to grazing. Again, this would be more important than the creation of possible new foraging areas for bats.

### Neo-tropical Migratory Birds

Effects to Neotropical migratory birds would basically be the same as the proposed action from livestock grazing. However, continued livestock grazing without addressing the functionally at risk riparian areas would allow wildlife habitat to degrade further, even to the point of having water cease flowing. The lack of new water haul sites would be beneficial overall to wildlife by disallowing any opening of new country to grazing.

### Wild Horses and Burros

Impacts would be similar to those associated with the proposed action since the horses often wander outside of the HMA.

## **C. No Grazing Alternative – No Permit is Issued**

### Livestock

Under the no grazing alternative, no livestock would be authorized in the Antelope Mountain Allotment at this time.

Changes to the public land grazing permit would impact the livestock operator. Few grazing

permits are available on public lands and if the Antelope Mountain permit were lost, it is unlikely that the operator could locate another permit in the local area. The fees for private land grazing are higher than fees for public land grazing which would increase the cost of running the livestock operation.

No water haul sites would be used under this allotment. No riparian exclosures would be constructed under this alternative.

Range improvements, such as fences and water structures/exclosures would not be maintained if grazing were not occurring on the allotment. There would be no permittee to perform these important functions, and the BLM does not have the capability of maintaining improvements on ungrazed allotments. Without proper boundary fence maintenance, trespass livestock from outside the allotment could easily come into the area. While the pressure on certain riparian areas would not be as heavy as when livestock grazing was permitted, there would still be horses, and the possibility of trespass livestock on the allotment.

### **Vegetation**

Under the no grazing alternative, the perennial vegetation across the allotment would continue to improve. Eventually, the forage species on some areas of the allotment would reach an over mature stage of growth, and without disturbance, the vigor of the plants would suffer. Some species of perennial grass plants may become woody with dead plant centers. This alternative would also not allow for the proper use of a renewable resource (range forage) as allowed for in the Carson City Field Office Consolidated Resource Management Plan 2001.

Without maintenance of the fences, and especially the riparian exclosures, riparian vegetation could sustain damage from horses, and possibly trespass livestock on the allotment. Riparian exclosures also help to prevent OHV riders from damaging spring and riparian areas.

### **Wildlife**

Any forage competition, especially in drought stressed years, would be lessened. Although a higher seral condition might be good sage grouse habitat, other factors will probably prevent re-establishment of this species in this allotment. At risk springs would have less damage but would remain in conditions that don't meet standards. The additional pronghorn water provided by the water hauls would not be present, but this would not affect pronghorn populations overall.

### **Soils**

The implementation of this alternative would positively impact the soils resource and result in less erosion and trampling in the vicinity of a number of riparian areas. Also basal cover from grasses and forbs would probably increase to some degree.

### **Invasive, Nonnative Species**

The implementation of this alternative could have a positive effect on noxious weed populations. Treatment and monitoring would continue, but the lessening of impacts to riparian areas could decrease the possibility of noxious species establishment.

### **Recreation**

There would be no livestock in the area to possibly interfere with recreational use of the area. No new structures would be built, or water haul sites designated.

### **Wetlands/Riparian**

If a grazing permit were not issued for the allotment, livestock impacts to riparian areas would be eliminated. Overall improvement to riparian conditions would be expected.

Under the no-grazing alternative allotment management actions, such as construction and maintenance of riparian fencing would not be completed as range improvement projects. Localized impacts to riparian areas by wild horses, wildlife, or trespass livestock could worsen and would have to be managed in other ways.

### **Water Quality (Ground & Surface)**

If a new grazing permit were not issued for the allotment, livestock impacts to water quality would be eliminated. Some riparian areas that have been damaged by livestock would recover and further improve water quality. Overall improvement to water quality would be expected.

Under the no-grazing alternative allotment management actions, such as construction and maintenance of riparian fencing would not be completed as range improvement projects. Localized impacts to water resources by wild horses, wildlife, or trespass livestock could worsen and would have to be managed in other ways.

### **Special Status Species**

#### **Federally Listed Species**

Under this alternative, there would be “no effect” to federally listed species or habitats (Suminski 2007).

#### **BLM Sensitive Species**

The response of BLM sensitive species would be reverse of the grazing alternatives as those species which responded positively to grazing might not be as abundant while those that respond with no grazing might increase. The additional bat foraging sites provided by the water hauls would not be present, but this would not affect these species overall.

#### **Neo-tropical Migratory Birds**



Although a higher seral condition might be good sage grouse habitat, other factor will probably prevent re-establishment of this species in this allotment. At risk springs would have less damage but would remain in conditions that don't meet standards. The response of Neotropical migratory birds would be reverse of the grazing alternatives as those species which responded positively to grazing might not be as abundant while those that respond with no grazing might increase.

### **Wild Horses and Burros**

This could allow for an increase in horse numbers as more forage could be consumed if the allowable utilization levels were unchanged. However, due to the small size of the HMA this would only allow for a modest increase in horse numbers in the range of approximately 20 head. However, increasing the AML may not be desirable as many of the horses now wander into nearby residential areas resulting in the removal of animals that chronically inhabit private land.

#### **D. Mitigation Measures**

There are no additional mitigating measures beyond what is listed under the terms and conditions of the expiring term grazing permit. If the no grazing alternative were selected, there would be no need for any mitigating measures.

#### **E. Cumulative Impacts:**

All resource values have been evaluated for cumulative impacts for past, present, or reasonably foreseeable future actions. It has been determined that cumulative impacts would be negligible for all resources as a result of the proposed action.

The issuance of the term grazing permit for the Antelope Mountain Allotment is a specific action, and would cause no known cumulative impact to the environment when considered in combination with any known or anticipated actions on these or adjacent lands in the past, present or reasonably foreseeable future. Any effects of the grazing levels proposed would be limited to the project areas. Grazing at or below moderate utilization levels has not been shown to be injurious to plant or animal species in the area. The effects of grazing, along with associated activities in the management of this Allotment such as the maintenance or use of range improvements, would be limited to the immediate area of the allotment. They would not combine with any known or reasonably foreseeable activities on these or adjacent lands to produce any detrimental cumulative impacts in the area.

#### **F. Monitoring:**

Range Monitoring would continue on the Antelope Mountain Allotment. The types of monitoring could include (1) Photo Point, (2) Quadratic Frequency, (3) Density, (4) Cover, (5)

Line Intercept, (6) Utilization, (7) Use Pattern Maps, (8) Rangeland Health Assessments, (9)

PFC, (10) Actual Use Reports, and (11) Weather Data. Actual monitoring methods used would depend on monitoring needs, conditions, and resources available.

**V. CONSULTATION & COORDINATION**

**A. List of Preparers:**

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Rita Suminski	Wildlife Biologist
Ken Nelson	Reality Specialist
Dean Tonenna	Plant Ecologist
John Axtell	Wildlife Biologist /
	Wild Horse & Burro Specialist
Terry Knutson	Environmental Coordinator

**B. Persons, Groups or Agencies Consulted:**

D.S. Ranches, LLC	Western Watersheds Project
Pyramid Lake Paiute Tribe	Fallon Paiute-Shoshone Tribe
Nevada State Clearing House	RCI
U.S. Fish and Wildlife Service	

**VI. APPENDICES OR ATTACHMENTS:**

APPENDIX A - BLM Sensitive Species associated with Antelope Mountain Allotment

APPENDIX B - Neo-tropical Migratory Birds, Species of Continental Importance on Antelope Mountain Allotment

**APPENDIX A**

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## BLM Sensitive Species associated with Antelope Mountain Allotment

### Animal

Golden Eagle – *Aquila chrysaetos*  
Ferruginous Hawk - *Buteo regalis*  
Burrowing owl - *Athene cunicularia*  
Short-eared owl – *Asio flammeus*  
Long-billed Curlew – *Numenius americanus*  
Mountain Quail – *Oreortyx pictus*  
Prairie Falcon – *Falco columbarius*  
Swainson’s Hawk- *Buteo swainsoni*  
Western Snowy Plover- *Charadrius alexandrinus*  
Loggerhead shrike- *Lanius ludovicianus*  
Juniper Titmouse - *Baeolophus griseus*  
Vesper Sparrow – *Pooecetes gramineus*  
Western Snowy Plover – *Charadrius alexandrinus*  
Sage grouse ? – *Centrocercus urophasianus*  
Pallid bat – *Antrozous pallidus*  
Townsend’s big-eared bat - *Corynorhinus townsendii*  
Western Pipistrelle Bat – *Pipistrellus hesperus*  
Brazilian free-tailed bat - *Tadarida brasiliensis*  
Fringed myotis – *Myotis thysanodes*  
California myotis – *Myotis californicus*  
Pygmy rabbit – *Brachylagus idahoensis*

Source: [www.natureserve.com](http://www.natureserve.com), [www.heritage.nv.gov](http://www.heritage.nv.gov), CCFO Habitat Management Plans, misc. observ

## APPENDIX B

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## **Neo-tropical Migratory Birds, Species of Continental Importance on Antelope Mountain Allotment**

**Salt Desert Scrub** (Beidleman 2000) – This biome experiences harsh climactic variation and is often dominated by salt-tolerant shrubs. Species of concern associated with this habitat type in the project area are,

Loggerhead Shrike – *Lanius ludovicianus* (Neel 1999, Nevada Wildlife Action Plan 2006)  
Burrowing Owl – *Athene cunicularia* (Neel 1999)

Issues related to this habitat type include physical destruction of salt desert shrubs, habitat conversion and use of rangeland pesticides (Neel 1999). Off-road vehicle activity and non-native species invasion has also been identified as an issue (Nevada Wildlife Action Plan 2006).

**Western Shrublands** (Beidleman 2000) – Shrubsteppe was identified as the highest priority habitat for conservation for breeding birds. This habitat type supports the largest nesting-bird species list of any upland vegetation type in the West (Beidleman 2000). Species of concern associated with this habitat type in the plan area,

### **Shrub-Steppe**

Sage grouse ? – *Centrocercus urophasianus* (Beidleman 2000)  
Brewer's sparrow – *Spizella breweri* (Beidleman 2000)  
Sage Sparrow – *Amphispiza belli* (Neel 1999, Beidleman 2000, Nevada Wildlife Action Plan 2006)  
Sage Thrasher – *Oreoscoptes montanus* (Neel 1999, Beidleman 2000, Nevada Wildlife Action Plan 2006)

Issues related to this habitat type include fragmentation from man-caused activities. Threats to this habitat type include overgrazing of grasses and forbs that alter community structure, invasion of non-native grasses and fire suppression / crown-killing wildfire (Beidleman 2000). Loss of shrub understory, increasing human infrastructure which fragments and degrades habitat, and increases soil erosion was also identified (Nevada Wildlife Action Plan 2006).

**Woodland** – Pinyon-juniper woodlands are characteristic of this habitat type Species of concern associated with this habitat type in the plan area,

Gray Flycatcher – *Empidonax wrightii* (Beidleman 2000)  
Gray Vireo - *Vireo vicinior* (Beidleman 2000)

Juniper Titmouse – *Baeolophus ridgwayi* (Beidleman 2000)  
Mountain Bluebird – *Sialia currucoides* – cavity nester (Neel 1999)  
Pinyon Jay – *Gymnorhinus cyanocephalus* (Neel 1999)  
Western Bluebird- *Sialia mexicana* – snags / hollow tree (Neel 1999)

Issues related to this habitat type include fragmentation from man-caused activities (Beidleman 2000).

**Riparian** – This habitat type supports the highest bird diversity of any western habitat type but is one of the rarest. Species of concern associated with this habitat type in the plan area,

Calliope hummingbird – *Stellula calliope*- (Beidleman 2000)

Issues related to this habitat type include de-watering and alteration of water flows / channels, road construction, nonnative species, logging, recreation and overgrazing (Beidleman 2000). Groundwater withdrawal and shallow aquifer pollution were mentioned as specific Nevada issues (Nevada Wildlife Action Plan 2006).

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<http://www.natureserve.com>



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