Environmental Assessment
Sunrise Grazing Allotment
EA-NV-030-08-25

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

I. INTRODUCTION/PURPOSE AND NEED

A. Introduction

The Sunrise Grazing Allotment is located approximately fifteen miles southeast of Carson City, Nevada and is within the Jurisdictional Boundary of the Carson City Field Office (CCFO) of the Bureau of Land Management (BLM). The grazing Allotment is located at the top of on the Pine Nut Mountains near Sunrise Pass in Lyon and Douglas counties. The allotment encompasses approximately 17,804 acres (Map on Page 3) of BLM managed land. The BLM is currently considering the renewal of the term livestock grazing permit for this Allotment.

This environmental assessment (EA) analyzes the environmental impacts associated with each of the livestock management alternatives currently being considered for the Sunrise Allotment. Management options presently under consideration include: 1) authorizing cattle grazing with modified management and the construction of range improvements; 2) authorizing cattle grazing and continuing with current management; and 3) not authorizing livestock grazing within the Allotment at this time.

B. Purpose and Need

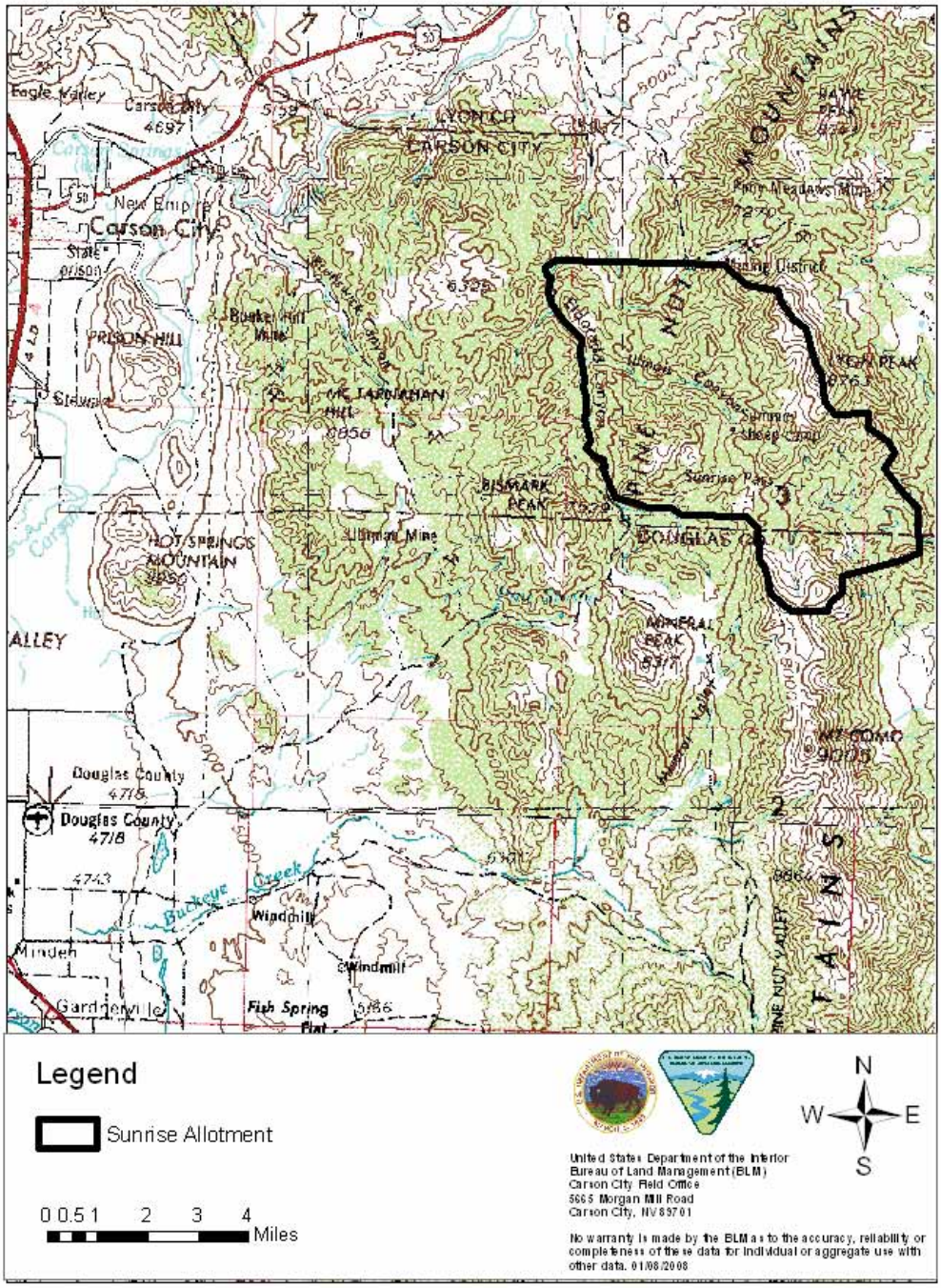
The purpose of the proposed action is to authorize the issuance of a Term Grazing Permit for the Sunrise Allotment consistent with the attainment of site specific objectives found in the Carson City Field Office (CCFO) Consolidated Resource Management Plan (CRMP), and implement livestock grazing practices that will ensure compliance with the approved Standards for Rangeland Health & Guidelines for Grazing Management (S&Gs), Sierra Front Northwestern Great Basin Area. Management of grazing will come through the issuance of a grazing permit which will provide the parameters and guidelines for management of the range resources on the Allotment. Proper management will result in improved range condition throughout the area.

These actions are needed at this time because:

1) The condition of natural resources on the Allotment was evaluated in 2007 and grazing management needs to be updated at this time through a fully processed grazing permit.

2) The BLM Managed Lands within the Allotment were identified as available for livestock grazing in the CCFO CRMP, and continued livestock grazing is consistent with the goals, objectives, standards and guidelines identified in the CRMP.

3) Where consistent with other multiple use goals and objectives, there is a congressional intent to allow grazing on BLM Managed Lands. This is evidenced by the Taylor Grazing Act of 1934 (as amended), the Federal Land Policy and Management Act of 1976, the Public Rangelands Improvement Act of 1978, and the approved Standards and Guidelines of 1997, as well as various other federal laws and regulations.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Carson City
Eagle Valley
New Empire
State Prison
PRISON HILL
Sidewalk
Buckeye Creek
Mt Tamalpan Hill
HOT SPRINGS MOUNTAIN
Douglas County
Minden
Gardnerville
Windmill
Fish Spring Flat
BISMARK PEAK
Ullman Mine
MINERAL PEAK
MT COMO
HIGH PEAK
Sunrise Pass
Sheep Corral
Pony Meadows Mine
Mining District
Mormon Valley
Elbow Creek
Hawk Peak
CARSON CITY
LYON CO
DOUGLAS CO
FINN MOUNTAINS
FALLON

C. Land Use Plan Conformance Statement

The proposed action and alternatives described in this document are in conformance with the Carson City Field Office-CRMP desired outcomes. For livestock grazing, these are found on page LSG-1 and are as follows:

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.

The Land Use Plan identified the lands within the Sunrise Allotment available for livestock grazing.

The following activity plan(s) apply to the geographic area of the proposed action and alternatives: Pine Nut Habitat Management Plan.

Additional Guidance: Standards and Guidelines (S&Gs) for Nevada's Sierra Front-Northwestern Great Basin Area (2003).

II. PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

Permitted livestock use in the Sunrise Allotment would continue to be 52 cattle between 03/15-06/15 for 159 Animal Unit Months (AUMs). Under the terms and conditions of the grazing permit livestock use would not exceed 27.5% on perennial grasses and 22.5% on bitterbrush. In addition livestock could only utilize the meadows in the southeastern portion of the allotment for a maximum of twenty days, for ten days at the beginning of the grazing season and ten days at the end of the grazing season.

Under this alternative approximately two miles of barbwire fence would be constructed. The purpose of the fencing would be to increase livestock control and limit the amount of time cattle are utilizing riparian areas. The proposed fencing would be constructed in the southeastern portion of the allotment (Map on Page 6). The fencing would consist of three strands of barbed wire and one smooth bottom wire in accordance with BLM wildlife fence standards (type B antelope). The wire spacing for the wildlife standard is 16", 22", 30" and 42" and 16 1/2' spacing between T-posts. Under this alternative it would also be necessary to use the existing water haul location to redistribute livestock.

Interim management of the allotment until fence construction is complete would be to: 1) limit the livestock grazing period of use on the allotment to twenty days; 2) livestock use could occur anytime within the permitted season of use (03/15-06/15) but could not exceed 20 days; 3) the maximum number of livestock would be 75 cattle, therefore the maximum number of AUMs would be 50. This interim management would be in effect until the proposed fencing is constructed and livestock use of the riparian areas can be controlled.

B. No Action Alternative

Permitted livestock use in the Sunrise Allotment would continue to be 52 cattle between 03/15-06/15 for 159 AUMs. Under the terms and conditions of the grazing permit livestock use would not exceed 27.5% on perennial grasses and 22.5% on bitterbrush. In addition specific areas within the allotment would be grazed for two weeks or less each year.

Under this alternative no fences would be constructed.

C. No Grazing Alternative

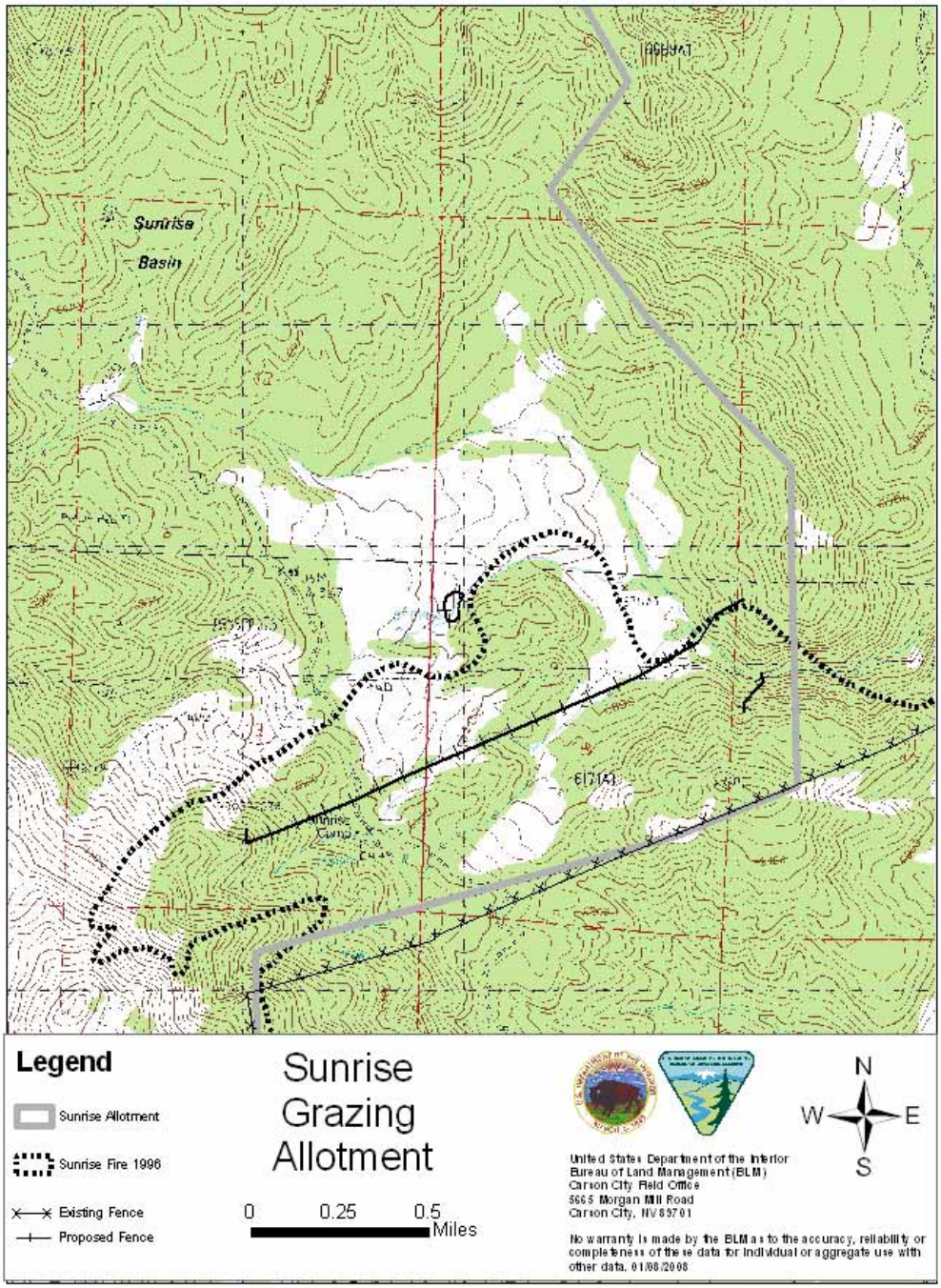
Under the no grazing alternative, the BLM would not renew the term grazing permit for the Sunrise Allotment. No livestock would be authorized on BLM managed lands within the Allotment at this time.

Under this alternative no fences would be constructed.

D. Alternatives Considered but Eliminated from Detailed Analysis

A winter (plant dormancy) grazing alternative was considered but eliminated from further analysis. The allotment is often inaccessible until after March due to snow.

The allotment evaluation also discussed the possibility of repairing the Illinois Canyon Well and distributing livestock use into this portion of the allotment. A field review determined that there are very few AUMs available in this portion of the allotment due to low grass densities and high shrub and tree densities. The field review also determined the well would need to be re-drilled which would require road re-construction to access the area with a drill rig. What is left of the existing road is located in highly erosive soils and reconstruction is not recommended. For these reasons this range improvement was dismissed from further analysis.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III. AFFECTED ENVIRONMENT

A. SCOPING AND ISSUE IDENTIFICATION

On November 6, 2007, a scoping letter was sent to the interested public to identify those individuals and organizations interested in specific actions on specific Allotments under the jurisdiction of the CCFO. The purpose of this scoping letter was to gather information and determine who would be further interested in participating in actions pertinent to specific 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: Permittee of Record, Sunrise Allotment; Resource Concepts, Inc.; Western Watersheds Project; Friends of Nevada Wilderness

Internal Scoping Also Identified the Following List of Groups to be Notified:
Washoe Tribe of Nevada and California
Yerington Paiute Tribe

B. PROPOSED ACTION

1. General Setting

The Sunrise allotment is located southeast of Carson City, Nevada and encompasses approximately 17,804 acres on Sunrise Pass in the Pine Nut Mountain Range. Elevations within the Sunrise allotment range from approximately 5,200 feet in Eldorado Canyon to over 8,700 feet on Lyon Peak.

Major plant communities are low sagebrush, mountain big sagebrush and pinyon-juiper woodlands.

2. Critical Elements of the Human Environment

The following critical elements are not present or would not be affected by the Proposed Action, or the Alternatives: Air Quality, Areas of Critical Environmental Concern, Cultural Resources, Prime or Unique Farmlands, Floodplains, Native American Religious Concerns, Hazardous or Solid Wastes, Wild and Scenic Rivers, Wilderness, Environmental Justice.

For those critical elements that are present but were not brought forward for analysis, opting for either the proposed action or alternatives would not affect these resources. Explanations as to why are as follows.

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). The potential exists for adverse impacts to cultural resources and/or historic properties due to a continuation of livestock grazing with or without modifications to the grazing permit. By definition, a 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(l)(1)).

Based on research of files at the Carson City Field Office and the Nevada State Museum, the allotment contains some locations of known cultural resources. To date, in and immediately adjacent to the BLM-managed lands of the Sunrise Allotment, known cultural resources represent significant past human use of the landscape. Previous cultural resource inventory within the allotment comprises only 149.5 acres (about .01% of the allotment) and has identified 30 sites. Known site types within the allotment area include prehistoric camp sites; prehistoric limited activity/procurement sites; rock alignments and talus pits; historical stone structures; historical refuse scatters; prospecting areas; transportation sites; charcoal production locales; and a historical ranching camp. Further details on local site types and the potential for effects to historic properties from livestock activities associated with the issuance of a grazing permit are available in a technical report prepared for this permit renewal (CRR 3-2433—Lane, 2008) and the published Carson City District Cultural Resources overview report (Pendleton et al., 1982). Based on review of range use data, reports on areas previously inventoried in or near the allotment, and field reconnaissance, livestock grazing is not a significant impact to historic properties (Lane, 2008).

BLM analyses included the potential impacts of implementing allotment improvements provided above, under the Proposed Actions and Alternatives. Fieldwork at the location of each of these improvements was completed in April through June 2008, and based on that review by a BLM Archaeologist, the specific allotment improvements—two new fences and a spring exclosure—each are not known to have significant impact to historic properties (Lane 2008).

Therefore, relative to cultural resources, there exists no need to alter the proposed Sunrise Allotment term grazing allotment permit proposed action, which includes proposed allotment improvements, 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 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 resources within the area of potential effect from an undertaking such as a waterline, fence, creation of new water haul locations, or other area that involves ground disturbance or that concentrates livestock. Any historic properties identified, documented, and evaluated as eligible for inclusion in the National Register of Historic Places within a proposed improvement area of potential effect 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 entity and the Nevada State Historic Preservation Office.

Native American Religious Concerns

A consultation letter was sent to the Washoe Tribe of Nevada and California and the Yerington Paiute Tribe on November 29, 2007, concerning the permit renewal for the Sunrise Grazing Permit Renewal. During a face to face meeting with the Tribal Historic Preservation Officer for the Washoe Tribe requested information concerning proposed projects when fences are built for any purpose. The stated concern was for access and egress to water historic corridors by wildlife. Fencing information will be provided for all proposed range improvements. The cultural resource contact for the Yerington Paiute Tribe had concerns for the impacts of grazing to native plants and would like to be consulted on any future range improvements.

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 conduct Native American coordination and consultation, as necessary, prior to any proposed improvements under this permit renewal.

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: None

4. Resources Present and Brought Forward for Analysis

Range

The permitted use within the Sunrise Allotment is 52 cattle during the period 03/15-06/15 for a total of 159 AUMs. The percent federal range is 100% and 159 AUMs is the full grazing preference.

Under the terms and conditions of the current grazing permit specific areas within the allotment are to be grazed for two weeks or less each year and livestock use is to not exceed 27.5% on perennial grasses and 22.5% on bitterbrush. However, livestock use has been concentrated in the southeast corner of the allotment on the crested wheat seeding, the Sunrise Burn, and the meadows and these terms and conditions have not been met.

Vegetation

The dominant plant community within the Sunrise allotment is pinyon-juniper woodland. There are also small areas of riparian, low and mountain big sagebrush plant communities. The low sagebrush is located in the northwestern corner of the allotment while the mountain sagebrush is located around Illinois Canyon Well and in the southeast corner of the allotment. A portion of the sagebrush in the southeast corner of the allotment was chained and the area was seeded with crested wheat in 1972 in 1996 a portion of the area burned in the Sunrise Fire.

All recent livestock use (2000-2007) has occurred in the southeast portion of the allotment in the crested wheat seeding, in the Sunrise Burn and on the meadows. The utilization goal of 27.5% or below on perennial grass species has not been met within this portion of the allotment. Livestock use of perennial grass species has been heavy (61%-80%) to severe (81%-94%). No livestock use has occurred in other portions of the allotment. During 2007 it was determined that the standards and guidelines for riparian/wetland health were not being met and livestock grazing practices were significant factors.

Trend is a determination of the direction of change in the current plant community and associated soils in relation to management goals. The current trend for plant communities within the Sunrise Allotment is primarily static to downward. There are three photo trend plots within the allotment. Photo trend plot #1 is located in the southeastern portion of the allotment where recent livestock grazing has occurred. However, the plot could not be relocated in 2007 and is presumed to have been removed during a brush thinning project to support work on the power-line. Photo trend plot #2 is located in the central portion of the allotment near Illinois Canyon. The trend at this location is downward and the trend is not related to recent livestock grazing practices. This area was not utilized by livestock during the past ten years. The plant community is moving from a sagebrush rangeland to a pinyon woodland. Photo trend plot #3 is located in the southwest portion of the allotment, the trend at this location is static to downward, and the trend is not related to recent livestock grazing practices. This area was not utilized by livestock during the past ten years. Sagebrush and bitterbrush plants within the plot have increased in size so total cover has increased. However, the number of perennial grass plants within the plot has declined. The plant community is moving from a sagebrush / bitterbrush rangeland to a pinyon woodland.

Riparian/Wetland

Ten separate riparian areas were assessed on the Sunrise allotment between June 6 and June 19, 2007. Other riparian areas on the allotment were not assessed because of difficult access and a low likelihood of impacts. Riparian data are summarized within the tables below. Table 1 provides some basic information for each location, and Table 2 summarizes the 2007 condition ratings for all assessed sites.

Tables 1 and 2 show that overall ratings were somewhat negative. More than a third of lentic areas and five percent of lotic areas were functional-at-risk with a downward trend (FAR-DN). Almost half of lentic areas and two thirds of lotic areas were functional-at-risk with an unknown trend (FAR-?). The remaining areas are in proper functioning

condition. None of the areas were functional-at-risk with an upward trend or nonfunctional.

Some of the downward trends were probably due to drought since several areas appeared to be drying. It is difficult to separate the effects of drought from grazing impacts, however, because many sites were affected by trailing and gullying. Trails and gullies usually concentrate flow below the natural grade, which drains a site more rapidly than when it is undisturbed.

The dryness also affects the vegetation community. The diversity of plant species seemed low, and less desirable species, such as wild rose and poverty weed appeared to be thriving in some areas.

Table 1. 2007 Riparian Assessment Data for the Sunrise Allotment

Name	Date Assessed	UTM Northing	UTM Easting	Rating[1]	Acres[2]	Miles	Management Recommendations
Trail Spring/ Camp Spring	6/6/2007	4327779	287616	FAR-?	6.0		Consider exclosure
Unnamed Spring	6/19/2007	4328715	287391	FAR-DN	0.2		Repair fence; treat weeds
Chaining Spring	6/19/2007	4328828	287609	50% PFC 50% FAR-DN	1.2		Treat weeds
East of Chaining Spring	6/19/2007	4328901	287848	50% FAR-? 50% FAR-DN	2.0	0.3	Treat weeds
Unnamed Spring	6/19/2007	4328750	288394	PFC	1.8		Treat weeds
Unnamed Spring	6/19/2007	4327763	287993	FAR-DN	0.7		Treat weeds
Pinyon Spring	6/19/2007	4328381	288353	FAR-DN	2.5		
Rose Patch Spg	6/19/2007	4328141	288205	FAR-DN	0.3		
Lower Illinois Canyon	9/6/2007	4334022	280256	PFC		1.2	
Upper Eldorado Canyon	9/6/2007	4331003	279343	FAR-?		2.5	

[1] Rating key:
PFC = Proper Functioning Condition
FAR-UP = Functional-At-Risk with an Upward Trend
FAR-DN = Functional-At-Risk with an Downward Trend
FAR-? = Functional-At-Risk with an Unknown Trend
NF = Nonfunctioning

[2] Acreages were determined by delineating riparian areas in ArcMap from 2006 digital color imagery, except for relatively small systems which were measured in the field using a global positioning system (GPS).

Table 2. Summary of 2007 Riparian Assessments for the Sunrise Allotment

Rating	Acres	Percent of Total	Miles	Percent of Total
PFC	2.4	16	1.2	30
FAR-UP	--	--	--	--
FAR-DN	5.3	36	0.2	5
FAR-?	7.0	48	2.6	65
NF	--	--	--	--
Total	14.7	100	4.0	100

Water Quality (Ground & Surface)

No class waters or beneficial uses are designated within the Sunrise 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. During the rangeland health evaluation and riparian assessments no significant direct impacts to water quality due to current land uses, including livestock grazing, were observed. There were no visual signs, odors, or other indications that water quality was being impaired under the current grazing system.

The following values for pH, temperature, conductivity, and salinity were measured at the springbrook below Pinyon Spring during the riparian assessment on June 19, 2007.

- pH 7.93
- Temperature (ºC/ ºF) 27.2 / 81.0
- Conductivity (µS) 267.3
- Salinity (ppt) 0.1

The parameters do not indicate direct livestock impacts, however, the temperature is higher than would be expected. It appeared that trailing and gullying could be draining the site more rapidly than an undisturbed site would be. The area also had less vegetation cover than a well-functioning system would have, which would expose the site to greater solar heating.

Federally Listed Species

There are neither federally listed plants nor animal species nor habitats associated with the Sunrise allotment, nor are there species proposed for federal listing (www.fws.gov/nevada/protected_species/index.html, USFWS 2008).

General Wildlife

General wildlife habitats in this allotment are diverse; some are in good condition. Higher elevation and rougher country habitats are functioning well for wildlife. Some lowland habitats are not. The major wildlife habitat types (Wildlife Action Plan Team 2006) include,

Sagebrush – Higher elevations of this habitat are dominated by Wyoming big sagebrush. Bitterbrush would not be a co-dominant with this sagebrush species. Mountain big

sagebrush dominates much of the upper elevation. Wildlife species such as Great Basin pocket mouse, sagebrush lizard and sage sparrow.

Lower Montane Woodlands - Singleleaf pinyon and Utah juniper are the dominant vegetation types in this habitat. Forbs and grasses are sparse, especially as the canopy closure increases. Cliffrose and bitterbrush are key mule deer forage species in this habitat type, however, much of this shrub community is being crowded out by pinyon and juniper. Wildlife species such as short-horned lizards, gray fox and gray vireo can be found in this habitat type.

Timber / aspen - Small amounts of true timber and aspen occur at heads of canyons and in some canyons. One spring source on the allotment has aspen as its major riparian species. Many of these areas are soil associated inclusions within the pinyon-juniper woodland, riparian or mountain shrub habitat type. They aren't really large enough to support a different assemblage of wildlife species than the surrounding area.

Springs and Springbrooks - There are no rivers and the only spring brook outflows associated with springs in this allotment. A small creek runs through Illinois Canyon. Some springs have riparian vegetation mostly intact, but in other areas, mesic vegetation such as pinyon and juniper trees and sage brush are encroaching on the riparian vegetation. Aspen is the dominant overstory component on some of the springs. In some cases, livestock has damaged the vegetation and water source. An assessment of the riparian areas conducted in 2007 found that most were functional at risk in a downward trend. None were found to be in an upward trend (BLM 2007).

Camp Spring and Trail Spring – the Sunrise road is impacting the wet meadow areas by compacting the meadow, channeling water and keeping the meadow below the road confined and small. The meadow below this spring complex isn't nearly as large as it could be if the road were placed above the springhead or if the existing road were constructed as a French drain rather than with culverts (USFS 1996). On these springs, wild rose is exhibiting mechanical damage and some browsing. Livestock use this area for shade. There is some mechanical damage on the willows. Diversity on the meadow appears poor; forbs are absent or are represented only by the most tolerant species like dandelion. Dark organic soils extend farther than the wetted area or riparian species areas which indicate the meadow could be larger. The aspen may be experiencing apical dominance and not be expanding. New sprouts on the edges of the aspen may also be browsed. Current livestock use isn't allowing recovery of this meadow complex. Where riparian areas exist, aspen, rose, rushes and sedges can be found. Wildlife species associated with this spring and spring brook habitat type include wandering garter snake, shrew and Cooper's hawk.

This allotment is within the BLM Pine Nut Habitat Management Plan area.

Some mule deer use all of this allotment. They are associated with the various elevations of sagebrush / woodland habitat in this allotment although a few can be found at lower elevations on the fringes of valleys. Antelope bitterbrush and mountain big sagebrush are key mule deer winter species and Sandberg bluegrass is a key early spring mule deer

forage. The latter is important for does just prior to fawning. Bitterbrush and sagebrush plants that exist at higher elevations are in fair condition in spite of drought. However, age diversity of these shrubs is a concern, seedling and young plants don't appear to be abundant.

Mule deer use the higher elevations of the allotment which is summer range. Mule deer fawning would occur within this allotment. A one-mile radius around springs within mule deer range is considered key fawning habitat in spring / summer (Wickersham 1990). Higher elevation uplands and springs are in fair to good condition; livestock use is less and some springs are totally inaccessible to livestock or OHV traffic. Some springs associated with fawning areas are impacted by roads / trails that allow vehicles and OHV use during fawning season. Camp and Trail Spring are not functional as mule deer habitat although these should be significant mule deer fawning areas. Excessive grazing can accelerate the loss of hiding cover for mule deer fawns. Lower elevation areas were used at heavy and severe levels (BLM 2007a).

Pinyon-juniper encroachment at the mid-elevation was reported in a 1973 report (Berg 1973). It likely began at an accelerated rate much earlier. Research indicates that when livestock disturb plant cover, mineral soils are exposed. These soils are especially conducive to establishment of tree seedlings (Murray ND). Although some of these areas have burned since 1973, the encroachment issue still exists and habitat conditions have worsened due to expanded encroachment that is causing loss of sagebrush, bitterbrush and perennial grasses and forbs to pinyon-juniper. A downward trend for the allotment has been attributed at least partially to this encroachment effect (BLM 2007a).

Some pronghorn may use lower elevations of this allotment during extremely cold or hot times, but use would be intermittent. No key pronghorn areas would be expected on this allotment.

Bighorn historically occurred in the Pine Nut Range and would have used this allotment. Nevada Department of Wildlife considers portions of this allotment as potential bighorn habitat. The entire allotment is currently listed as occupied black bear range and habitat (NDOW 2006). Bears use plants, rodents and carrion as principle food sources. Food sources at higher elevations are reasonably abundant. Declining amounts of perennial forbs and grasses at the lower elevations are likely keeping rodent populations suppressed - a major food source for bears.

Mountain and California quail are present in this allotment. Mountain quail benefit from riparian vegetation adjacent to shrub lands. Mourning dove can be found in the allotment. The exotic chukar partridge can be found in the allotment.

According to the allotment evaluation, all recent upland livestock use (2000-2007) has occurred in the southeast portion of the allotment in the crested wheat seeding, in the Sunrise Burn and on the meadows. Livestock use of perennial grass species in this area has been heavy (61%-80%) to severe (81%-94%) [BLM 2007 a]. The set utilization level for this area was 27.5%. No livestock use had occurred in other portions of the allotment. There appears to have been no attempt to move livestock to other areas to prevent

damaging use. Overgrazing depresses populations of most small mammals which means numbers are affected. Consistent heavy grazing can reduce the numbers of species present in an area (Fagerstone and Ramsey 1995) which means diversity of general wildlife suffers. Because of the loss of habitat due to pinyon-juniper encroachment, the large number of riparian areas that wildlife depend on are in function-at-risk condition with a downward trend, and heavy to severe grazing in portions of the allotment, general wildlife habitat is functional but far from ideal .

Special Status Species

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 sensitive wildlife species associated with this allotment are shown in Appendix A (BLM 2003).

Some BLM sensitive species use every habitat within the allotment. Some species do not occur because of a natural lack of habitat type in this specific allotment. In Nevada, density was one-third lower with diversity nearly one-half lower on grazed sites (Fleischner 1994). The general condition of the grassland and shrub component of this allotment is mixed. Some is declining in condition due to drought and encroachment; some is being maintained and some is relatively untouched. Because perennial grasses are being lost to encroachment, current range condition is not conducive for prey species or sensitive species that depended primarily on grass and forb production. Camp and Trail Spring, with the aspen overstory, are in poor condition for use by BLM sensitive species that would use / need this habitat type. This is due to livestock grazing practices and road placement.

The Sunrise grazing allotment lies within the Pine Nut Mountains Sage Grouse Population Management Unit (PMU). The Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, June 30, 2004, Appendix L – Pine Nut Mountains PMU Plan covers this population. Sage grouse within this area are part of the Mono/Lyon population segment which has been the subject of several petitions to be listed under the Endangered Species Act, and may qualify as a Distinct Population Segment (Axtell 2008).

Sage grouse habitat including nesting habitat has been identified by NDOW in the southern portion of this allotment (Axtell 2008).

Historically sage grouse were very abundant within and around the Pine Nut Mountains, currently only a small population exists. Encroachment of pinyon pine and to a lesser extent juniper into sagebrush habitats likely accounts for a substantial portion of the decline. Additionally the remaining nesting and brood rearing habitats are less than ideal. Studies have shown that nesting success is greatly reduced when herbaceous cover around the nest bush is less than 18 cm. In many cases the grasses have been grazed to low heights, though some that are protected from grazing can exceed 18 cm (Axtell 2008).

Sage grouse require, sagebrush, habitats for all phases of their life cycle. Winter habitat includes sagebrush tall enough to be available when snow is present for food and cover. Pre-nesting habitat includes sagebrush with forbs. Nesting habitat includes areas with sagebrush and residual grass cover tall and thick enough to conceal and mitigate temperature extremes for the next. Brood rearing habitat includes succulent forms found within the sagebrush community and often wet meadows. Both forbs and grasses and insects associated with forbs and grasses are essential to sage grouse chicks (Axtell 2008).

In part Appendix L includes as objectives:

Remove pinyon and juniper trees and reestablish big sagebrush on sites that previously supported big sagebrush (Axtell 2008).

Current habitat conditions are meeting habitat requirements for BLM sensitive species that would be expected in this allotment in the uplands. Lower elevations and riparian areas are not meeting habitat requirements due to the heavy to severe use. Overgrazing depresses populations of most small mammals which means numbers are affected. This in turn, affects BLM sensitive species that depend on prey species for food (Fagerstone and Ramsey 1995). Riparian areas have been discussed. Diversity and abundance are likely skewed toward those species more tolerant of early seral (Bleich 2005) and less than ideal conditions, i.e. loss of understory vegetation. Some BLM sensitive species may spend less time on the allotment than they could if conditions were better in lower elevations. The identified declining trend also spells declining habitat condition for sensitive species using the allotment.

Migratory Birds

On January 11, 2001, President Clinton signed Executive Order 13186 (Land Bird Strategic Project) 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. Management for these species is based on Instruction Memorandum – IM 2008-050 dated December 18. 2007. 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). The species of concern that could occur in the general project area are shown in Appendix B (BLM 2007).

There are no Important Bird Areas (IBA) associated with the general project area. There are no identified important wintering areas within the general project area (McIvor 2005).

Some migratory birds use every habitat within the allotment. Some species do not occur because of a natural lack of habitat type in this specific allotment. In Nevada, density was one-third lower with diversity nearly ½ lower on grazed sites (Fleischner 1994). Overgrazing depresses populations of most small mammals which means numbers are affected. This in turn, affects migratory bird species that depend on prey species for food (Fagerstone and Ramsey 1995). The general condition of the grassland and shrub component of the allotment was discussed for BLM sensitive species and would be the same for migratory birds. Because perennial grasses are being lost to encroachment, current range condition is not conducive for prey species or migratory bird species that depended primarily on grass and forb production. Camp and Trail Spring, with the aspen overstory, are in poor condition for use by migratory bird species that would use / need this habitat type. This is due to livestock grazing practices and road placement.

Current habitat conditions are meeting habitat requirements for migratory bird species that would be expected in this allotment. However, diversity and abundance are likely skewed toward those species more tolerant of less than ideal conditions. Additionally, migratory birds using the allotment are likely spending less time there than these species would if conditions were better. The identified declining trend also spells declining habitat condition for sensitive species using the allotment. Diversity and abundance are likely skewed toward those species more tolerant of early seral (Bleich 2005) and less than ideal conditions, i.e. loss of understory vegetation.

Soils

The soils within the Sunrise 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. Also, 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 Mollisols and Aridisols. Most of the area is within the eight to twelve inch precipitation zone. Soil reactions are neutral to slightly alkaline. Most of the allotment is within Lyon County, and detailed descriptions of those soils can be found within the Lyon County Soil Survey. A small part of the southern part of the allotment is in Douglas County, and so those soil descriptions can be found in the Douglas County Soil Survey. Both surveys were issued in 1984 by the U.S. Dept. of Agriculture-Soil Conservation Service.

Noxious Weeds

There are a number Canada thistle infestations that have been located within the allotment within riparian areas. These locations will be added to the list for spraying with herbicides in 2008.

Wild Horses

The Sunrise Pass Grazing Allotment is part of the Pine Nut Mountain Herd Management Area (HMA). The Total Animal Management Level (AML) for the Pine Nut HMA is set as a range from 119 to 179 head of wild horses. Since 2003 the wild horse numbers have been within the AML range.

The Sunrise Pass Allotment contains 18% of the HMA which occupies 97% of the allotment. The AML for the Sunrise Pass Allotment portion of the Pine Nut HMA is 9 – 13 head of wild horses.

C. No Action and No Livestock Grazing Alternatives

For the No Action alternative, the impacts relative to cultural resources would be the same as for the Proposed Action.

The implementation of the No Grazing alternative could have a slight positive impact on unknown cultural resources within the allotment, but since the proposed action is analyzed to meet standards of no adverse effect, the magnitude of the impact improvement likely would not be measurable.

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

IV. ENVIRONMENTAL CONSEQUENCES

A. Proposed Action– Environmental Impacts

Range

Permitted livestock use in the Sunrise Allotment would continue to be 52 cattle between 03/15-06/15 for 159 Animal Unit Months (AUMs). Under the terms and conditions of the grazing permit livestock use would not exceed 27.5% on perennial grasses and 22.5% on bitterbrush. In addition livestock could only utilize the meadows in the southeastern portion of the allotment for a maximum of twenty days, for ten days at the beginning of the grazing season and ten days at the end of the grazing season.

Under this alternative approximately two miles of barbwire fence would be constructed. The purpose of the fencing would be to increase livestock control and limit the amount of time cattle are utilizing riparian areas. The proposed fencing would be constructed in the southeastern portion of the allotment (Map on Page 6). The fencing would consist of three strands of barbed wire and one smooth bottom wire in accordance with BLM wildlife fence standards (type B antelope). The wire spacing for the wildlife standard is 16", 22", 30" and 42" and 16 1/2' spacing between T-posts. Under this alternative it would also be necessary to use the existing water haul location to redistribute livestock.

Interim management of the allotment until fence construction is complete would be to: 1) limit the livestock grazing period of use on the allotment to twenty days; 2) livestock use could occur any anytime within the permitted season of use (03/15-06/15) but could not exceed 20 days; 3) the maximum number of livestock would be 75 cattle, therefore the maximum number of AUMs would be 50. This interim management would be in effect until the proposed fencing is constructed and livestock use of the riparian areas can be controlled.

In the sort-term this alternative could impact the livestock operation by reducing livestock use by 109 AUMs until fence construction is complete. In the long-term this alternative would require the movement of livestock between pastures to reduce livestock use on riparian areas.

Vegetation

Under the proposed action livestock use would continue to primarily occur in the southeast portion of the allotment due to plant community distributions within the allotment. By constructing a pasture fence and limiting the amount of time (20 days) livestock use the riparian areas within the pasture there would be less livestock use of riparian areas. The crested wheat seeding north of the meadows which was receiving very little livestock use would receive half to two thirds of the livestock use under the proposed action. By constructing the fence and hauling water livestock distribution would improve and livestock utilization levels would decrease.

The construction of two miles of fence would require the temporary removal of four acres of vegetation. Vegetation would be removed along the fence line during construction and the fence would likely be driven along to perform fence maintenance which would crush vegetation.

Under interim management, livestock use of the riparian areas would be reduced. Livestock would not be on the allotment for more than twenty days and livestock would only utilize 50 AUMs of forage. The upland vegetation would receive little to no livestock use. Although it is possible to herd livestock into the uplands to use these areas, this has not occurred to a large degree in the past. Therefore, livestock and permittee behavior are not anticipated to change.

The static to downward trend of plant communities within the allotment due to a transition from rangelands to woodlands would continue.

Riparian/Wetland

Implementing the proposed action would improve riparian areas by reducing livestock impacts on vegetation and soils. Constructing fences to limit the duration of livestock grazing on meadows and around springs would lead to enhanced vegetation and better functioning condition.

Water Quality (Ground & Surface)

Implementing the proposed action would improve water quality by reducing livestock impacts on vegetation. Constructing fences to limit the duration of livestock grazing on meadows and around springs would lead to enhanced vegetation, which would shade meadows and springbrooks, thus lowering water temperatures.

Federally Listed Species

Since federally listed species naturally don't occur on the allotment, there would be no impacts to these species or habitats from the proposed activity.

General Wildlife

According to the allotment evaluation, all recent upland livestock use (2000-2007) has occurred in the southeast portion of the allotment in the crested wheat seeding, in the Sunrise Burn and on the meadows. Livestock use of perennial grass species in this area has been heavy (61%-80%) to severe (81%-94%) [BLM 2007 a] even though the set utilization level for this area was 27.5%. No livestock use had occurred in other portions of the allotment. There is concern that livestock simply weren't moved from areas experiencing heavy to severe use. General management concerns have been documented for an adjacent allotment (BLM 2007 c) and appear to be a concern on this one. There is no guarantee that even with fencing or distributed waters, that livestock will be moved when set use levels are established.

The proposed fence and existing water haul could assist in spreading livestock use to where excessive levels were reduced. Some recovery of perennial grasses, forbs and riparian areas could occur. Livestock use would still occur during the growing season, spring through early summer which will mean plant recovery will take much longer than if use were during another season.

Open troughs could cause a drowning hazard to general wildlife individuals. Mitigation has been written to minimize this impact. The proposed fence north of Camp and Trail Spring wouldn't affect wildlife but might lessen mechanical damage to the spring / meadow complex which would benefit wildlife.

None of the proposed fencing would create a hazard to wildlife since this is built to BLM wildlife specifications that assist in wildlife passage. Additionally, in open country, most wildlife individuals are able to avoid fences.

This alternative could be slightly better for general wildlife and game species than the no action alternative since there is a possibility that excessive use will be reduced by proposed range improvements.

Special Status Species

BLM Sensitive Species

The proposed fence and existing water haul could assist in spreading livestock use to where excessive levels were reduced. Some recovery of perennial grasses, forbs and riparian areas could occur.

Livestock use would still occur during the growing season, spring through early summer which will mean plant recovery will take much longer than if use were during another season.

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. If overgrazing were relieved by the proposed structures, populations of small mammals might increase which would create a more robust prey base for some BLM sensitive species. Additionally, if perennial forbs could re-establish in low elevation areas and if riparian areas could improve, bat foraging areas would be improved.

Riparian areas used by some sensitive species are in poor to good condition. The proposed improvements could help met set standards for utilization. Riparian area condition could improve. However, livestock grazing would be permitted during the spring and early summer growing season for many of the plant groups of concern on this allotment so again, as in the uplands, recovery would take longer.

In general any actions that increase sagebrush, forbs and residual grass cover for nesting between April and July will benefit sage grouse (Axtell 2008). Some sage grouse nesting habitat has been identified in the southern portion of this allotment. Historically this allotment likely supported much greater nesting habitat which has been replaced by encroaching pinyon pine which offers no habitat to sage grouse. The remaining sagebrush habitats are likely important to sage grouse. Under this alternative livestock would be grazed during the nesting season. There would be some regrowth of herbaceous plants which are important to sage grouse nesting success as they conceal nests from predators, however, the grazing would start prior to nest initiation removing some of the herbaceous vegetation. In addition as previously stated grazing during the growing season adversely impacts growing perennial grasses which ultimately leads to fewer and smaller grass plants which are important to sage grouse nesting success.

The proposed fences won't affect BLM sensitive species. Fences aren't an identified issue for bats. Owls and hawks in open country can usually avoid these. Loggerhead shrike will actually

benefit from the new fences since this will create new territorial singing posts and food storage/territory marking areas along the fence (National Research Council 2007).

Open troughs associated with the water source could cause a drowning hazard to some individuals. Mitigation has been written to minimize this impact.

This alternative could be better for BLM sensitive species than the no action alternative since there is a possibility that excessive use will be reduced by the proposed range improvement. No BLM sensitive species would be upgraded to federal listing as a result of choosing this alternative.

Migratory Birds

The proposed fence and existing water haul could assist in spreading livestock use to where excessive levels were reduced. Some recovery of perennial grasses, forbs and riparian areas could occur.

Livestock use would still occur during the growing season, spring through early summer which will mean plant recovery will take much longer than if use were during another season.

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. Livestock grazing was not listed as a threat to mourning dove and loggerhead shrike (www.natureserve.com). *Heavy* livestock grazing can be an issue for Brewer's sparrow, gray vireo and sage thrasher (www.natureserve.com, Finch et al 1993) as well as Sage Sparrow, Ferruginous Hawk, Burrowing Owl and Prairie Falcon (Neel 1999; Beidleman 2000, Nevada Wildlife Action Plan 2006). Pinyon jay can be benefited by grazing but is more likely to be unaffected (BISON ND). Sources don't indicate that the remainder of the migratory bird species listed in Appendix B is affected by livestock grazing (www.nature.serve.com; Neel 1999; Beidleman 2000, Nevada Wildlife Action Plan 2006, Floyd 2007).

If overgrazing were relieved by the proposed structures, populations of small mammals might increase which would create a more robust prey base for some migratory bird species. In this case, bird species using the allotment may become somewhat more diverse. Birds may spend more time on the allotment if it were being used with the set standards for utilization. Riparian areas used by migratory birds are in poor to good condition. The proposed improvements could help met set standards for utilization. Riparian area condition could improve. However, livestock grazing would be permitted during the spring and early summer growing season for many of the plant groups of concern on this allotment so recovery would take longer.

The proposed fences won't affect BLM sensitive species. Fences aren't an identified issue for bats. Owls and hawks in open country can usually avoid these. Loggerhead shrike will actually benefit from the new fences since this will create new territorial singing posts and food storage/territory marking areas along the fence (National Research Council 2007).

Open troughs associated with the water source could cause a drowning hazard to some individuals. Mitigation has been written to minimize this impact.

Although local populations of migratory birds would be positively affected by this alternative, state and regional populations would not. This alternative could be better for migratory birds than the no action alternative since there is a possibility that excessive use will be reduced by proposed range improvement.

Soils
The implementation of this alternative could have a slight positive effect on the soils resource within the allotment. The soils standard is currently being met, however construction of the proposed fences would result in better distribution of livestock.

Noxious Weeds
The implementation of this alternative would have little effect on the Canada thistle infestations since these areas will be treated as part of the Carson City District's Noxious Weed Treatment Plan.

B. No Action Alternative– Environmental Impacts

Range
Permitted livestock use in the Sunrise Allotment would continue to be 52 cattle between 03/15-06/15 for 159 AUMs. Under the terms and conditions of the grazing permit livestock use would not exceed 27.5% on perennial grasses and 22.5% on bitterbrush. In addition specific areas within the allotment would be grazed for two weeks or less each year.

Under this alternative there would be no change to the grazing permit therefore there would be no impacts to the livestock operation.

Fences wouldn't be built under this alternative, and cattle would likely continue to primarily utilize the riparian areas in the southeast portion of the allotment.

Vegetation
Under the no action alternative over utilization of the riparian areas in the southeastern portion of the allotment by livestock is expected to continue. The standards and guidelines for riparian health were not met under current livestock management. Although there are terms and conditions in the current grazing permit which if followed could resolve the resource management issues these terms and conditions have not been achieved in the past.
It is possible to herd livestock and not allow livestock to remain in an area for more than two weeks and limit use levels, but this has not occurred in the past. Therefore, livestock and permitte behaviors are not anticipated to change in the future.

The static to downward trend of upland plant communities within the allotment due to a transition from rangelands to woodlands would continue.

Fences wouldn't be built under this alternative which would allow overutilization of the meadows in the southeast portion of the allotment to continue. The temporary removal of four acres of vegetation in association with fence construction would not occur under this alternative.

Riparian/Wetland

Implementing this alternative would maintain some riparian area conditions, but would lead to further degradation in others. Assessments performed in 2007 showed that more than a third of lentic areas were in a downward trend. Some of that decline could have been drought related, but also appeared to be due to current livestock management, at least in part. The downward trend would be expected to continue without changing management of the allotment.

Water Quality (Ground & Surface)

Implementing this alternative would maintain water quality in most places, but could result in higher temperatures in others. Continuing current management would cause further decline in riparian conditions at locations already in a downward trend. In areas such as Pinyon Spring, where livestock grazing has reduced vegetation cover, water temperatures would continue to be higher than would be expected.

Federally Listed Species

Since federally listed species naturally don't occur on the allotment, there would be no impacts to these species or habitats from the proposed activity.

General Wildlife

This alternative is the same as the current situation and would present the same effects that were noted in the affected environment. Nothing under this alternative would change this situation since no fencing to control use levels or spread livestock would be done. There would be no more guarantee of management of livestock to not exceed the 27.5% utilization levels in the future than there were in the past.

Overgrazing depresses populations of most small mammals which means numbers are affected. Consistent heavy grazing can reduce the numbers of species present in an area (Fagerstone and Ramsey 1995) which means diversity of general wildlife suffers. Under this alternative, there is nothing to change the current use levels. Grazing into mid-June would occur during the growing season of perennial forbs and grasses. Species using forb, perennial grass and riparian habitats would be reduced in number and diversity through depletion of the food source. Numbers and diversity of small mammals would be negatively impacted by this alternative.

Mule deer, pronghorn and black bear habitat wouldn't change in condition from the present situation under this alternative. The status of potential bighorn habitat wouldn't change under this alternative.

Heavy and severe use of vegetation has been documented for this allotment. Therefore, the moderate grazing levels that wouldn't affect upland game birds (Guthery 1995) have been exceeded and the effect wouldn't apply. The lack of perennial forbs and grasses and excessive use on other plants would affect localized upland game bird use of the allotment and populations.

This alternative would leave general wildlife habitat somewhat functional, but far less than ideal with continued encroachment, declining understory and possible heavy to severe use on lower elevation habitats.

Fences would not pose a hazard since these wouldn't be built. The effects and benefits are minimal.

Special Status Species

BLM Sensitive Species

This alternative is the same as the current situation and would present the same effects that were noted in the affected environment. Nothing under this alternative would change this situation since no fencing to control use levels or to spread livestock would be done. There would be no more guarantee of management of livestock to not exceed the 27.5% utilization levels in the future than there were in the past.

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). Overgrazing depresses populations of most small mammals which means numbers are affected. Consistent heavy grazing can reduce the numbers of species present in an area (Fagerstone and Ramsey 1995) which means prey species for some BLM sensitive species would not be abundant. In this case, species using the allotment would likely be skewed to ones associated with early seral, disturbed and woodland vegetation conditions. BLM sensitive species would probably not spend as much time on this allotment as these would if conditions were better.

Under this alternative, there is nothing to change the current use levels. Grazing would also occur during the growing season of perennial forbs and grasses. Prey species used by many of the BLM sensitive species of hawks and owls would be reduced in number and diversity. Because of the lack of perennial forbs, bats using nectar of forbs would not be abundant. Riparian areas that were in less than functional condition and in a downward trend would cause bats and other species needing these areas to be less abundant.

In general any actions that increase sagebrush, forbs and residual grass cover for nesting between April and July will benefit sage grouse (Axtell 2008). Some sage grouse nesting habitat has been identified in the southern portion of this allotment. Historically this allotment likely supported much greater nesting habitat which has been replaced by encroaching pinyon pine which offers no habitat to sage grouse. The remaining sagebrush habitats are likely important to sage grouse. Under this alternative livestock would be grazed during the nesting season. There would be some regrowth of herbaceous plants which are important to sage grouse nesting success as they conceal nests from predators, however, the grazing would start prior to nest initiation removing some of the herbaceous vegetation. In addition as previously stated grazing during the growing season adversely impacts growing perennial grasses which ultimately leads to fewer and smaller grass plants which are important to sage grouse nesting success.

Under this alternative, there would be no chance for accidental death of a BLM sensitive species caused by the new fence line.

Although BLM sensitive species habitat would be somewhat functional, it would be far from ideal under this alternative. However, conditions wouldn't cause these species to be upgraded to federal listing.

Migratory Birds

This alternative is the same as the current situation and would present the same effects that were noted in the affected environment. Nothing under this alternative would change this situation since no fencing to control use levels or to spread livestock would be done. There would be no more guarantee of management of livestock to not exceed the 27.5% utilization levels in the future than there were in the past.

Heavy livestock grazing can be an issue for Brewer's sparrow, gray vireo and sage thrasher (www.natureserve.com, Finch et al 1993) as well as Sage Sparrow, Ferruginous Hawk, Burrowing Owl and Prairie Falcon (Neel 1999; Beidleman 2000, Nevada Wildlife Action Plan 2006). Since the current situation would likely continue, these species would be negatively impacted.

Overgrazing depresses populations of most small mammals which means numbers are affected. Consistent heavy grazing can reduce the numbers of species present in an area (Fagerstone and Ramsey 1995) which means prey for some migratory bird species would not be abundant. In this case, bird species using the allotment would likely be skewed to ones associated with early seral, disturbed and woodland vegetation conditions. BLM sensitive species would probably not spend as much time on this allotment as these would if conditions were better.

Riparian areas used by migratory birds are in poor to good condition. The poor riparian areas provide functional habitat at a low level for migratory birds. Almost all the riparian areas assessed on the allotment had impacts from livestock grazing to some degree, including those rated as having PFC.

Condition of the riparian areas and lack of perennial grasses and forbs in the uplands leave the allotment in less than ideal condition for migratory birds. Because of the use levels observed, the above species that react negatively to heavy livestock would be impacted because there isn't anything in the alternative that would change current utilization levels. Additionally, livestock grazing would be permitted during the spring and early summer growing season for many of the plant groups of concern on this allotment.

Under this alternative, there would be no chance for accidental death of a bird individual caused by the new fence line. This benefit wouldn't be significant.

Although local populations of migratory birds would be negatively affected by this alternative, state and regional populations would not.

Soils
The implementation of this alternative would have no effect on the soils resource since the soils standard is already being met.

Noxious Weeds
The implementation of this alternative would have little effect on the Canada thistle infestations since these areas will be treated as part of the Carson City District's Noxious Weed Treatment Plan.

Wild Horses
The implementation of this alternative would have little effect on the horses or the AML forage has already been allocated for horses in this portion of the HMA and would not be changed by this alternative.

C. No Livestock Grazing Alternative – Environmental Impacts

Range
Under the no grazing alternative no livestock would be authorized in the Sunrise 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 Sunrise 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.

Fences wouldn't be built under this alternative; since livestock grazing would not be permitted under this alternative, not constructing the fences would not have any additional impacts on the livestock operation.

Vegetation
Under the no grazing alternative, vegetation would not be impacted by livestock. No livestock would trample or eat vegetation within the allotment. Plants obtain food for their maintenance and growth from the photosynthetic process that occurs in plant leaves. By not authorizing livestock grazing the available vegetative leaf area would be maximized. All available vegetative leaf area would be utilized for food production (photosynthesis), which would maximize food storage (root reserves) and plant reproduction. The condition of riparian vegetation would improve without livestock grazing and hoof impacts. However, the static to downward trend of upland plant communities due to a transition from rangelands to woodlands would continue.

The positive influences of prescribed grazing on forage plants such as stimulated plant growth and re-growth due to pruning, enhanced forage nutritive values due to increased new growth to old growth ratios, and the reduction of accumulated standing dead vegetation which sometimes slows new plant growth and soil warming would not occur under this alternative. Forage species

on some areas of the allotment would reach an over mature stage of growth and the vigor of the plants would suffer. Grass plants would become wolfy with dead crown centers.

Fences and wouldn't be built under this alternative; this shouldn't have much effect on vegetation. The temporary removal of four acres of vegetation in association with fence construction would not occur under this alternative.

Riparian/Wetland

Implementing this alternative would improve riparian areas by eliminating livestock impacts on vegetation and soils. Vegetation cover and diversity would increase, and cow trails would become revegetated.

Water Quality (Ground & Surface)

Implementing this alternative would improve water quality by reducing livestock impacts on vegetation. Vegetation cover would increase and cow trails would become revegetated. Shade over meadows and springbrooks would be enhanced, thus lowering water temperatures.

Wildlife

This alternative would be most ideal for general wildlife, game, BLM sensitive species and migratory birds. There would be no opportunity for impacts from livestock grazing. Conditions in the riparian areas would improve although those being affected by roads would not reach ideal conditions. The No Grazing alternative would temporarily eliminate livestock grazing from this allotment. This alternative would maximize the amount of grasses forbs and associated insects and also maximize the amount of residual herbaceous cover for nest concealment.

Sage grouse would benefit most from this alternative since it maximizes perennial grasses and forbs necessary for successful nesting and broodrearing, though the impact on the population may be small since only the southern end of this allotment has been identified as suitable habitat for sage grouse (Axtell 2008).

Under this alternative, there would be no chance for accidental death of wildlife individuals caused by the new fence line. This benefit and effect wouldn't be significant.

Soils

The implementation of this alternative could have a slight positive impact on the soil resource within the allotments, but since the soils/watersheds within the allotment are meeting the soil standards, the magnitude of the impact would probably be unmeasurable.

Noxious Weeds

The implementation of this alternative would have little effect on the Canada thistle infestations since these areas will be treated as part of the Carson City District's Noxious Weed Treatment Plan.

Wild Horses

This alternative would have minimal impact on wild horses, 159 AUMs is so small that if they were to be converted to horses it would not have much impact on the herd size. In addition if they were converted to horse AUMs they would be even less since horse use is year round, which is most detrimental to the native vegetation. If this alternative were selected it would be best for the native vegetation and wildlife to keep the horse AML unchanged therefore this alternative would not impact horses.

Currently there are far more excess horses than can be adopted. If the AML were increased more excess horses would be produced exacerbating adoption problems.

D. Mitigation Measures

Water troughs and or tanks that supply standing, open water will have bird ladders installed. These ladders will conform to BLM standards. These will reduce or eliminate the drowning hazard of individual wildlife.

There are no additional mitigating measures beyond what is listed above and 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. No maintenance of any range improvement would occur. The potential for unauthorized grazing occurring from adjacent Allotments could become a problem.

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 as a result of the proposed action.

The issuance of the term grazing permit for the Sunrise 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

Monitoring would continue as it has before for the Allotment. This includes the reading vegetation studies, performing use pattern mapping, gathering utilization data at key areas, monitoring cultural resources, etc., where applicable and as resources allow.

V. CONSULTATION AND COORDINATION

A. List of Preparers

John Axtell	Wild Horse and Burro Specialist/Sage Grouse
James Carter	Lead Archaeologist
James deLaureal	Soil Scientist/Noxious Weeds
Arthur Callan	Recreation Specialist
Terri Knutson	Environmental Coordinator
Katrina Leavitt	Rangeland Ecologist
Jim Schroeder	Lead Hydrologist
Rita Suminski	Supervisory Wildlife Biologist
Robert Mead	Lead Rangeland Management Specialist
Dean Tonenna	Plant Ecologist

B. Persons, Groups and/or Agencies Consulted

Permittee of Record, Sunrise Allotment
Western Watersheds Project
Washoe Tribe of Nevada and California
Yerington Paiute Tribe

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APPENDIX A

BLM Sensitive Species associated with Sunrise Pass Allotment

Animal	
Golden Eagle	*Aquila chrysaetos*
Ferruginous Hawk	*Buteo regalis*
Northern Goshawk	*Accipiter gentilis*
Burrowing owl	*Athene cunicularia*
Juniper Titmouse	*Baeolophus griseus*
Pinyon Jay	*Gymnorhinus cyanocephalus*
Greater sage-grouse	*Centrocercus urophasianus*
Mountain quail	*Oreortyx pictus*
Cooper's Hawk	*Accipiter cooperii*
Sharp-shinned Hawk	*Accipiter striatus*
Prairie Falcon	*Falco mexicanus*
Peregrine Falcon	*Falco peregrinus*
Swainson's Hawk	*Buteo swainsoni*
Loggerhead shrike	*Lanius ludovicianus*
Gray vireo	*Vireo vicinior*
Long-eared owl	*Asio otus*
Bendire's Thrasher	*Toxostoma bendirei*
Black Rosy Finch	*Leucosticte atrata*
Pallid bat	*Antrozous pallidus*
Spotted bat	*Euderma maculatum*
Long-eared myotis	*Myotis evotis*
Fringed myotis	*Myotis thysanodes*
Yuma myotis	*Myotis yumanensis*
Silver-haired bat	*Lasionycteris noctivagans*
California myotis	*Myotis californicus*
Small-footed myotis	*Myotis ciliolabrum*
Long-eared myotis	*Myotis evotis*
Little brown myotis	*Myotis lucifugus*
Long-legged myotis	*Myotis volans*
Townsend's big-eared bat	*Corynorhinus townsendii*
Hoary bat	*Lasiurus cinereus*
Western pipistrelle bat	*Pipistrellus hesperus*
Brazilian free-tailed bat	*Tadarida braziliensis*

APPENDIX B (Page 1 of 2)

Neo-tropical Migratory Birds, Species of Continental Importance on Sunrise Pass Allotment

Western Shrublands **(**Beidleman 2000)

Shrubsteppe (Beidleman 2000), **Sagebrush** (Neel 1999)

Sage Sparrow	*Amphispiza belli*	
Sage grouse	*Centrocercus urophasianus*	
Brewer's sparrow	*Spizella breweri*	
Ferruginous Hawk -	*Buteo regalis*	

This bird uses flat topped juniper strings in sagebrush for nesting. East & SE slopes especially used if strings present.

Prairie Falcon	*Falco mexicanus*	(cliffs critical for nesting)
Mourning Dove	*Zenaida macroura*	

Mountain Shrub (Neel 1999; Beidleman 2000)

Virginia's Warbler	*Vermivora virginiae*

Issues: fragmentation from man-caused activities. 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 (Neel; Nevada Wildlife Action Plan 2006). Loss of habitat due to heavy grazing, altered fire regimes, spread of introduced plants (Neel 1999; Floyd et al 2007). Loss of loggerhead shrike due to rangeland pesticide a concern. Human disturbance for loggerhead not an issue. Sage Sparrow sensitive to habitat fragmentation. Land management effect on Virginia's warbler unknown. Brewer's sparrow issues related to ag and urban development, livestock grazing, cheatgrass invasion, herbicides, altered fire regimes (Floyd et al 2007)

Note: Shrubsteppe was identified as the highest priority habitat for conservation for breeding birds (Saab and Rich 1997; Paige and Ritter 1999). 10% of the world's population of ferruginous hawks breed in Nevada (Floyd et al 2007)

Woodland – (Beidleman 2000

Gray Vireo	*Vireo vicinior*
Pinyon Jay	*Gymnorhinus cyanocephalus*
Swainson's Hawk	*Buteo swainsoni*

Issues: fragmentation from man-caused activities and conversion to grasslands (Beidleman 2000), heavy livestock grazing and cowbird parasitism are threats to gray vireo. Cutting mature pinyon, changes in fire regimes a threat to pinyon jay. Nevada has high regional responsibility for protecting pinyon jay (Floyd et al 2007). Pinyon jay responds negatively to picnicking and hiking (BISON ND) Loss of winter habitat and pesticide poisoning in South American winter range is largest contributor to decline of Swainson's hawk (Floyd et al 2007)

Note: This habitat type supports the largest nesting-bird species list of any upland vegetation type in the West (Beidleman 2000). Nevada supports a sizable proportion of the breeding population of black-throated gray warblers (Floyd et al 2007).

Coniferous Forest - (Beidleman 2000) This habitat type includes Ponderosa pine, mixed conifer and spruce-fir among others.

Mixed conifer forests (Beidleman 2000):

Olive-sided Flycatcher	*Contopus cooperi* -
Band-tailed Pigeon	*Patagioenas fasciata*

Issues: logging and fire suppression that alters age class, structure and species composition of forests (Beidleman 2000). Need un-even aged stands, not even aged associated with commercial logging. Removing large diameter standing dead or dead down as part of fuels reduction or wildfire salvage is a threat to Olive-sided flycatcher Catastrophic fire (Neel 1999)

Deciduous Forest – Aspen (Beidleman 2000)

Northern Goshawk *Accipiter gentilis*

In Nevada, uses large aspen clones that are inclusions in sagebrush or other habitat types for nesting.

Issues: Loss of acreage due to fire suppression (Neel 1999). Type conversion to conifer due to lack of fire. Heavy livestock grazing suppressing aspen cloning.

Cliffs and Talus (Neel 1999)

Golden Eagle *Aquila chrysaetos*

Issues: mining activity, rock climbing (Neel 1999) Golden eagles relatively intolerant of human activity (Floyd et al 2007)