Environmental Assessment
Gillis Mountain Allotment – Term Grazing Permit
EA-NV-030-07-019
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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

Introduction

The Gillis Mountain Allotment is located entirely within Mineral County, Nevada, and is directly north of the Hawthorne Army Depot (see attached map). Walker Lake forms the western boundary, and the Walker River Indian Reservation forms the northern boundary. The Gabbs Valley Range forms the majority of the eastern boundary. The allotment contains 160,300 acres of public land and approximately 240 acres of deeded land, primarily patented mining claims. Approximately 9,900 acres of the Pilot Mountain Herd Management Area overlaps into the northeast portion of the allotment.

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

Purpose and Need

The purpose of this proposed action is to authorize the issuance of a Term Grazing Permit for the Gillis Mountain Allotment consistent with 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&G's), 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.

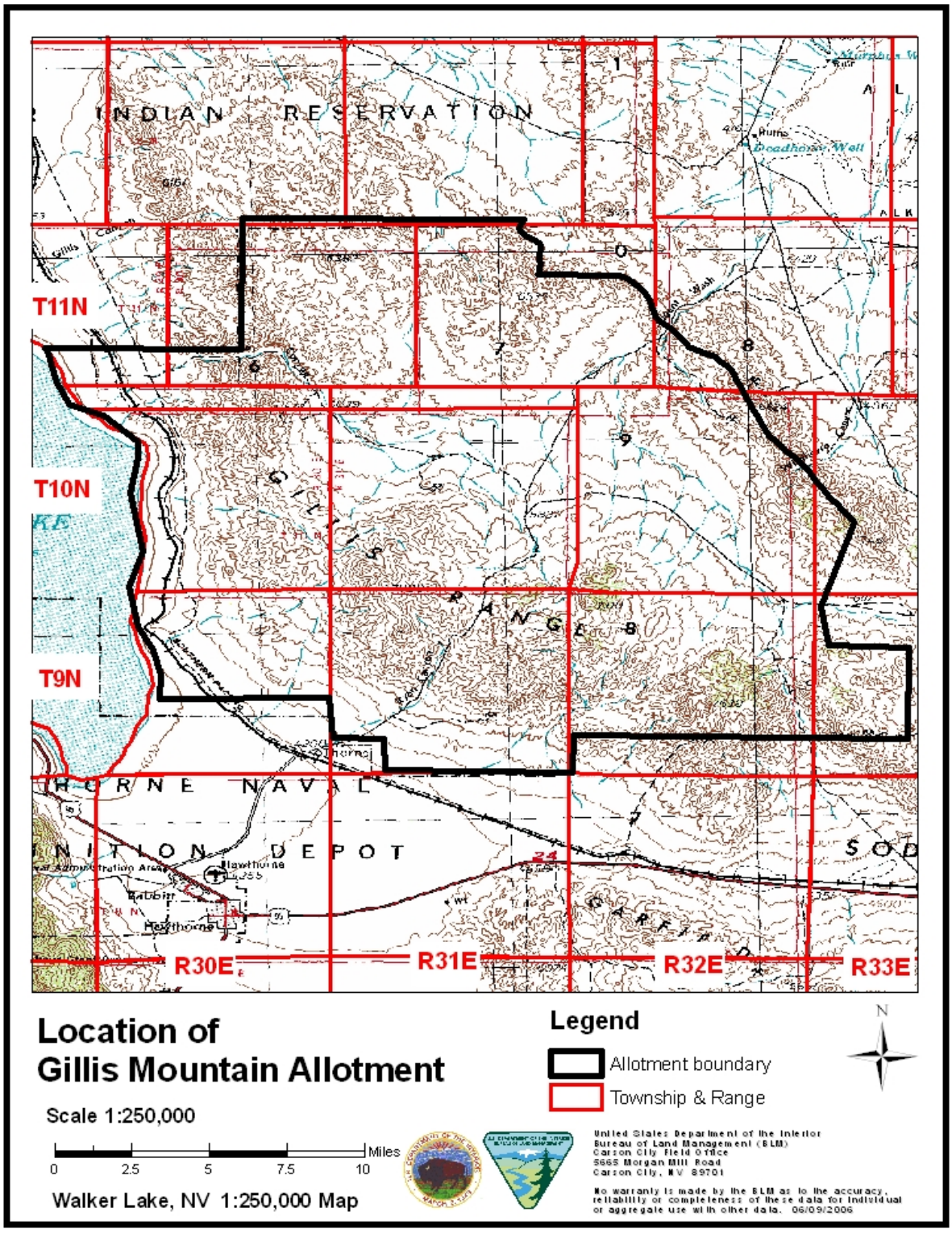
These actions are needed at this time because:

- The permittee has requested a change in the grazing season for the Gillis Mountain Allotment and an increase in livestock numbers, which would result in an increase in the permitted use.

- The condition of natural resources on the Gillis Mountain Grazing Allotment was evaluated in September 2004, and grazing management needs to be updated at this time through a fully processed grazing permit.

- The lands managed by BLM within this 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.

- 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 1975, the Public Rangelands Improvement Act of 1978, and the approved Standards and Guidelines of 2003, as well as various other federal laws and regulations.



Gillis Mountain Allotment Boundaries

Land Use Plan Conformance Statement

The proposed action and alternatives described in this document are in conformance with the CCFO 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.

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

II. PROPOSED ACTION AND ALTERNATIVES

Proposed Action

- Issue a term grazing permit, which would authorize 422 cattle to graze on the Gillis Mountain Allotment from November 15th until April 30th for a total of 2,317 AUM's.

- Remove the ecoplot fence and posts located in the Win Wan Valley.

- When forage is readily available, incorporate a two-pasture rest-rotation system, using the west side of the allotment one year and the east side the next year.

- Limit utilization to 45% (moderate) on key shrub and grass species, which are winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*).

Alternative 1

- Issue a term grazing permit, which would authorize 532 cattle to graze on the Gillis Mountain Allotment from November 15th to April 30th for a total of 2,921 AUM's. This alternative would be a 5-year transition if implemented, with 198 – 202 AUM's added on each year.

- Remove the ecoplot fence and posts located in the Win Wan Valley.

- When forage is readily available, incorporate a two-pasture rest-rotation system, using the west side of the allotment one year and the east side the next year.

- Limit utilization to 45% (moderate) on key shrub and grass species, winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*).

Alternative 2

- Change the season of use by issuing a term grazing permit that would authorize 350 cattle to graze on the Gillis Mountain Allotment from November 15th to April 30th for 1,924 AUM's. The number of AUM's would remain the same as the current permit, but the season of use would begin later in the fall and end later in the spring.

- Remove the ecoplot fence and posts located in the Win Wan Valley.

- When the forage is readily available, incorporate a two-pasture rest-rotation system, using the west side of the allotment one year and the east side the next year.

- Limit utilization to 45% (moderate) on key shrub and grass species, which are winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*).

No Action Alternative

- Under this alternative, current management would be maintained.

- Continue to authorize 321 cattle to graze on the Gillis Mountain Allotment from October 1st to March 31st for a total of 1,924 AUM's.

- The ecoplot fence in the Win Wan Valley may or may not be removed.

- A two-pasture rest-rotation system would not be incorporated so that the cattle would tend to congregate in the same areas year after year.

- Utilization levels on key plant species would not be limited to 45%.

No Grazing Alternative

- Under the no grazing alternative, the current term grazing permit, which expires in 2015, would be canceled. Therefore, no livestock would be authorized on BLM-managed lands within the allotment.

- The ecoplot would remain in place.

- There would be no need to establish a limit on utilization of key plant species.

Similar to all Alternatives Except the No Grazing Alternative

- No water troughs or mineral supplements will be placed within the Pilot Mountain Wild Horse Herd Management Area.

- The fans above the Hawthorne Army Depot, where the sensitive plant Nevada oryctes (*Oryctes nevadensis*) has been observed, will not be grazed after March 1st.

Table 1 – A Comparison of Alternatives

PARAMETER	ALTERNATIVES				
	Proposed	**#1**	**#2**	**No Action**	**No Grazing**
Number of Animals	422	532	350	321	0
Class of Animal	Cattle	Cattle	Cattle	Cattle	N/A
Season of Use	11/15-04/30	11/15-04/30	11/15-04/30	10/01-3/31	N/A
Animal Unit Months (AUM's)	2,317	2,921	1,924	1,924	0
Maximum Utilization Percentage	45	45	45	Unspecified	N/A

III. AFFECTED ENVIRONMENT

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 an electronic copy of this document for distribution amongst State Agencies. In addition, copies will be sent to the following entities:

Permittee of Record
Western Watersheds Project

The internal scoping with the BLM staff, which began in 2003 and has been ongoing, identified that the Walker River Paiute Tribe should be notified during this process. Additionally, *Oryctes nevadensis* would likely be negatively impacted by grazing as cattle that remained on the allotment until April 30th which coincides with the active growth period of the plant. As the plant is an annual, any consumption of the plant or seed heads would result in a permanent loss of plant material and could affect the amount of available seed dispersed for future plant establishment in succeeding years. Removal of cattle from the *Oryctes nevadensis* sites by March 1st would mitigate impacts to this species (Tonenna 2007).

Proposed Action

General Setting

The Gillis Mountain Allotment is located entirely within Mineral County, Nevada, and is directly north of the Hawthorne Army Depot. Walker Lake forms the western boundary, and the Walker River Indian Reservation forms the northern boundary. The Gabbs Valley Range forms the majority of the eastern boundary. The allotment contains 160,300 acres of public land and approximately 240 acres of deeded land, primarily patented mining claims. Approximately 9,900 acres of the Pilot Mountain Herd Management Area (HMA) overlaps into the northeast portion of the allotment.

The topography of the Gillis Mountain Allotment varies from gently sloping alluvial fans in Win Wan Valley and Buckley Flat to mountainous terrain in the Gillis Mountains. Elevation varies from 4,100 feet to 7,900 feet.

This allotment was historically a sheep allotment with a winter grazing season. In the early 1990's, the season of use was changed to fall/winter, and the kind of livestock was changed to cattle.

Critical Elements of the Human Environment

The following critical elements of the human environment are not present or would not be affected by the proposed action or alternatives in this EA: Air Quality, Areas of Critical Environmental Concern, Prime or Unique Farmlands, Floodplains, Hazardous Materials, Paleontology, Water Quality (Surface/Ground), Wetlands/Riparian, Wild and Scenic Rivers, Wilderness, Environmental Justice.

Cultural Resources also are present but would not be affected by the alternatives. The analysis conducted to reach this decision is 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(l)(1)).

Based on research of files at the Carson City Field Office and the Nevada State Museum, known historic properties represent significant past human use of the landscape in and immediately adjacent to the BLM-managed lands of the Gillis Mountain Allotment. Of the prehistoric/ethnographic resources known, and with the exception of the eastern margin of Walker Lake, sites are limited in size and materials present, suggesting only ephemeral use of most of the current allotment landscape during prehistoric times. However, the east shore of the lake has important prehistoric-period lithic scatters, stone alignments, rock art, and camp sites that are mostly unrecorded. Looking at the region, prehistoric use dates to the Paleoarchaic (over 8500 years ago) through the nineteenth-century. Use of the area by Wavoka (Jack Wilson), the Paiute spiritual leader and originator of the Ghost Dance Ceremony, dates to the late 1870's

through the 1890's. Local names such as "Ghost Dance Ridge" and "Wavoka Wash" suggest that these locations were associated and or visited by Wovoka or practitioners of the Ghost Dance within the northern portion of what is now the Gillis Mountain Allotment. No identified archaeological or sacred sites related to his teachings or life have been identified within one mile of this area (Carter 2007).

Also present are historic-period debris scatters; stone structures and buildings; roads and railroads associated with mining, limited settlement, and transportation. These include the small mining developments of Rand and Marlview within the allotment, and the stations of Thorpe and Kinkaid just south of the allotment. Further details on local site types and the potential for effect 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 3-2370 (Carter 2007) and the published Carson City District Cultural Resources Overview report (Pendleton et al. 1982).

Based on review of range use data, use of the allotment landscape is severe to light. The sparsely vegetated Ryan Canyon, Buckley Flat/Nugent Wash, and Win Wan Valley are the main areas of livestock use, based on a review of the 2005-2006 rangeland use pattern map. Elsewhere in the allotment, livestock use is slight to non-existent. West-trending Wildhorse Canyon, located on the northwestern portion of the allotment, is fenced, preventing cattle from entering the Walker River Indian Reservation. Based upon a review of the reports of areas previously inventoried in or near the allotment, a BLM archaeologist checked historic records and General Land Office maps, conducted a reconnaissance field visit to the allotment focusing on severe use areas and existing water haul locations, and conducted a BLM Class III inventory at one additional tank location proposed for the mouth of Wavoka Wash. Livestock grazing is not a significant impact to known historic properties (Carter 2007).

Walker Lake forms the western edge of the allotment, but it is rare for cattle to range west of the mountain crest, much less west of the Southern Pacific Railroad grade and onto the sands at the lake's margin. Based on a projection of continued slight to no use of the Walker Lake shoreline region, grazing is not likely to be a significant impact to currently unknown cultural resources. Therefore, relative to cultural resources and projected use almost exclusively east of the Southern Pacific railroad grade, there exists no need to alter the proposed term grazing allotment permit for the Gillis Mountain 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 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 areas that concentrate livestock. Any historic properties within a proposed improvement project area will be avoided by proposed improvements. If this 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.

Invasive/Nonnative Species:

The only noxious weed infestation that has been found on the Gillis Mountain Allotment is salt cedar (*Tamarix sp.*), which is located on the extreme western boundary of the allotment. This constitutes a very

large infestation of perhaps 5,000 acres of low density populations on the east shore of Walker Lake; however, livestock do not usually use this area.

Irrespective of livestock being or not being present within the allotment, the potential for the spread of noxious weeds would remain. Means by which this spread would occur are transport by wildlife, wind, and off road vehicles, as examples. However, under existing livestock and weed management, the existing weed populations have not been expanding. This situation is not anticipated to change under any of the alternatives.

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: Lands, Recreation, Visual Resources.

Resources Present and Brought Forward for Analysis

Range:
Grazing is currently authorized as a cow/calf operation on the Gillis Mountain Allotment. The grazing permit authorizes 321 cattle from October 1st until March 31st for a total of 1,924 Animal Unit Months (AUM's). It is classified as a category "M" (maintain) based on a large amount of the allotment being without significant resource issues. There are no fenced pastures in the allotment so cattle distribution is accomplished by the use of water haul sites. The Gillis Range limits access to the shore of Walker Lake.

From 1998 through 2005, the permittees have grazed their cattle on the Gillis Mountain Allotment until the end of April, but more often than not, they weren't turning these cattle out until the middle of November. The amount of AUM's utilized has varied from year to year, with some years being below the permitted amount and other years being slightly above.

In September 1996, an area consisting of around 5 acres in the Win Wan Valley, was fenced into 3 study plots, or exclosures, by a former Bureau of Land Management employee in order to test different grazing treatments. The fences have not been maintained, and it is now in disrepair in various places. Even with a portion of the fences being down, the cattle still congregate around and inside the exclosures. Also, the permittees have reported that other ranchers have used the exclosures to hold cows.

Vegetation:
Vegetative communities found on the allotment include winterfat (*Krascheninnikovia lanata*), shadscale saltbush (*Atriplex confertifolia*), Bailey's greasewood (*Sarcobatus vermiculatus* var. *baileyi*), big sagebrush (*Artemisia tridentata*), low sagebrush (*Artemisia arbuscula*), budsage (*Artemisia spinescens*), spiny menodora (*Menodora spinescens*), fourwing saltbush (*Atriplex canescens*), and the dominant grass species, Indian ricegrass (*Achnatherum hymenoides*).

With shrubs being the dominant plant type in the Gillis Mountain Allotment, they are the most consumed, especially the spiny menodora and the winterfat. Grazing will occur on the winterfat stands in Win Wan Valley between November 15 and February, the dormancy period for this plant species.

Over the 2006 growing season, it appears that the majority of the Indian ricegrass was consumed by some type of burrowing wildlife species, possibly rodents or lagomorphs. Many of the plants observed were dug into at the base, with the above-ground leafy material being consumed as well. This may or may not be a one-time event (photo attached).

The standards for plant habitat have been met.

Soil

The soils within the Gillis Mountain 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 dependent 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 aridic, with much of the area in the four to six inch precipitation zone. Soil reactions are moderately to strongly alkaline. Detailed

descriptions of the soils within the allotment can be found within the Mineral County Soil Survey, issued in 1991 by the U.S. Dept. of Agriculture-Soil Conservation Service.

The standards for soils are being met.

Wildlife

The allotment area has good general wildlife diversity potential due to elevation changes within it, the variety of habitat types and topographical features present. General wildlife habitat is in acceptable condition. It was noted, however, that Indian rice grass had experienced a high mortality and that shrubs dominated the sites. Additionally some areas have Russian thistle, a non-native plant that occurs on highly disturbed areas. Several terrestrial wildlife habitats occur within the allotment area (Suminski 2007).

Because there are no known water sources and good quality habitat doesn't naturally occur, mule deer use of the allotment is limited (Axtell 2007).

The northern portion of this allotment has occupied desert bighorn habitat. The allotment provides yearlong habitat for these sheep (Axtell 2007). Because of the overall functional condition of the range in this allotment, bighorn habitat would probably be acceptable. Bighorn readily use natural rock water catchments "tinajas" that are often located in extremely rugged country.

Historically, antelope were present in all valleys of Nevada (BLM 1988). A few antelope may be found in Win-Wan Valley; no key areas are present.

No sage grouse or sage grouse habitat occurs within this allotment (Axtell 2007).

A few mourning doves can be found in the allotment. The exotic species, chukar, can be found on the allotment (BLM 1988).

The standards for animal habitat have been met.

Special Status Species

Federally Listed Species

In October, 2006, the U.S. Fish and Wildlife Service's electronic listing of federally listed threatened, endangered, proposed for listing and candidate (TEPC) species was reviewed to determine which species might be associated with this grazing allotment (www.fws.gov/nevada/protected_species/index.html 2006). The federally listed (threatened) bald eagle probably uses the allotment. Bald eagles may use the allotment during the winter due to the approximation of Walker Lake and may use it for foraging on carrion (BLM 1988). No nesting occurs in the allotment and no habitat exists that would support bald eagle nesting. The federally listed (threatened) Lahontan cutthroat trout (LCT) occurs in Walker Lake. The Nevada Natural Heritage Program (NNHP) database has no record of any plant species proposed for federal listing, plant species listed as endangered or plant species listed as threatened (Tonenna 2007).

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).

Nevada BLM sensitive 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.

Native American Religious Concerns

The Walker River Paiute Tribe has cultural affiliation with the area within this allotment. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, a consultation letter, general summary of the proposed lease renewal program, and map of the allotment location were sent to the Tribe on June 26, 2006, concerning the Gillis Mountain grazing permit renewal. During the consultation process, BLM Carson City Field Office, Native American Liaison met face to face with a representative of the Tribal Cultural Resource Program on December 5, 2006. As part of that meeting, the tribal representative made statements to BLM related to the Gillis Mountain Allotment.

The tribal representative specifically presented areas of concerns for the Ghost Dance Ridge, Wovoka Wash and the restriction of cattle grazing along the Walker Lake shoreline. The shoreline has been identified as a sacred site important to the Tribe. For the Gillis Mountain Allotment, the tribal representative also indicated that native plants are important, but disappearing. Once removed, native plants do not compete well and are replaced by cheat grass and other invasive non-native plants.

Further information provided to BLM representatives are documented, but not available for discussion here.

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

Wild Horses and Burros
A portion (9,900 acres, 4%) of the Pilot Mountain HMA falls within the Gillis Mountain Grazing Allotment. The Appropriate Management Level (AML) for this portion is a maximum of 20 wild horses.

Socio-economics
The permittees live in Lakeview, Oregon, which is approximately 50 miles from the California border and around 400 miles from the northern boundary of the Gillis Mountain Allotment. In the Lakeview area, it is common for there to be snow on the ground in April. Even without the snow, there is insufficient grass growth for the permittees to turn their cattle out until around May; however, there is sufficient feed in the fall. It creates more of a hardship for the permittees when they can't keep their cattle on BLM until the end of April as feed is not readily available for their operation in Lakeview, Oregon this early in the year.

Alternatives

The description of the affected environment for Alternatives #1, #2, No Action and No Grazing would be the same as that for the proposed action.

IV. ENVIRONMENTAL CONSEQUENCES

Proposed Action – Environmental Impacts

Range
Under the proposed action alternative, 422 cattle would be authorized to graze from November 15th until April 30th , for a total of 2,317 AUM's. The number of cattle would increase by 101, and the number of AUM's would increase by 393. Also under the proposed action alternative, the grazing season would start 45 days later in the fall (November 15th instead of October 1st) and it would end 30 days later in spring (April 30th instead of March 31st). This is the approximate time of year that the Gillis Mountain Allotment was grazed from 1998 through 2005.

The cattle will have to be moved more often by the permittee in order to remain at, or below, the 45% utilization level over the allotment. In years with available forage, grazing will occur on half of the allotment one year and the other half the following year, while still maintaining the 45% utilization level. The forage availability will be determined both at the end of the grazing season while checking the final utilization amounts and before the start of the current year's grazing season. With either system, the use of water haul sites will be required in order to more evenly distribute the cattle throughout the allotment. Because cattle are just as dependent on water sources as forage, they will use new areas of the allotment as the water haul sites are moved.

The removal of the ecoplot fence in the Win Wan Valley would reduce the congregation of cattle, as well as prevent other ranchers (nonpermittees) from using the structure as a holding facility. Livestock distribution and management would be improved.

No water troughs or mineral supplements will be placed within the Pilot Mountain Wild Horse Herd Management Area.

The fans above the Hawthorne Army Depot, where the sensitive plant Nevada oryctes (*Oryctes nevadensis*) has been observed, will not be grazed after March 1st.

Vegetation

Under the proposed action, cattle could remove up to 2,317 AUM's from November 15th until April 30th. Grazing will occur on the winterfat stands in Win Wan Valley between the months of November and February, the dormancy period for this plant species.

The removal of the ecoplot fence will reduce the trampling and utilization of the winterfat that is found in the surrounding area.

Utilization on the key shrub and grass species, winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*) would be limited to 45%.

Soil

The implementation of this alternative would probably have little effect on the overall soils resource within the allotment, since the soils standards are being met; however, some positive benefit could be realized if there is a decrease in grass and shrub utilization by livestock. The effects of a change in the season of use from 10/1-3/31 to 11/15-4/30 on the soil resource would probably have little effect on the overall soil resource.

Wildlife

Although current effects from livestock grazing are negligible, a 24% increase could have an effect on general wildlife in this allotment. Any current impact that was occurring to a species or group of species, would be magnified by nearly one quarter magnitude. Overall populations would not be affected. If abundant forage was available and the proposed rotation system administered, adverse effects would be offset to some degree, but it would not eliminate these and probably wouldn't reduce them to no action alternative levels. The removal of the ecoplots would not affect general wildlife.

Livestock grazing would occur when wintering deer are on the allotment. In most cases, livestock would use gentler terrain while deer would use foothills and rougher country (Peek and Krausman 1995). Livestock would be out of the allotment when early grasses green up, and deer use of these would increase. If used, the proposed rotation system may make an improvement over the current situation. Affects of a livestock increase would be negligible on mule deer. Removal of the ecoplots wouldn't affect mule deer.

Bighorn sheep do not do as well when they share ranges with cattle (Krausman et al 1995). However, in this allotment, livestock and bighorn use areas would not overlap extensively, so competition for forage would not be great. Additionally, livestock would be out of the allotment just as grasses were greening,

which would be best for the bighorn. More livestock wouldn't necessarily translate into greater chance of impact for this species because of the spatial habitat use separation. Bighorn habitat that overlapped with livestock use areas would not be in ideal condition under this alternative however. Neither the rotation system nor the removal of the ecoplots would affect bighorn.

The occasional pronghorn antelope would not be affected by this alternative since these animals thrive in lower seral conditions. Neither the rotation system nor the removal of the ecoplots would affect bighorn.

Sage grouse do not occur in the allotment so would not be affected by livestock grazing, rotation systems or ecoplot removals (Axtell 2007).

Moderate grazing levels on upland areas as have been practiced in recent years, and that are proposed for this action, would not have an affect on upland game bird species (Guthery 1995). Neither the rotation system nor the removal of the ecoplots would affect doves or chukar.

Special Status Species

Federally Listed Species

Livestock grazing wouldn't affect bald eagles flying over the allotment since the only use made would be scavenging. Runoff entering Walker Lake from Gillis Mountain watersheds currently contributes an insignificant amount of water and material to that Lake. Because of the current functional condition of soil and vegetation on this allotment, there would be no indirect effect to Lahontan Cutthroat trout habitat from sediments entering Walker Lake from unstable watersheds on Gillis Mountain under this alternative. A determination of "No Effect" to the bald eagle and cutthroat trout was made from re-issuing this grazing permit (Suminski 2007).

BLM Sensitive Species

Potential effects of livestock grazing on desert bighorn sheep have been discussed. 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, and some may use it less. It doesn't necessarily preclude the presence of a species (Fagerstone and Ramey 1995). Increased livestock grazing in this allotment would magnify the above described effect. If used, the rotation system would offset some impacts to sensitive wildlife species. Removal of the ecoplots would not affect BLM sensitive species.

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, and some may use it less. It doesn't necessarily preclude the presence of a species. The above described effect would be magnified with an increase in livestock numbers. Livestock grazing was not listed as a threat to loggerhead shrike (www.natureserve.com). Overgrazing can be an issue for Brewer's sparrow and sage thrasher (www.natureserve.com, Finch et al 1993). Overgrazing isn't occurring now and probably wouldn't under this alternative. However, the increased use could affect some migratory bird species associated with this allotment that need very high seral conditions, but overall populations would not be affected. In years when a rotation system can be used, some impacts to migratory birds would be offset. Removal of the ecoplots would not affect migratory birds.

This alternative would not be the best for wildlife or sensitive plants, but better than Alternative #1.

Native American Religious Concerns

For the proposed action, the BLM recognizes concerns identified by the Walker River Paiute Tribal representatives about specific locations on the Gillis Mountain Allotment where sacred sites and other resources of concern are at-risk from natural factors and other activities. Relative to any grazing alternative, the concerns of the Tribe are avoided if grazing is limited to east of the Southern Pacific railroad grade, and no improvements are added to the Wavoka Wash and Ghost Dance Ridge areas. For this proposed alternative, a projected continued slight to no use of the Walker Lake shoreline region, would have some impact to tribal concerns.

This alternative would not be best for Native American Religious Concerns, but would be better than Alternative #1.

Wild Horses and Burros

The proposed action is essentially a continuation of the current grazing conditions and would not likely substantially impact the wild horses.

Socio-economics

This alternative would provide the permittee with a more stable grazing operation with the addition of 393 AUM's and the later grazing period end date. There will be more time for the spring grasses and other plants to grow in the Lakeview, Oregon area if the grazing season ended on April 30th.

Alternative #1 – Environmental Impacts

Range

Under Alternative #1, 532 cattle would be authorized to graze from November 15th until April 30, for a total of 2,921 AUM's. The number of cattle would increase by 211, and the number of AUM's would increase by 997. This alternative would be a 5-year transition if implemented, with 198 – 202 AUM's added on each year. See below for an example of the 5-year schedule.

No. of Cattle	Begin Date	End Date	% Public Land	AUM's
386	11/15	4/30	100	2120
423	11/15	4/30	100	2322
459	11/15	4/30	100	2520
496	11/15	4/30	100	2723
532	11/15	4/30	100	2921

Also under Alternative #1, the grazing season would start 45 days later in the fall (November 15th instead of October 1st), and it would end 30 days later into the spring (April 30th instead of March 31st). Like the Proposed Action, this is the approximate time of year that the Gillis Mountain Allotment was grazed from 1998 through 2005.

Utilization on the key shrub and grass species, winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*) could not be maintained at or below 45% utilization before the end of the grazing season on a normal basis. It is likely that the utilization would exceed this level well before the proposed April 30th end date even with the various other shrub species that are present on the allotment that are browsed by cattle.

It would be extremely difficult to keep the cows on just half of the allotment during a grazing season because of having no fence to separate the two and because the plants on the grazed half would reach the 45% utilization level well before the end date.

The removal of the ecoplot fence in the Win Wan Valley would reduce the congregation of cattle, as well as prevent other ranchers (nonpermittees) from using the structure as a holding facility. Livestock distribution and management would be improved.

No water troughs or mineral supplements will be placed within the Pilot Mountain Wild Horse Herd Management Area.

The fans above the Hawthorne Army Depot, where the sensitive plant Nevada oryctes (*Oryctes nevadensis*) has been observed, will not be grazed after March 1st.

Vegetation

Under Alternative #1, cattle could remove from 2120 AUM's the first year of implementation and up to 2,921 AUM's on the 5th year, theoretically. However, it is highly unlikely that this amount of forage would be available on any below normal to normal year.

Grazing will occur on the winterfat stands in Win Wan Valley between November 15 and February, the dormancy period for this plant species.

The removal of the ecoplot fence will reduce the trampling and utilization of the winterfat that is found in the surrounding area.

Utilization on the key shrub and grass species, winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*) would be limited to 45%, which would likely be reached well before the end of the proposed grazing season.

Soil

The implementation of this alternative would probably have a negative effect on the overall soil resource because of increased livestock utilization, which would decrease the basal cover of desirable grasses, forbs, and shrubs.

Wildlife

The effects to general wildlife and game species would be the same type as the proposed alternative, except that any adverse or beneficial effects would be magnified. This effect could be greatly increased in drought affected years. Removal of the ecoplots would not affect general wildlife or game species.

Special Status Species

Federally Listed Species

Choosing this alternative wouldn't affect the bald eagle. However, if plant communities in watersheds changed and soil movement increased, there could be more sediment entering Walker Lake from Gillis watersheds which would impact Lahontan Cutthroat Trout to an extent. Although the effect might not be large in itself, it could add to other habitat issues related to this Trout (USFWS 1995). This effect could be greatly increased in drought affected years. The rotation system, when used, would offset some watershed impacts that could affect Lahontan Cutthroat Trout habitat in Walker Lake. Choosing this alternative could result in a may affect determination. Removal of the ecoplots would not affect either the trout or bald eagle.

BLM Sensitive Species

The effects to sensitive species would be the same type as the proposed alternative except that any adverse or beneficial effects would be magnified. Increased livestock grazing of this magnitude could affect some sensitive species (www.natureserve.com) to the point that diversity would decrease on this allotment. The range of some species might be reduced if some species were lost from this allotment due to increased use of vegetation on their preferred habitat. This effect could be greatly increased in drought affected years. However, overall populations of wildlife sensitive species would not be affected. Removal of the ecoplots would not affect sensitive species.

Neo-tropical Migratory Birds

The effects to Neotropical migratory birds would be the same type as the proposed alternative, except that any adverse or beneficial effects would be magnified. This effect could be greatly increased in drought affected years. The rotation system, when used, would offset some impacts to migratory birds that decrease in occurrence in grazed areas. Removal of the ecoplots would not affect migratory birds.

This alternative would not be the best alternative for any wildlife species or sensitive plants.

Native American Concerns

Under Alternative #1, the effects to Native American Religious Concerns would be the same type as the proposed alternative, except that any adverse or beneficial effects would be increased due to additional grazing of livestock. Increased livestock grazing of this magnitude would increase congregation and dispersed grazing by livestock in areas identified specifically as sensitive, namely along the Walker Lake shoreline and in Wavoka Wash. This increase could affect sacred sites and native plant species of concern to the point that they negatively affect tribal religious and cultural practices.

This alternative could have a negative effect on Native American Tribal Concerns.

Wild Horses and Burros

Under Alternative #1, the increase in livestock AUM's might reduce the available forage for wild horses.

Socio-economics

This alternative could provide the permittees with a more stable grazing operation with the addition of 997 AUM's and the later grazing period end date if it was a year with abundant moisture and vegetative

growth. There would be more time for the spring grasses and other plants to grow in the Lakeview, Oregon area if the grazing season ended April 30th.

On a normal to below normal year for moisture and vegetative growth, there would not be an adequate amount of forage for the permittees to remain on the allotment until April 30th; therefore, they would still have to find other grassland to feed their cattle early in the spring.

Alternative #2 – Environmental Impacts

Range

Under Alternative #2, the season of use would change (November 15th to April 30th, instead of October 1st to March 31st), with no change in the number of AUM's. The number of cattle would increase by 29 head.

The cattle will have to be moved more often by the permittee in order to remain at, or below, the 45% utilization level over the allotment. In years with available forage, grazing will occur on half of the allotment one year and the other half the following year, while still maintaining the 45% utilization level. The forage availability will be determined both at the end of the grazing season while checking the final utilization amounts and before the start of the current year's grazing season. With either system, the use of water haul sites will be required in order to more evenly distribute the cattle throughout the allotment. Because cattle are just as dependent on water sources as forage, they will use new areas of the allotment as the water haul sites are moved.

The removal of the ecoplot fence in the Win Wan Valley would reduce the congregation of cattle as well as prevent other ranchers (nonpermittees) from using the structure as a holding facility. Livestock distribution and management would be improved.

No water troughs or mineral supplements will be placed within the Pilot Mountain Wild Horse Herd Management Area.

The fans above the Hawthorne Army Depot, where the sensitive plant Nevada oryctes (*Oryctes nevadensis*) has been observed, will not be grazed after March 1st.

Vegetation

Under Alternative #2, cattle could remove up to 1,924 AUM's, which is the amount on the current grazing permit. This would occur from November 15th until April 30th.

Grazing will occur on the winterfat stands in Win Wan Valley between November 15 and February, the dormancy period for this plant species.

The removal of the ecoplot fence will reduce the trampling and utilization of the winterfat that is found in the surrounding area.

Utilization on the key shrub and grass species, winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*) would be limited to 45%.

Soil
The implementation of this alternative would generally be the same as the proposed action. Some slight increase in vegetative utilization by livestock would occur, but it probably would not be significant.

Wildlife
The effects to general wildlife and game species would be nearly the same as the No Action alternative. Removal of the ecoplots would not affect general wildlife or game species.

Special Status Species

Federally Listed Species
Choosing this alternative would not affect the federally listed species associated with the allotment. Removal of the ecoplots would not affect federally listed species.

BLM Sensitive Species
The effects to sensitive species would be nearly the same as the No Action alternative. Removal of the ecoplots would not affect sensitive species.

Neo-tropical Migratory Birds
The effects to Neotropical migratory birds would be nearly the same as the No Action alternative. The rotation system, if used, would offset some impacts to migratory birds that decrease in occurrence in grazed areas. Removal of the ecoplots would not affect migratory birds.

This alternative would not be the best for wildlife or sensitive plants if an increase in livestock numbers was granted.

Native American Concerns
Under Alternative #2, the effects to Native American Religious Concerns would be the same type as the proposed alternative, except that any adverse or beneficial effects would be decreased due to grazing of livestock at a similar AUM level to the present situation. Maintaining livestock grazing at a current magnitude would not increase congregation and dispersed grazing by livestock in areas identified specifically as sensitive, namely along the Walker Lake shoreline and in Wavoka Wash. This maintenance of affect would have minimal to no impact to sacred sites and native plant species of concern, and would likely not affect tribal religious and cultural practices.

If grazing is to continue, this alternative would be better for Native American Tribal Concerns than the proposed action or Alternative #1.

Wild Horses & Burros
Alternative #2 would change the season of use. As long as the amount of forage stayed the same, this alternative would not adversely impact the wild horses.

Socio-economics
This alternative would provide the permittee with a slightly more stable grazing operation with the later grazing period end date. There will be more time for the spring grasses and other plants to grow in the Lakeview, Oregon area if the grazing season ended April 30th.

No Action Alternative – Environmental Impacts

Range
The permittee would continue to graze 321 cattle on the Gillis Mountain Allotment from October 1st to March 31st for a total of 1,924 AUM's.

The ecoplot fence in the Win Wan Valley would not be removed (or repaired).

A two-pasture rest-rotation system would not be incorporated.

No water troughs or mineral supplements will be placed within the Pilot Mountain Wild Horse Herd Management Area.

The fans above the Hawthorne Army Depot, where the sensitive plant Nevada oryctes (*Oryctes nevadensis*) has been observed, will not be grazed after March 1st.

Vegetation
Under the No Action Alternative, up to 1,924 AUM's may be removed from the allotment, with most of the utilization occurring on the same areas and plants as in prior years.

Grazing will occur on the winterfat stands in Win Wan Valley between November 15 and February, the dormancy period for this plant species.

It is likely that the winterfat near the ecoplot would continue to be trampled and heavily browsed if the posts and wire are not removed.

Utilization on the key shrub and grass species, winterfat (*Krascheninnikovia lanata*) and Indian ricegrass (*Achnatherum hymenoides*) would not be limited to 45%.

Soil
The implementation of this alternative would have little effect on the soil resource since at present the grazing system is meeting the soils standards.

Wildlife
The effects to general wildlife and game species would be nearly the same as the proposed alternative. However, any effect that was occurring, even if not necessarily negative, would be less with this alternative than in the proposed alternative.

Special Status Species

Federally Listed Species
Choosing this alternative would not affect the federally listed species associated with the allotment.

BLM Sensitive Species
The effects to sensitive species would be nearly the same as the proposed alternative. However, any effect that was occurring, even if not necessarily negative, would be less with this alternative than in the proposed alternative.

Neo-tropical Migratory Birds
The effects to Neotropical migratory birds would be nearly the same as the proposed alternative. However, any effect that was occurring, even if not necessarily negative, would be less with this alternative than in the proposed alternative.

This alternative would be the best for wildlife species or sensitive plants if livestock grazing continued.

Native American Concerns
Proposed livestock use under the No Action Alternative would be the same as Alternative #2. Thus the impacts to Native American Cultural Concerns would be the same type as the proposed alternative, except that any adverse or beneficial effects would be decreased due to grazing of livestock.

If grazing is to continue, this alternative would be better for Native American Tribal Concerns than the proposed action or Alternative #1.

Wild Horses & Burros
Impacts would be similar to those associated with the proposed action.

Socio-economics
The permittees would continue to be required to take their cattle off of the Gillis Mountain Allotment before there is sufficient forage available around Lakeview, Oregon.

No Grazing Alternative

Livestock
Implementation of the No Grazing Alternative would result in the removal of livestock grazing from the allotment. The current grazing permit, which expires December 1, 2015 would be cancelled.

The ecoplot fence in the Win Wan Valley would not be removed (or repaired).

Vegetation
Under this alternative, vegetation would not be impacted by livestock grazing. The amount of above ground biomass would not be decreased by cattle, making it totally available for wildlife and wild horses. An increase in plant diversity and production should result as trampling, grazing, and browsing by livestock would be eliminated. The above is true, assuming that no trespass cattle are allowed onto the allotment.

This alternative would not allow for the proper use of a renewable resource (range forage) as provided for by various Federal Acts and in the Carson City Field Office Consolidated Resource Management Plan 2001.

Soil
The implementation of this alternative could have a small, positive effect on the soil resource within the allotment due to the elimination of vegetative utilization by livestock.

Wildlife
Any forage competition with game species, especially in drought stressed years, would be lessened. The ecoplots would not be removed, but this wouldn't have an effect.

Special Status Species

Federally Listed Species
Because the current functional condition of soil and vegetation on this allotment would remain relatively stable in the long term, this alternative would be the most protective to Lahontan Cutthroat trout habitat in Walker Lake. The ecoplots would not be removed, but this wouldn't have an effect.

BLM Sensitive Species
The response of most 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 ecoplots would not be removed, but this wouldn't have an effect.

Neo-tropical Migratory Birds
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. The ecoplots would not be removed, but this wouldn't have an effect.

Native American Concerns
The No Grazing Alternative would have no effect from dispersed grazing or congregation of livestock on Native American Religious Concerns. The alternative would be the best, relative to tribal concerns.

Wild Horses & Burros
The No Grazing Alternative could allow for an increase in horse numbers (10 head) as more forage could be consumed if the allowable utilization levels were unchanged. However, due to the modest size of the HMA within this allotment and low productivity of this area, only a small increase in horse numbers could be accommodated. However, increasing the AML may not be desirable as the forage production in this area is low and unpredictable.

Socio-economics
There are very few permits available on public land so if the current grazing permit was cancelled, it is highly unlikely that the permittees could replace it. They would have to find another grazing area, probably on private land, where grazing fees are much higher, and they may have to buy more hay during the winter and early spring, adding more expenses to their livestock operation.

Cumulative Impacts

All resource values have been evaluated for cumulative impacts. It has been determined that cumulative impacts would be negligible as a result of the proposed action or alternatives.

The issuance of a term grazing permit for the Gillis Mountain Allotment is a discrete action, and would cause no known cumulative impacts to the environment when considered in combination with any known or anticipated actions on these or adjacent lands in the past, present, or foreseeable future. Any effects of the moderate grazing levels proposed would be limited to the project area.

The grazing levels considered under these alternatives are either no grazing or grazing at moderate levels. Grazing at these levels has not been shown to be injurious to plant or animal species in the area. The effects of grazing at moderate levels, along with associated activities in the management of this allotment such as maintenance or construction of range improvements, would be limited to the immediate area of the allotment. They would not combine with any known, or reasonably foreseen activities on these or adjacent lands to produce any detrimental cumulative impacts in the area.

Monitoring

Range monitoring would continue for the Gillis Mountain Allotment as it has in the past, with the addition of monitoring the Walker Lake shoreline relative to Native American Religious Concerns. We will continue to do the following: (1) Photo Point, (2) 100' Quadratic Frequency (3) Utilization, (4) Use Pattern Maps, (5) Rangeland Health Assessments, (6) Actual Use Reports, and (7) Weather Data. Actual methods used would depend on monitoring needs, conditions, and resources available.

V. CONSULTATION & COORDINATION

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Persons, Groups or Agencies Consulted:

Western Watersheds Project
Walker River Paiute Tribe
Nevada State Clearing House

APPENDIX A

BLM Sensitive Species associated with Gillis Mountain Allotment

Animal

Golden Eagle – *Aquila chrysaetos*
Ferruginous Hawk - *Buteo regalis*
Burrowing owl - *Athene cunicularia*
Prairie Falcon – *Falco columbarius*
Peregrine Falcon – *Falco peregrinus*
Swainson's Hawk- *Buteo swainsoni*
Western Snowy Plover – *Charadrius alexandrinus*
Loggerhead shrike- *Lanius ludovicianus*
Vesper Sparrow – *Pooecetes gamineus*
Desert bighorn sheep – *Ovis Canadensis nelsoni*
Pallid bat – *Antrozous pallidus*
Spotted bat – *Euderma maculatum*
Western Pipistrelle Bat – *Pipistrellus hesperus*
Brazilian free-tailed bat - *Tadarida braziliensis*
Fringed myotis – *Myotis thysanodes*
California myotis – *Myotis californicus*
Pygmy rabbit – *Brachylagus idahoensis*

Source: www.natureserve.com, www.heritage.nv.gov, CCFO Habitat Management Plans, misc. observ

Plant

Oryctes - *Oryctes nevadensis (*Tonenna 2007*)*

APPENDIX B

Neo-tropical Migratory Birds, Species of Continental Importance on Gillis 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
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).

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