

**ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION**

EA Number: CA-650-2008-22

White Wolf Allotment

**Bureau of Land Management
Ridgecrest Field Office
April, 2008**

TABLE OF CONTENTS

1. CHAPTER 1: INTRODUCTION	4
A. Summary	4
B. Background	4
C. Tiering to Existing Land Use Plan/EIS	5
D. Purpose and Need for the Proposed Action	6
E. Plan Conformance	6
F. Voluntary Relinquishment	7
G. Relationship to Statutes, Regulations, & Plans	7
2. CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES	9
A. Proposed Action	9
B. No Action Alternative	11
C. No Grazing Alternative	12
3. CHAPTER 3 – ENVIRONMENTAL ANALYSIS	12
A. Livestock Grazing	12
B. Air and Climate	14
C. Biological Soil Crusts	18
D. Cultural Resources	19
E. Environmental Justice	21
F. Farmlands, Prime Or Unique	21
G. Flood Plains	22
H. Invasive, Non-Native Species	22
I. Native American Concerns	24
J. Recreation	25
K. Social & Economic Values	26
L. Soils	26
M. Special Status Plants Species	28
N. Waste, Hazardous Or Solid	28
O. Water Quality	28
P. Wetlands/ Riparian Zones	29
Q. Wild And Scenic Rivers	30
R. Wilderness	30
S. Wild Horses And Burros	32
T. Wildlife	35
U. Vegetation	36
V. Cumulative Impacts	39
4. CHAPTER 4 - CONSULTATION AND COORDINATION	45
5. REFERENCES	47

6. APPENDICES:

APPENDIX 1 – ALLOTMENT MAPS	52
APPENDIX 2 – PROPER USE FACTORS	53
APPENDIX 3 – PROPOSED REGIONAL STANDARDS & FALLBACK STANDARDS AND GUIDELINES	57
APPENDIX 4 - INTERESTED PUBLIC’S COMMENTS & BLM’S RESPONSES	63

8. LIST OF TABLES

Table 1. Rangeland Health Assessments	6
Table 2. Livestock Numbers and Season of Use – Proposed Action	8
Table 3. Livestock Numbers & Season of Use – No Action	11
Table 4. Livestock Numbers & Season of Use – Current Management	12
Table 5. Livestock Use Levels over the Past Ten Years (AUMs)	12
Table 6. Existing Range Improvements	13
Table 7. Precepitation at Dyer, NV	15
Table 8. Temperature at Dyer, NV	17
Table 9. Wild Horse and Burro Forage Allocations	33
Table 10. Cumulative Impacts on Various Resources	40

CHAPTER 1: INTRODUCTION

A. Summary

The Bureau of Land Management (BLM) is proposing to issue a 10-year lease (#0406560) for the White Wolf Allotment (#5060) listed below to authorize livestock grazing in accordance with law and policy described in the Purpose and Need section below. White Wolf Allotment would remain as perennial base lease.

Acres in the allotment: 13,733

Acres of public land: 13,633

Acres of private land: 100

Kind of livestock: Cattle

Type of grazing: perennial

Season of Use: September 15 through February 28

Plan area: Northern and Eastern Mojave Desert Plan (NEMO)

Current authorized use: 307 AUMs

Percent Public land billing rate = 100%

Acres of Threatened/Endangered Species Critical Habitat: None

Acres of Wilderness: approximately 2,900 acres in White Mountain Wilderness Study Area.

Identified for Voluntary Relinquishment: No

Within the context of the CDCA Plan as amended with the Northern and Eastern Mojave Desert Plan Amendment (NEMO), BLM is proposing specific lease terms and conditions to ensure that an appropriate multiple use balance is maintained on these allotments while providing for conservation in accordance with NEMO and the associated biological opinion. In addition, BLM may use its authority to close an area of the allotment to grazing use or take other measures to protect resources if needed. Therefore, issuance of a fully processed grazing lease with such applicable terms and conditions is necessary to manage the public's use, occupancy, and development of the public lands and prevent unnecessary or undue degradation of the lands. (43 USC 1732(b)).

B. Background

In 2007, the grazing lease for the White Wolf Allotment for grazing domestic cattle expired at the end of the 2006 grazing year (2/28/07). This grazing lease was renewed under the authority of Public Law 106-113. The duration of the grazing lease was for ten years and contained the same terms and conditions as the expiring grazing lease. Public Law 106-113 required compliance with all applicable laws and regulations, which include the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). Following the analysis of the environmental impacts this grazing lease maybe approved, canceled, suspended or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

C. Tiering to Existing Land Use Plan/EIS

This EA is tiered to the NEMO Final EIS of (January 2002) and provides site-specific analysis on the allotment level. Tiering helps focus this EA more sharply on the significant issues related to grazing on this allotment while relying on the NEMO analysis for background. Analysis of environmental issues previously considered and addressed in the NEMO plan will be incorporated by reference. The site-specific issues analyzed for this allotment, as well as the issues that are incorporated by reference but will not be analyzed in detail, are identified in chapter 3 of this EA.

A summary of the analysis tiered in this EA is as follows:

1. NEMO is an amendment to the California Desert Conservation Area (CDCA) Plan developed expressly to address special status plant and animal species and to establish conservation strategies for those species within the multiple use context required for the CDCA by section 601 of the Federal Land Management and Policy Act (FLPMA). As part of the conservation strategy BLM determined which public lands will be available or unavailable for livestock grazing. Livestock grazing in the CDCA is an economic resource of public lands recognized in section 601 of FLPMA. In addition to designating lands available or unavailable for grazing, NEMO/NECO/WEMO established programmatic management prescriptions including regional land health standards and guidelines for grazing management; and utilization prescriptions for perennial species. This EA analyzes the specific application of the programmatic management prescriptions of NEMO and considers alternative means to achieve the purpose and need on these allotments as described in section C of this chapter.
2. This EA analyzes the range of alternatives for grazing consistent with NEMO, including a proposed action and continuation of current management (No Action). A no grazing alternative is considered to address voluntary relinquishment and subsequent designation of the allotment as unavailable for grazing. Chapter 2 of this EA describes the alternatives analyzed in detail and identifies the alternatives considered but dismissed from detailed consideration.
3. Impacts of livestock grazing were addressed at a regional level in NEMO. Analysis addressed the impacts of livestock grazing on a wide range of resource topics, including impacts to air quality, soil, vegetation, wildlife, cultural resources, wilderness, and socio-economic impacts. The regional analysis is incorporated by reference in this EA (pg 3-24 through 3-29 & 4-141, NEMO FEIS) but general discussion of these impacts will not be repeated. The EA analysis will sharply focus on the specific environmental issues associated with areas where livestock congregate on the allotment, specific areas of the allotment which are not meeting land health standards due to grazing, and areas of special status species or critical habitat that may be adversely affected by grazing on this allotment. Discussion of the specific topics analyzed in this EA, as well as other resource topics addressed regionally but that will be excluded from further analysis in the EA, is contained in chapter 3.
4. NEMO balances conservation with public use, occupancy, and development on a regional level. For example, Areas of Critical Environmental Concern/Desert Wildlife Management Areas (DWMA) are established, routes of travel on public lands designated open, limited or closed to motorized vehicles, and other management prescriptions are provided to guide multiple use management. Within the context of the CDCA Plan as amended by NEMO, BLM is proposing specific lease terms and conditions to ensure that an appropriate multiple use balance is maintained on these allotments while providing for conservation in accordance with NEMO and the associated biological opinion. In addition, BLM may use its authority to close an area of the allotment to

grazing use or take other measures to protect resources if needed. Therefore, issuance of a fully processed grazing lease with such applicable terms and conditions is necessary to manage the public's use, occupancy, and development of the public lands and prevent unnecessary or undue degradation of the lands. (43 USC 1732(b)).

D. Purpose and Need for the Proposed Action

The purpose of the proposed action is to complete a site-specific evaluation of grazing which provides information to be analyzed by the BLM in conformance with implementing regulations for the NEPA (40 CFR Part 1500), FLPMA, BLM grazing regulations (43 CFR Part 4100), and Public Law 106-113 section 325 to determine whether to authorize grazing within this allotment and whether changes to current management are necessary.

The need for the proposed action is to authorize grazing for this public land grazing allotment in compliance with the prescriptions prescribed in the NEMO, dated July 2002, the Biological Opinion of the California Desert Conservation Area Plan, dated March 31, 2005, and the proposed Regional Rangeland Health Standards.

E. Plan Conformance

All three alternatives analyzed under this EA are subject to the California Desert Conservation Area Plan (CDCA Plan) 1980 as Amended (August 1999). The proposed action and No Action Alternative have been determined to be in conformance with this plan as required by regulation (43 CFR §1610.5-3(a)). The Proposed Action and No Action Alternative would occur in areas identified for livestock grazing as indicated in the Livestock Grazing Element in the CDCA Plan 1980 (1999), pages 56 to 68. The proposed action and No Action Alternative are consistent with the land use decisions, and goals and objectives listed in the CDCA Plan. The proposed action is consistent with the CDCA Plan Amendment for the Northern and Eastern Mojave Plan (NEMO) as prescribed in section 2.0, (pages 2-29 through 2-39)

The White Wolf Allotment does not meet the Secretary of Interior Approved Rangeland Health Standards. As table 1 below indicates, Wild Horses are a reason for not fully meeting Rangeland Health Standards.

Table 1. Rangeland Health Assessment

Rangeland Health Standard	Meets Standard	Does Not Meet Standard	Impacts from Livestock Yes or No	Remarks
Soil Permeability	X			
Riparian/Wetland		X	No	Nox Weed

Stream Morphology		X	No	New stream Channel (diverted)
Native Species		X	No	Wild Horse

Assessment determination completed for White Wolf Allotment in 2008.

Rangeland Health Fall Back Standards and Guidelines for Livestock Grazing remain in effect until CDD regional Standards and Guidelines are approved by Secretary.

F. Voluntary Relinquishment

NEMO does not identify this allotment for voluntarily relinquishment. A lessee may request voluntary relinquishment of their lease at any time. Because this allotment was not identified for voluntary relinquishment however, a plan amendment will be required for subsequent designation of the allotment as unavailable for livestock grazing. If BLM determines that an amendment is not warranted, the allotments will remain available for livestock grazing and BLM will consider new applications for a lease by qualified applicants.

G. Relationship to Statutes, Regulations and Plans

1. Wilderness Study Areas. The White Mountain Wilderness Study Area was designated by Congress in Section 105 of the 1994 California Desert Protection Act (CDPA). The CDPA specifies that the WSA be administered according to the Section 603(c) provisions of the 1976 Federal Land Policy and Management Act. Section 603(c) directs that WSAs be managed “in a manner so as not to impair the suitability of such areas for preservation as wilderness.” This is known as the “non-impairment” standard. In managing such lands, BLM shall “take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection.”

Specific policies under which BLM manages grazing in Section 603(c) WSAs are found in the BLM Handbook called the Interim Management Policy (IMP) for Lands Under Wilderness Review (H-8550-1). The handbook specifies that changes may be allowed in livestock numbers, kind, or season of use within a WSA, if an Environmental Assessment (EA) finds the effects to be negligible. Negligible effects do not cause declining conditions or trends in vegetation or soil and do not cause unnecessary or undue degradation. The environmental assessment must evaluate the effects of the proposed action on the following parameters and wilderness values: the natural ecological condition of the vegetation, the visual condition of the lands and waters, erosion, changes in numbers or diversity of fish and wildlife, and all wilderness values. The IMP states that the preservation of wilderness values should be *paramount* in any decision involving a proposed action or use within a WSA.

Wilderness values are defined in Section 2(c) of the Wilderness Act and are further defined in Chapter II(B)(6) of the IMP as encompassing: roadlessness, naturalness, solitude, primitive and unconfined recreation, size, as well as ecological and geological and other features of scientific, educational, scenic, or historical value. BLM must quantify these values in order to insure that proposed changes do not impair the area’s wilderness values as they existed at the time of WSA

designation. If impacts to any parameter or value exceed the standard of negligible and are significant, the proposed changes cannot be approved. If impacts to all parameters and values are less than maximum allowable impacts and cumulative impacts are negligible, *temporary* changes may be approved. In these cases, monitoring studies at the conclusion of each grazing season will be required. If impacts are found to exceed what was anticipated, changes in increase or use will be reduced or discontinued. A *permanent* increase, development, or change may be authorized only after 5 consecutive years of monitoring indicate that impacts have not exceeded the maximum allowable under IMP guidelines.

Specific guidance with respect to livestock developments grandfathered in the use or maintenance of pre-FLPMA, pre-1994 livestock developments. *New, temporary* livestock developments may be approved only after completing an Environmental Assessment that concludes they would enhance *wilderness values*, and thus, satisfy the non-impairment criteria. *New, permanent* livestock developments may be approved only after an Environmental Assessment finding that they would be *substantially unnoticeable*, as well as instrumental in enhancing wilderness values. New, permanent developments must not require *motorized access* if the area were to be designated wilderness.

2. State Historic Preservation Office Protocol Amendment for Renewal of Grazing Leases. In August 2004, and renewed in October 2007, the State Director, California Bureau of Land Management and the California State Historic Preservation Officer (SHPO) addressed the issue of the National Historic Preservation Act (NHPA) Section 106 compliance procedures for processing grazing permit/lease renewals for livestock as defined in 43 CFR 4100.0-5. The State Director and the SHPO amended the 2004 State Protocol Agreement between California Bureau of Land Management and the SHPO with the 2004 Grazing Amendment, Supplemental Procedures for Livestock Grazing Permit/Lease Renewal.

This amendment allows for the renewal of existing grazing lease as long as the 2004 State Protocol direction, the BLM 8100 Series Manual Guidelines, and specific amendment direction for planning, inventory methodology, tribal and interested party consultation, evaluation, effect, treatment, and monitoring stipulations are followed.

The lessee would comply with any future standard protective measures that may be developed for the protection of cultural resources after the completion of further allotment inventory and determination of any additional protection measure needs for significant cultural resources.

3. Regional Rangeland Health Standards and Guidelines for Livestock Management. The Regional Standards for Public Land Health and Guidelines for Livestock Management were approved under the NEMO Plan, in July 2002. Implementation of the standards and guidelines cannot occur until the Secretary of the Interior approves them. Until that time, the nationally developed fallback standards and guidelines would continue as the basis for public land health assessments. These Regional Standards and Guidelines are listed in Appendix 4. Rangeland Health assessment studies would be conducted and a Determination made, prior to the renewal of the next grazing permit/lease.

CHAPTER 2

PROPOSED ACTION AND ALTERNATIVES

A. Proposed Action

This alternative was developed after a review of resource issues and conditions found on the White Wolf Allotment. Monitoring requirements, mitigation measures, and permit terms and conditions developed in the resolution of issues are being incorporated into this alternative to minimize potential impacts to resources.

Initially, livestock grazing would be suspended in this allotment until the rangeland health standards for native species are met. This would primarily be achieved through an increase in the percent frequency of perennial grasses. A part of this requirement would be sampling the long term trend plots and additional range health assessments within the next three years.

Once grazing resumes, the season of use and permitted use, including management actions and stipulations stated below would govern livestock grazing for the remaining period of the ten year grazing lease.

1. Livestock Numbers and Season of Use

The livestock numbers and season of use would remain the same as described under the No Action (Current Management) Alternative, see table 4. Also, please see “Affected Environment” under the “Livestock Grazing” element for a more thorough discussion pertaining to the grazing management strategy that would continue to be employed under this alternative.

Table 2. Livestock Numbers and Season of Use

Allotment* / Number	Livestock Number	Kind	Class	From	To	AUMs
White Wolf/ #05060	55	Cattle	Cow/calf	September 15	February 28	307

* A map of this allotment is contained in Appendix 1.

2. Livestock Management

Livestock management would continue essentially as described in the Affected Environment section of the Livestock Grazing element in Chapter 3 of this document. Cattle would continue to be managed under a single pasture, seasonal rotation grazing strategy. Livestock grazing management would minimize the number of water locations available to livestock (with a goal of one water source available to livestock at any-one time), and rotate the water availability, coupled with active herding, to improve livestock distribution. Also, when opportunity provides, reduce the season of use while maintaining or reducing the permitted use, to encourage better distribution and increased rest periods between grazing treatments.

3. Grazing Prescriptions

- a. Utilization levels (based on current year's growth by weight, as measured during the grazing season.) on all key forage plant species identified on the allotment and/or listed in Appendix 2, would be maintained. Where forage utilization levels reach or exceed these identified thresholds, the livestock would be removed from that area or portion of the allotment and not allowed to return for the remainder of the grazing season.
- b. All mineral supplements would be placed at least ¼ mile from natural water sources.
- c. Actual Use Reports would be submitted by the lessee within 15 days after completing grazing. These reports would include the number of animals, by pasture and date.
- d. All grazing would be subject to upper threshold limits to the level of use on key forage species (see Appendix 2, Proper Use Factors). When monitoring indicates the level of use on listed key forage species has been reached, the livestock would be removed for that area, pasture or allotment. The livestock must be moved to a point in which grazing would not continue in those areas reaching utilization limits.
- e. All range Improvements would be maintained in functioning condition, all major repairs and modifications must be approved by BLM prior to initiating the work.

4. Range Improvements

There are 6 range improvements within the White Wolf Allotment (See map in appendix 1). Two of these range improvements are well developments with troughs. A corral is located at the White Wolf Well. The wells are located along the east side of the allotment outside of WSA. A boundary fence that is shared with the Oasis Ranch Allotment is located along the south boundary of the allotment. There are also three boundary fences against the Inyo National Forest in Wild Horse, Toler and McAfee canyons. The fences in Wild Horse and Toler Canyons may be partially located within the White Mountain WSA. However, vehicle access to these sites are outside the present WSA boundaries. These range improvements support livestock management practices on the allotment and are routinely maintained to ensure properly functioning condition. See Chapter 3, Livestock Management for a description of maintenance actions that would occur to maintain these improvements in functioning condition. No new improvements would be recommended under this alternative.

5. Monitoring

The rangeland monitoring in this allotment would continue as described in the Chapter 3, Affected Environment, under Livestock Grazing. The focus of studies would be to monitor short term issues including utilization studies, and long term changes with trend studies. Rangeland Health Assessments would also continue to assess compliance with standards.

The use of short term monitoring is a tool to gauge the cause and effect of the current authorization. This type of monitoring consists of actual use, current climatic conditions and the collection of utilization data. This type of data would be collected on a yearly basis at minimum. The collection of utilization data should be triggered by the growing season of key species and correlate with the phenology of key species. Interim utilization studies will be conducted at least twice during the grazing season so as to insure that utilization levels are not exceeded. Final utilization studies will be conducted between two weeks from the end of the grazing period to prior to the on-set of new spring growth the following year.

The collection of long term monitoring data typically occurs every ten years. Trend data, is used to determine long term changes and effects of long term grazing strategies. Trend data would continue to be collected using the current quadrat frequency and line intercept techniques.

6. Regional Rangeland Health Standards

The collection of indicators of rangeland health information is a qualitative method that requires the formation of an interdisciplinary team that makes observations of various indicators to determine the health of rangelands and the achievement of regional standards of rangeland health. This process is also a long term study, and typically occurs every ten years.

With the recent approval of the Northern and Eastern Mojave Plan amendment (NEMO), and once the Secretary approval is given, the Regional Standards & Guidelines are incorporated into this grazing lease and management practices without further notice. Until such time, the National Fallback Standards and Guidelines will be followed. Rangeland health inventory studies will be conducted and a Determination made, prior to the renewal of the next grazing lease. See Appendix 4 for regional and national standards and guidelines.

B. NO ACTION ALTERNATIVE

This alternative consists of maintaining current management practices.

1. Livestock Numbers and Season of Use

Table 3. Livestock Numbers and Season of Use

Allotment/ Number	Livestock Number	Livestock Kind	Season of Use	AUMs
White Wolf/ #05060	55	Cattle	September 15 To February 28	307

2. Livestock Management

Livestock management would continue as described in the Affected Environment section of this document. Cattle would continue to be managed under a single pasture, seasonal grazing strategy. (See Chapter 3, Livestock Grazing, Affected Environment.)

3. Range Improvements

There are 6 range improvements within the White Wolf Allotment (See map in appendix 1). Two of these range improvements are well developments with troughs. A corral is located at the White Wolf Well. The wells are located along the east side of the allotment outside of WSA. A boundary fence that is shared with the Oasis Ranch Allotment is located along the south boundary of the allotment. There are also three boundary fences against the Inyo National Forest in Wild Horse, Toler and McAfee canyons. The fences in Wild Horse and Toler Canyons may be partially located within the White Mountain WSA. However, vehicle access to these sites are outside the present WSA boundaries. These range improvements support livestock management practices on the allotment and are routinely maintained to ensure properly functioning condition. See Chapter 3, Livestock Management for a description of maintenance actions that would occur to maintain these

improvements in functioning condition. No new improvements would be recommended under this alternative.

4. Monitoring

Same as for the Proposed Action

5. Fallback Rangeland Health Standards and Guidelines

The Fall Back Standards would be used. See Appendix 4, Part II.

C. NO GRAZING ALTERNATIVE

This alternative would not renew the lease on this allotment. As a result, grazing would not continue in this area. This would be a permanent change. The BLM would initiate a process in accordance with the 4100 regulations to permanently eliminate grazing on the allotment.

CHAPTER 3: ENVIRONMENTAL ANALYSIS

A. Livestock Grazing

1. Affected Environment

Table 4. Livestock Numbers and Season of Use – Current Management

Allotment/ Number	Livestock Number	Livestock Kind	Season of Use	AUMs
White Wolf/ #05060	55	Cattle	September 15 To February 28	307

Table 5. Livestock Actual Use Levels over the Past Ten Years (AUMs)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Actual Use	0	309	0	309	0	0	0	0	0	0
Non Use	307	0	307	0	307	307	307	307	307	307
Total AUMs	307	309	307	309	307	307	307	307	307	307

Background:

White Wolf Allotment is located in Fish Lake Valley south of Dyer, Nevada on the California side of the state line. The allotment is bounded on the west by the Inyo National Forest, on the south by the Oasis Ranch Allotment, on the east by the California/Nevada state line, and on the north by Fish Lake Valley Allotment. Topographically about 90% of the allotment lies in the valley with the rest in the low foothills of the White Mountains. The vegetation is primarily in the Great Basin Mixed Scrub community. Forage plants include Budsage (*Artemesia spinescens*), Winter Fat

(*Krascheninnikovia lanata*), Mormon Tea (*Ephedra nevadensis*), and Indian Rice Grass (*Achnatherum hymenoides*),

Livestock Management:

Livestock are managed using a single season grazing strategy. The lessee first grazes in the southern portion of the allotment near the state line making use of White Wolf Well. Once this area is grazed he moves the cattle north, turns off White Wolf Well and makes use of Wright Well.

Range Improvements:

There are 6 range improvements within the White Wolf Allotment (See map in appendix 1). Two of these range improvements are well developments with troughs. A corral is located at the White Wolf Well. The wells are located along the east side of the allotment outside of WSA. A boundary fence that is shared with the Oasis Ranch Allotment is located along the south boundary of the allotment. There are also three boundary fences against the Inyo National Forest in Wild Horse, Toler and McAfee canyons. The fences in Wild Horse and Toler Canyons may be partially located within the White Mountain WSA. However, vehicle access to these sites is outside the present WSA boundaries. These range improvements support livestock management practices on the allotment and are routinely maintained to ensure properly functioning condition. See Chapter 3, Livestock Management for a description of maintenance actions that would occur to maintain these improvements in functioning condition. These maintenance actions include:

- a. Well repairs – the use of specialized vehicles may be necessary to pull submersible pumps. The vast majority of repairs would require access by motorized vehicles, using mechanized equipment.
- b. Fence repairs - Although much of the minor repairs to fences can be done by foot or horseback, major repairs to fence lines may require vehicle access. Vehicle routes exist to all sites requiring maintenance. Up to two pickup trucks could be used to support maintenance and repairs by transporting labor, materials, and equipment.
- c. Corral repairs – The replacement of posts by digging up to 12 inch wide holes, up to three feet deep by use of hand-held auger, or auger on the back of a skip loader or tractor. Replacement of corral panels as well as repairs to the water trough and associated pipeline through digging and/or trenching to find leaks and replace pipelines could occur.

Table 6: Existing Range Improvements:

Project Name, and Number	Within Wilderness or WSA	Functioning / Not Functioning
White Wolf Well, 5227	NO	Functioning
Wright’s Well, 5236	NO	Functioning
Oasis Drift Fence & Cattleguard, 5495	NO	Functioning
McAfee Drift Fence, 5461-1	NO	Not Functioning
Toler Drift Fence, 5461-2	Yes, Partially	Unknown
Wild Horse Drift Fence, 5461-3	Yes, Partially	Unknown

2. Environmental Consequences

a. Impacts of the Proposed Action

Grazing would be suspended on the allotment until forage grasses recover (approximately 3-7 years) resulting in the lessee having a less flexible grazing operation. However, the lessee uses this allotment sporadically and it is thought that the impacts to the grazing operation will not be critical over this span of time. The Regional Standards and Guidelines would be instituted to replace the Fallback Standards and Guidelines.

b. Impacts of No Action

Grazing would be suspended on the allotment until forage grasses recover (approximately 3-7 years) resulting in the lessee having a less flexible grazing operation. However, the lessee uses this allotment sporadically and it is thought that the impacts to the grazing operation will not be critical over this span of time.

c. Impacts of No Grazing

The cancellation of grazing on the allotment would result in the lessee having a less flexible grazing operation to contend with unforeseen grazing conditions.

B. AIR and CLIMATE

AIR QUALITY

1. Affected Environment

Air pollutants occur as gaseous and particulate mater that is emitted into the air. Air pollutants are very fleeting in the desert due to the constant air movement. Moving air constantly disperses air pollutants from their source and dilutes them. In addition, the interaction between pollutants, affects of moisture and sunshine generally modify most pollutants over time. Some form particulates and fall as dry deposition others fall with the rain. The air pollutants don't remain in the area of the source and accumulate over time (ARB 2001a and 2003a, Calkins 1994, DeSalveo 2003, Ono 2000, Paxton 1993, SCAQMD 1993b and USDI BLM 1999a, 2001 and 2006a).

The allotment falls within the Great Basins Valleys Air Basin. The management/enforcement of the air quality standards falls on several different jurisdictions. The USEPA (United States Environmental Protection Agency) has the primary responsibilities under the Federal Clean Air Act. The USEPA had transferred a number of responsibilities to the states and in most cases, regional air quality management districts. The regional Great Basin Unified Air Pollution Control District (GBUAPCD) has jurisdiction over point and area sources in the allotment. Air quality throughout the allotment area is generally good. There are, however, times that portions of the area have not meet state air quality standards for PM₁₀ due to locally generated and/or transported in pollutants.

2. Environmental Consequences:

a. Impacts of the Proposed Action:

Emissions of pollutants as a result of the proposed action would be from cattle movements the movement of vehicles used for cattle management and maintenance of range improvements. These

emissions would not occur until cattle return to the allotment. Grazing related PM₁₀ emission levels are not considered significant in the region. No significant offsite impacts are anticipated. These overall emissions would be very small and are clearly de minimus. No conformity analysis or determination is necessary because there is no federal nonattainment area.

b. Impacts of No Action Alternative

Impacts to air quality as a result of the No Action Alternative would be the same as the Proposed Action.

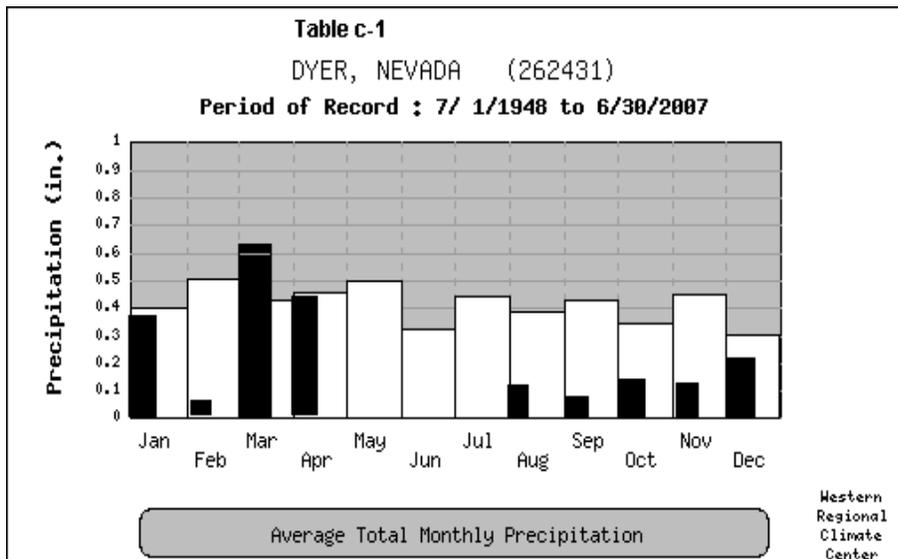
c. Impacts of No Grazing

No impacts to air would occur as a result of grazing activities.

CLIMATE

Affected Environment

The White Wolf Allotment lies above 5000 feet elevation at the western edge of the Great Basin. The White Mountains form the western edge of the area and effectively block many of the climatic influences from the west. As a result, the climate in the area is highly influenced by the Great Basin regions to the north and east. The climate for the area is best characterized as a cold desert. The various sites within the allotment have their own microclimates. Factors such as slope, aspect, and elevation can cause local variations in site specific winds, temperatures and rainfall. These local variations are to the regional climate with its familiar cycles of rainfall, snowfall, draughts and extreme temperatures. There is a NOAA weather station located in Dyer, Nevada, one miles north of the allotment. It has records dating back to 1948 which are applicable to the White Wolf Allotment. According to the records, every month of the year except August has recorded below freezing temperatures. In addition, the records indicate that low temperatures below 0 degrees F have been recorded 5 months of the year, November through March. Temperatures below -10 degrees F have occurred in November, December, January and February. The lowest temperature recorded was -23 degrees F recorded in February 1989. The mean temperature for the area is 51.7 degrees and the highest temperature recorded is 107 degrees F. The mean precipitation for the station is 5 inches. The precipitation has ranged between 8.48 and 1.78 with a standard deviation of 1.9 inches. The data shows that the precipitation is nearly equally distributed throughout each month of the year. In 2007, there has been little rainfall since April resulting in the current draught (see table 7).



White represents long term mean precipitation

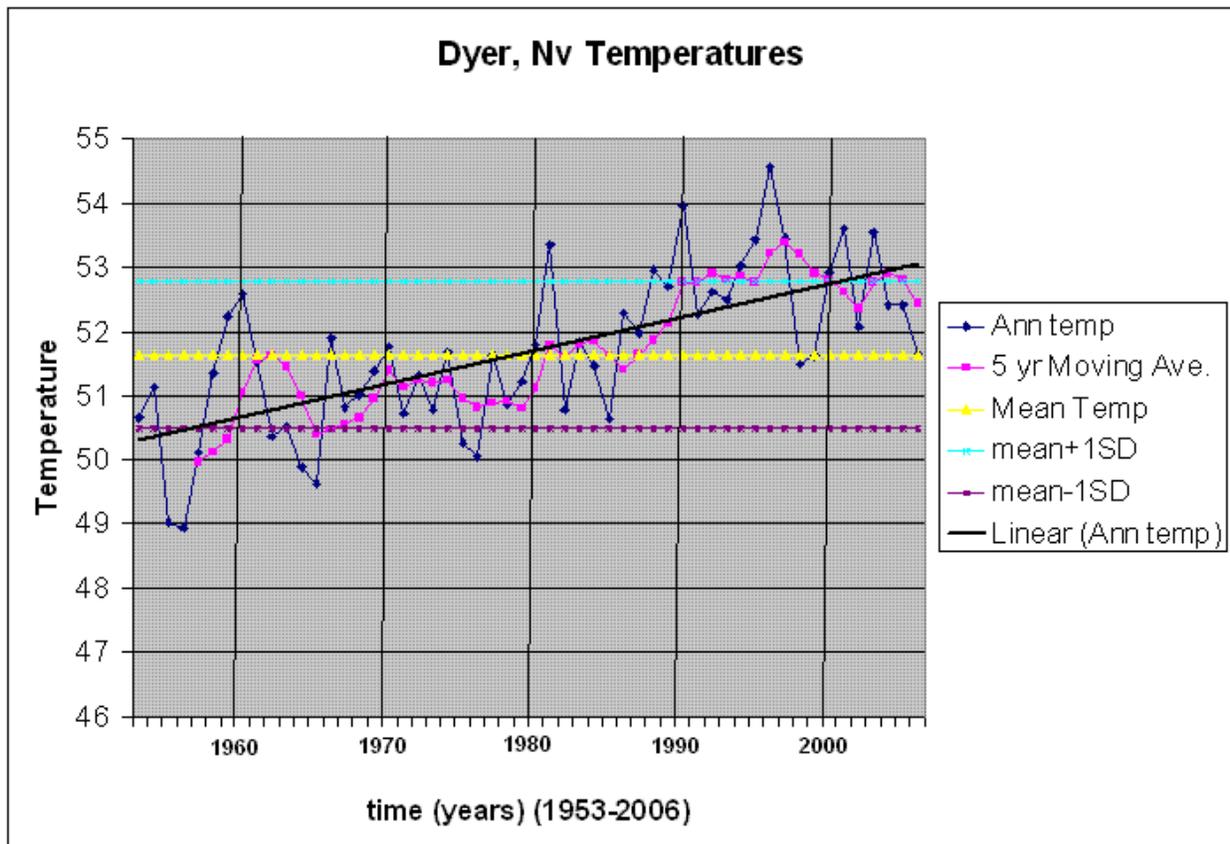
Black represents precipitation for 2007

Ongoing scientific research has identified the potential effects of so-called “greenhouse gas” (GHG) emissions (including carbon dioxide (CO₂); methane; nitrous oxide; water vapor; and several trace gasses) on global climate. Through complex interactions on a regional and global scale, these GHG emissions cause a net warming effect of the atmosphere, making surface temperatures suitable for life on earth, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia, with corresponding variations in climatic conditions, recent industrialization and burning of fossil carbon sources have caused CO₂ concentrations to increase dramatically, and are likely to contribute to overall climatic changes, typically referred to as global warming. Increasing CO₂ concentrations also lead to preferential fertilization and growth of specific plant species.

The assessment of GHG emissions and climate change is in its formative phase, and it is not yet possible to know with confidence the net impact to climate. Observed climatic changes may be caused by GHG emissions, or may reflect natural fluctuations (U.S. GAO 2007). We know that in the past the earth has gone through a number of ice ages with periods of warming and droughts between the periods. The most recent Ice Age ended around 13,000 years ago and the climate has warmed and dried since then. The warming and drying has not been continuous. As recently as 2500 years ago, the Owens river flowed into Searles Lake even though it had ceased for some time. Around 900 AD a 200 year drought nearly dried up Mono Lake (called the Medieval Oscillation). The Intergovernmental Panel on Climate Change (IPCC, 2007) recently concluded that “Warming of the climate system is unequivocal” and “Most of the observed increase in globally average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic [man-made] greenhouse gas concentrations.”

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, both observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. The data indicated that northern latitudes (above 24° N) have exhibited temperature increases of nearly 1.2°C (2.1°F) since 1900, with nearly a 1.0°C (1.8°F) increase since 1970 alone. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHG are likely to accelerate the rate of climate change. In 2001, the IPCC indicated that by the year 2100, global average surface temperatures will rise 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) has confirmed these findings, but also indicated there are uncertainties how climate change will affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be higher than during the summer.

An analysis of the Dyer, NV temperature data from 1954 (first year with complete data) to 2006 shows that the mean temperature has risen nearly 2 degrees F during that period of time (table c-2). A check of surrounding stations noted a similar trend. This matches the increases noted in the literature. Analyses of precipitation data for the same period of time indicates that the precipitation has stayed relatively the same.



2. Environmental Consequences

a. Impacts of Proposed Action

The U.S. Department of Interior (2001) issued orders to include global climate change in connection with planning efforts. It is questionable whether permit renewals fall within the order, but the point is moot as noted by the General Accounting Office (GAO) (2007). The GAO, in their report, noted that there has been no guidance issued as to how to implement the order. They also note that there is insufficient site specific information to allow managers to plan for climate change. It is generally accepted that there has been an increase in the rate of temperature increase and the likely cause is an increase in (GHG) especially CO₂. Livestock consumes vegetation and give off CO₂ and other GHG. The natural decomposition of vegetation also produces similar GHGs. The volume of GHG produced by cattle in the White Wolf Allotment beyond background natural emissions is likely very small and the proposed cattle grazing will have little influence on the Global Climate. The use of vehicles to manage cattle and maintain range improvements will produce very small amounts of GHG. The effect of climate change on other resources is addressed in the resource specific sections

b. Impacts of No Action Alternative

Similar to the Proposed Action

c. Impacts of No Grazing Alternative:

There would be no impact to climate from livestock grazing in the White Wolf Allotment.

C. BIOLOGICAL SOIL CRUSTS

1. Affected Environment

The open space between higher plants is not generally bare of all life. Highly specialized organisms can make up a surface community consisting of cyanobacteria, green algae, lichens, mosses, microfungi and other bacteria. Soils with these crusts are often referred to as cryptogamic soils (USDI BLM 2001 and Belnap and Lange 2003). According to Belnap and Lange (2003), the Great Basin is a cold desert where Low winter temperatures result in frequent soil freezing and the crusts generally have a rolling morphology. The Great Basin soil crusts differ from other desert regions in that the crusts are heavily dominated by lichens and mosses. Belnap and Lange (2003) identifies over 125 species of cyanobacteria, green algae, lichen, mosses and liverworts that are common in the Great Basin soils.

Biological soil crusts were found to occur over all of the allotment. Sampling conducted as part of rangeland health assessments found complex biological crusts that were intact and met standards at all upland health assessment sites. The health assessments document the widespread occurrence of complex soil crust communities consisting of mosses, lichens, green algae and cyanobacteria. The crusts range from less complex crusts along the valley floor associated with very fine textured soils to very complex crusts on the fans with their coarse soils. Broken crusts were noted along roads and cattle trails. Range health assessments were conducted over a number of allotments in the Fish Lake Valley where observations were made on biological soil crusts. There did not appear to be any negative changes to the crust community as a result of climate change. The 2007 health assessments found complex well developed crusts even at sites which did not have noted crusts in 1999-2000 (US BLM 2007). Many of the biological crust species are not mobile and cannot survive burial. These species are easily damaged by livestock grazing (Belnap and Lange 2003, and USDI BLM 2001b). The wide spread occurrence of these sensitive crust species indicates that the sites are in good condition.

2. Environmental Consequences

a. Impacts of Proposed Action

The current biological crust community consists of diverse species and is in good condition. This allotment has been grazed for over one-hundred years. The soil crusts don't show significant adverse effects from the current grazing use. As the proposed action would result in no cattle grazing until vegetation targets are met, there would be no cattle grazing related impacts to biological crusts during that time. After that, grazing would return in a similar manner to current management and the expected impacts would be similar to the current situation. Based on current observations, this would continue to result in satisfactory biological crust communities. The maintenance of range improvements would effect very small areas for very short periods of time and have no appreciable impact to biological crusts.

b. Impacts of No Action Alternative

Similar to Proposed Action

c. Impacts of No Grazing Alternative:

There would be no impact to crusts from cattle grazing. This would not likely to result in any changes to the crust community as it is already intact and contains multiple species.

D. CULTURAL RESOURCES

1. Affected Environment

This allotment lies generally west of California State Highways 266 and Nevada State Highway 264, and east of the foothills of the White Mountains, in the extreme northern sector of Fish Lake Valley in California. Five cultural resource studies has been completed within the public land parcels associated with this allotment. A total of 56 acres (less than 1%) of the allotment's public lands have been surveyed for cultural resources.

A total of 11 archeological sites, one multi-component, four prehistoric lithic scatters, and six historic have been recorded within the Allotment. Most of these sites were recorded during 2004 by BLM while surveying the Furnace Creek road alignment. As part of that investigation, 10 of these sites were formally evaluated for their eligibility to the National Register of Historic Places (NRHP). Four sites, a multi-component site, an historic metal and wood water pipeline, and two lithic scatter sites were determined eligibility, while the other six, mostly recent era trash dumps were determined to be not eligible.

When they were recorded, the site forms for all of these sites did not contain any statements under the *Current Condition* sections that disturbances being caused by livestock grazing were observed. The probability of any such disturbances occurring since they were recorded is considered to be low.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative

Under the proposed action, there would be no change to cultural resource management components of the California Desert Conservation Area Plan as amended. Cattle grazing would continue at current levels pursuant to planning and management prescriptions. Proposed range improvements and changes in approved management plans would be reviewed pursuant to Section 106 of the National Historic Preservation Act as implemented in the *State Protocol Agreement between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer Regarding the Manner in which the Bureau of Land Management will meet Its Responsibilities under the National Historic Preservation Act*, October 2004, (hereinafter referred to as the *Protocol*) and the Supplemental Procedures for Livestock Grazing Permit/Lease Renewals, August 2004, (hereinafter referred to as the *Supplement*).

The proposed alternative would continue livestock grazing in accordance with current management plans. The threats to cultural properties would continue, but would not change significantly from current levels. Under the proposed alternative BLM would continue to implement the procedures outlined in the *Supplement* to identify historic properties that may be affected by livestock grazing. Where conflicts between livestock grazing and significant cultural properties are identified, BLM would implement the appropriate Standard Protective Measures specified in the *Supplement*, or in cases where conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

The Permittee would also be required by term of the grazing permit to perform normal maintenance on all range improvements located within the Allotment, including occasional repair of fences. This normal maintenance, whether it would be walking along the fencelines using hand tools to repair broken wire strands; replacement of individual posts and side boards at corrals; or replacing broken water pipe sections, on an as needed-when needed basis; are allowed without the need for further heritage compliance review by one of the Exemption clauses contained in the Protocol's Appendix D: Activity A-34: "Modification of existing fences, gates, grills or screens".

b. Impacts of the No Action Alternative

Grazing has occurred in the California Desert since the mid-19th Century. Our knowledge and understanding about the effects of livestock grazing on cultural properties is limited for the California Desert, but studies of grazing impacts have been reported for other areas in California and the Great Basin region. The primary threats from grazing behavior would be damage to artifacts and site integrity resulting from the breakage, chipping, and displacement of artifacts, which might compromise the context and information potential of a historic property. Grazing threats to cultural properties would be greatest in areas where cattle congregate around springs, watercourses, shade and salt licks.

The analysis and threats to cultural properties would be the same as the Proposed Action alternative. Under the No Action alternative, there would be no change to cultural resource management components of the California Desert Conservation Area Plan as amended. Cattle grazing would continue at current levels pursuant to planning and management prescriptions. Proposed range improvements and changes in approved management plans would be reviewed pursuant to Section 106 of the National Historic Preservation Act as implemented in the *Protocol* and the *Supplement*.

As with the Proposed Action Alternative, livestock grazing would be limited in the vicinity of these eleven historic properties until an assessment of effects can be completed in accordance with procedures outlined in the *Supplement*. Under the no action alternative BLM would continue to

implement the procedures outlined in the *Supplement* to identify historic properties that may be affected by livestock grazing. Where conflicts between livestock grazing and significant cultural properties are identified, BLM would implement the appropriate Standard Protective Measures specified in the *Supplement*, or in cases where conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

c. Impacts of the No Grazing Alternative

Implementation of this alternative would eliminate the threats from grazing to the eleven known and recorded sites located within the boundaries of the allotments.

E. ENVIRONMENTAL JUSTICE

1. Affected Environment

The grazing allotment being analyzed is located in rural Mono County. The rural areas of this county are typically occupied by moderate to low-income households. The lessee that hold the grazing lease for the allotment being analyzed typically have moderate incomes. Seasonal laborers that may be hired by the lessees generally come from low-income households.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

The implementation of the proposed action would have an affect but not a disproportionate affect on low-income or minority populations living on or near the allotment being analyzed.

The grazing of livestock in rural Mono County has been a common practice for over 100 years. Typically, ranching has been performed by persons of low to moderate income, and may or may not be considered a minority. There are no Native American communities on or near any of the allotments being analyzed

b. Impacts of No Grazing Alternative

Under the no grazing alternative there would be an affect but not a disproportionate affect with respect to low-income or minority populations. The loss of livestock grazing in rural Mono county could result in the loss of seasonal employment to a very small component of low-income or minority populations.

F. FARMLANDS, PRIME OR UNIQUE

1. Affected Environment

The proposed action and the alternatives would have no affect on unique or prime farmlands because there are no lands so designated in the allotment.

G. FLOOD PLAINS

1. Affected Environment

Flood plains are associated with all of the main drainages in the allotment. Alluvial fans occur at the mouth of nearly all drainages. Floods events in recent years closed the highway through the Fish Lake Valley. Most of the flood events are associated with summer thunderstorm events. These large events tend to be localized events which may drop over 4 inches of rain in a short time. The very large events may have a return interval of 25-50 years. These large events are a result of high intensity storms and are little affected by cultural practices in the watershed.

2. Environmental Consequences

a. Impacts of Proposed Action:

The proposed action could result in some impacts in flood plains. The fences constructed across flood plains would be susceptible to damages from floods, but would not likely to influence future flood events. The loss of existing and future structural range improvements in flood plains would continue at irregular intervals in the future. Such damage would be limited and could be repaired by normal maintenance activities. Flood events where the flows exceed bank full flows and move onto the floodplain generally occur as a result of large summer thunderstorms where the cultural practices such as grazing have little influence on flood size.

b. Impacts of No Action:

Similar to the proposed action.

c. Impacts of No Grazing

Similar to the proposed action.

H. INVASIVE, NON-NATIVE SPECIES

1. Affected Environment

Peter Rowlands et al. (1982) in Brooks (1998) notes that alien species comprise a relatively small portion of the flora in the deserts. They indicate that there approximately 1836 species of vascular plants in the California portion of the desert of which 156 (9%) are alien to the region. This compares to the global average of 16% alien plants (Rowlands et al. 1982). Rangeland health evaluations completed in the White Wolf Allotment identified 4 species of non-native/invasive species in the area. Species identified include downy brome (cheat grass) (*Bromus tectorum*), Russian thistle (*Salsola tragus*), Halogeton (*Halogeton glomeratus*) and salt cedar (*Tamarix* spp.). The populations of Halogeton and salt cedar were new populations and were located while conducting rangeland health assessments. Both populations are small and are located along the road near the mouth of McAfee Creek. The non-native species can be classified into three general groups.

The first group is invasive, non-native plants which are common across the landscape. Species in this group are common across the desert and many are common in surrounding bioregions as well. In this allotment, these species occur in small spotty populations in the allotment and combined, they

generally constitute less than 2 % of the total cover. Species in this group include downy brome (cheat grass). None of the species in this group are classified as noxious weeds.

The second group of invasive, non-native species is also common in the desert, but is generally more restricted in the habitats they occupy. Normally this group is limited to road sides, some washes and other highly modified sites where there is little competition from other plants and water concentrates to provide late season soil moisture. Adequate soil moisture in the late spring and summer is important for these species. The Great Basin climate in the Fish Lake Valley typically has moisture distributed through the year. The Esmeralda County Soil Survey (NRCS 1998) notes that summer thunder storms can result in 10 to 20 days of soil moisture between July and October. When this happens, Russian thistle becomes common across the landscape. In years like 2007 where there was no spring-summer rain, Russian thistle was nearly non-existent. The occurrence of Russian thistle is very episodic and does not seem to be tied to livestock activity. Russian thistle is the only representative of this group in this allotment. It is a listed noxious weed. Road maintenance practices and equipment play a strong role in maintaining the site disturbance and in spreading seeds of these type species. Russian thistle has the additional ability to spread across the landscape because the plant will break off from the roots and roll across the landscape spreading the seeds. There is a future concern for Moroccan mustard (*Brassica tourenfortii*), Mediterranean mustard (*Hirschfeldia incana*) and black mustard (*Brassica nigra*) which are spreading along road corridors in the region.

The third group of invasive non-native species is species which occur as a series of specific infestations at specific sites. All of these species are listed noxious weeds and have active control efforts in place. Halogeton, a RED listed noxious weed, occurs along side the road just out from the mouth of McAfee Creek. The site occupies less than one acre and control efforts have already been started. Several salt cedars were also found nearby in the riparian zone. None of these infestations are the result of or affected by cattle grazing as cattle have not grazed on the site for over seven years.

Early detection is a major tool in the management of invasive/non-native species. For that reason, the Ridgecrest Field Office Integrated Weed Management Plan includes detection and prevention plans (USDI BLM 2006b) which are being carried out.

b. Environmental Consequences

a. Impacts of Proposed Action

As a generalization, livestock grazing has the potential to influence invasive, non-native species several ways. These possible influences could include transporting new species in from other regions, moving seeds from infested sites within the allotment to non infested sites and by modifying sites to be more favorable to invasive, non-native species. The movement and introduction of new species as a result of livestock grazing in the White Wolf Allotment has a low probability due to several reasons. The cattle spend their lives on the adjacent private ranch lands or on the adjacent public lands which minimizes the chance of bringing in new species. Most existing invasive, non-native species are widespread and have been for a long time. Current livestock management is unlikely to cause any additional spread as most of these species occur over most of the region already. The halogeton occurs as a single small isolated population and it will have aggressive control efforts by both the county and BLM due to its RED listing. That along with the exclusion of grazing for several years will minimize the potential spread of halogeton due to cattle. The salt cedar is not related to cattle grazing and it will be removed in the future also. There are few intense

use sites that could provide a more favorable environment for the invasive, non-native species and the proposed action would not result in the creation of any new sites. Observations at watering and corral sites where animals concentrate have noted a dominance of bare ground or the more weedy species from the surrounding area rather than an invasion of new non-native invasive species. Maintenance of the existing range improvements would have little impact on invasive non-native species

b. Impacts of No Action Alternative

Same as Proposed Action

c. Impacts of No Grazing Alternative

There would not be any expected changes in vegetation composition on an overall basis (Sanders (1992) and Johnson and Meyeux (1992)). Some high impact type sites may increase their perennial cover. Standing biomass levels could increase. Based on current literature and observations of areas which are not grazed, selecting the no grazing alternative would not be expected to result in any appreciable changes in the occurrence of current invasive, non-native species. Grazing would cease to be a factor in non-native, invasive species management, but the non-native, invasive species would continue to be a concern in the area.

I. NATIVE AMERICAN CONCERNS

1. Affected Environment

The area encompassed by the White Wolf allotment was inhabited at historic contact by small family based communities of Paiute Indians. These people have family and cultural ties with both California and Great Basin Native American communities. They occupied an area that included the Fish Lake, Valley, Eureka Valley, Saline Valley, Owens Valley, and around Owens Lake. There are four federally recognized tribes, all within the Owens Valley, at Bishop, Big Pine, Fort Independence, and Lone Pine.

The Western Shoshone occupied territory within the northern Mohave Desert, including portions of the Eureka and Saline Valleys on the southern edge of the allotment. The Timbisha Shoshone Tribe of Death Valley is a federally recognized tribe that represents the interest of these Native peoples.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative

The Paiute and Shoshone people through the consultation process have not indicated there are any issues concerning the renewal of the grazing lease.

b. Impacts of No Action Alternative

The Paiute and Shoshone people through the consultation process have not indicated there are any issues concerning the renewal of the grazing lease.

c. Impacts of No Grazing Alternative

This alternative would eliminate an activity that has been considered a continuation of the historic use of the area.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative

Consultation with Native Americans has been conducted during November 2007 to determine whether or not there may be significant effects and impacts to tribally important locations and resources associated with the Proposed Action. No specific information was offered though by the five Tribes.

b. Impacts of No Action Alternative

Consultation with Native Americans has been conducted during November 2007 to determine whether or not there may be effects and impacts to tribally important locations and resources associated with the No Action Alternative, which represents the current allotment management practices. No specific information was offered though by the five Tribes.

c. Impacts of No Grazing Alternative

There are no impacts likely to occur under this alternative. This alternative would also eliminate an activity that has been considered a continuation of the historic use of the area.

J. RECREATION

1. Affected Environment

The public lands located within the White Wolf allotment provides a wide range of outdoor recreation opportunities and experiences. Recreation activities include 4-wheel drive and dual sport motorcycle touring; mountain biking; upland gamebird and mule deer hunting; birding and other forms of nature study; dispersed camping; visiting historic and prehistoric cultural sites; pine nut gathering and rock hounding; horseback riding; and wilderness hiking and backpacking.

The western 1/3 of this project area is within the White Mountains Wilderness Study Area. See the Wilderness section in the environmental assessment for specific comments related to wilderness values. Motorized recreation in the region is limited to the designated road and trail system.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

While participating in casual and permitted recreational pursuits participants may encounter such range improvements as fence lines, closed gates, cattleguards, corrals and water developments as well as encountering herds of cattle on the public lands. While range improvements such as closed gates and cattleguards may delay ones recreational pursuits these impediments do not create a significant impact on recreational opportunities. It is recognized that some recreationalist find the presence of cattle on public lands as inappropriate, conversely to other visitors, the sighting of

livestock grazing on the open range is often very intriguing and of interest to visitors and enhances ones recreational experience.

b. Impacts of No Grazing

The elimination of grazing would have little effect on recreational opportunities in the region except for eliminating the experience of seeing cattle on the open range of the “Wild West.” Until all range improvements were removed recreational participants may still encounter the remnants of these developments which may delay but not prohibit pursuing one’s recreational interest.

K. SOCIAL AND ECONOMIC VALUES

1. Affected Environment

The communities of Bishop, California and the Fishlake Valley area of Nevada are traditionally rural communities where ranching has played a dominant role. Bishop, California is has become more oriented toward tourism as recreationists seek opportunities in the Sierra Nevada, Inyo, and White Mountains. However, ranching is still a substantial though less dominant element in the economy and social values still promote agricultural pursuits to some degree, e.g., the Burro & Mule Days festival in Bishop.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternatives

Both the proposed action and the no Action alternative would have no affect on social and economic values because ranching practices would continue without substantial change.

b. Impacts of No Grazing Alternative

Locally the economic affect of the no grazing alternative would be negligible because there remains a substantial though dwindling community of ranchers in the area. The nearby Bishop community is increasingly supported by the recreational economy that is based on recreational opportunities in the Sierra Nevada, Inyo, and White mountains. The opportunities for ranching will still be supported by the leases offered by the Department of Water and Power, City of Los Angeles (LADWP). On the other hand the Forest Service is curtailing some of its leases in the mountains.

L. SOILS

1. Affected Environment

There are no soil surveys covering the California side of the Fish Lake Valley. There is, however, a soil survey covering the adjacent Nevada side of the valley. The soil survey is titled The Esmeralda, Nevada Soil Survey. It shows the valley area adjacent to the White Wolf Allotment classified into two general groups. These are the fine textured soils on the valley bottom and the coarse textured soils on the fans around the edge of the valley. The Strumble loamy fine sand is the common soil on the nearly flat valley bottom (2-5% slopes). There are a number of possible soil series on the fans around the valley. The soil survey lists nearly half a dozen soils associations including the Strumble-Luning (145), the Vigus-Unsel-Izo (420) and the Itme-Luning-Wardenot associations with several contrasting inclusions on the fans. The soil survey says that all of the soils have only a slight

erosion hazard from water and the fine textured soils have a severe erosion hazard from wind. Soil test pits were dug during the range health assessments in 2007 which confirm that the soils on the California side of the valley match the descriptions for the adjacent Nevada soils. Further specific information about the soils can be found in the Soil Survey for the Esmeralda County Area, NV.

Much of the soil has been subject to periodic disturbance for 140 years due to ranching/farming, mining and livestock grazing. Additional soil disturbance is occurring as a result of vehicle use on unpaved county and farm roads and utility right-of-way maintenance. Range health assessments have been conducted on 3 upland sites in the Oasis Ranch Allotment in 2007. Soil conditions were evaluated during those assessments. The evaluations found that the soils rated in the stable range. Soil impacts were noted where cattle were concentrating at White Wolf Well and Wright's Well. Altogether, the two concentration sites occupy around 2 acres or 0.01% of the allotment.

2. Environmental Consequences

a. Impacts of the Proposed Action Alternative

Initially there would be no cattle impacts to soils. When cattle return, there would be different degrees of impacts to soils from different portions of the grazing operation. The two established watering sites and corral concentrate the cattle into a small area resulting in nearly continuous trampling impacts to those sites when cattle are on the range. The trampling has resulted in increased compaction in the soil surface, elimination of vegetative cover, and destruction or disruption of biological soil crusts at these sites. The current impact constitute around than 2 acres (0.01% of the allotment area) Additional new impacts to soils at the established sites are unlikely.

As opposed to the intense use at concentration areas, the general grazing use is an extensive use with the animals and their hoof action spread over large areas. This use can be best characterized as a series of small impacted spots (hoof marks) with large areas of interspace. The rangeland health assessments found these sites to be in the stable range. This use would not result in increased compaction or reduced infiltration rates.

Maintenance of range improvements is an ongoing activity that could result in minor site specific disturbances to soils. Digging new post holes would displace soils. This displacement would likely be to previously disturbed sites and would likely impact less than 50 sq. ft. if all of the existing posts were replaced. The proposed action would result in a small increase in wind and /or water erosion potential over the background levels.

b. Impacts of the No Action Alternative

The impacts of the no action alternative would be similar to those in the proposed action alternative.

c. Impacts of No Grazing Alternative

Elimination of grazing would eliminate any additional impacts to soils as a result of cattle grazing. Soils at concentration areas would slowly loosen to a more natural compaction rate, improving infiltration rate and stability and begin to revegetate. Removing existing range improvements would involve removing two wells and the corral which would not cause any new disturbances.

M. SPECIAL STATUS PLANTS:

1. Affected Environment

No Special Status Plant species have been identified on the allotment.

2. Environmental Consequences

a. Impacts of the Proposed Action Alternative

None

b. Impacts of No Action Alternative:

The impact of the no action alternative would be the same as the proposed action for Special Status Plants.

c. Impacts of No Grazing Alternative:

No special status plants would be impacted by this alternative.

N. WASTE, HAZARDOUS OR SOLID

1. Affected Environment

Detailed surveys of hazardous or solid wastes have not been undertaken on this allotment. BLM maintains no records of reportable spills in the allotment. Although use of motorized vehicles and equipment by the livestock operator may have resulted in periodic and scattered spills or releases of fuel and petroleum products in the allotment, none are documented. For this reason we believe that the proposed action and the alternatives would have no measurable affect on hazardous or solid waste.

O. WATER QUALITY, SURFACE AND GROUND WATER

1. Affected Environment

Surface water occurs primarily in two streams on the White Wolf Allotment. Both of these streams start in the White Mountains on the Inyo National Forest. Furnace Creek only flows a short distance on BLM lands and is seasonal. There is no evidence of cattle use in Furnace Creek. McAfee Creek is located at the north west corner of the White Wolf Allotment. The flow in McAfee Creek is diverted for irrigation after a short distance (less than 500 feet) on BLM. Additional information can be found in the Wetlands/Riparian Section of this document. Extensive agricultural development exists in the Fish Lake Valley running from south of the Oasis area into Nevada. Most of the irrigation water comes from groundwater. On the California side the groundwater demand could exceed 10,000 acre feet per year. Current water levels are between 100 and 200 feet below the surface.

The health assessments and determination completed in 2007 indicated that wild horses were watering in McAfee creek just above the diversion and in Furnace Creek. An Existing fence exists at the mouth of McAfee Canyon. The fence could exclude all use from the running stream.

However, the fence is in disrepair and horses are using the canyon for water. There was no evidence of cattle use along the creek.

The Final Unified Watershed Assessment (SWRCB, 1998) conducted in preparation of the Clean Water Action Plan (1998) classified watersheds into one of four categories. These four are:

Category I - Watersheds that are candidates for increase restoration activities due to impaired water quality.

Category II - Watersheds with good water quality that, through regular program activities can be sustained and improved.

Category III - Watersheds with pristine or sensitive areas on federal, state or tribal lands that need protection.

Category IV - Watersheds where more information is needed.

The Fish Lake-Soda Springs watershed was classified as a category III watershed. The storm water flows from the study area end up in the Fish Lake-Soda Springs Valleys basin.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative:

Cattle have little access to surface water in the White Wolf Allotment. In addition, the proposed action suspends grazing until vegetation goals are reached. The range health assessment found the riparian in McAfee Creek met range health standards. The proposed action is unlikely cause degradation of the water quality in the allotment. The water demand for the proposed cattle use is approximately 0.26 acre feet per year. The maintenance of range improvements would have little impact on water resources.

b. Impact of No Action Alternative

The impacts from the no action alternative would be similar to the proposed action alternative

c. Impacts of No Grazing Alternative

No impacts to water resources would occur due to cattle grazing since cattle grazing would cease to occur.

P. WETLANDS/RIPARIAN ZONES

1. Affected Environment

All riparian areas, including those associated with small seeps and springs, are classified as Highly Sensitive Unusual Plant Assemblages in the CDCA Plan (U.S. Bureau of Land Management. 1980), and require special attention and provide for special management. The lower portions of several riparian canyons are within the allotment. These drainages originate on land managed by the US Forest Service.

BLM manages about 2 miles of Furnace Creek, an area that was assessed as “Functional but at Risk” in 2004 due to the stream crossings. The riparian vegetation consists of shrubby willow and upland

vegetation at the lower end, with red willow/cottonwood riparian vegetation at the upper end. Surface flow is ephemeral, and the creek is generally dry in August (Appendix 4). Cattle have not grazed the canyon for most of past ten years. Horses do, however, use the lower portions when surface water is present. The upper half mile could be characterized as having a 95% cover of herbaceous and woody riparian vegetation, ranging in width from 25 to 100 feet (Appendix 4). A concrete irrigation ditch that diverts water from McAfee Creek lies on the border between the White Wolf and Fish Lake Valley allotments. Wild horses are impacting the riparian vegetation in upper channel in one place that is about 5,000 sq ft. The lower channel has left its natural channel and flows south rather than east as it originally did. This new channel is in the White Wolf allotment. It flows when there is more water than the irrigation diversion can carry. Since this channel is following a new course through the alluvial fan, it has not attained stability and is eroding the stream bed. A large storm event has deposited debris along the length of the channel. A mature salt cedar is growing on one bank. No cattle impacts were observed, possibly because the allotment has not been grazed for about 10 years. Toler Canyon has a small area that supports herbaceous riparian vegetation. This stream is ephemeral and does not attract cattle.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

Under this alternative up to 55 head of cattle would graze from September 15 to February 28, using existing well-fed troughs on the flats for water. Since this period is after the growing season, impacts to riparian vegetation would be minimal. Furnace Creek and McAfee Creek exhibit no adverse impacts from grazing. Flow in Furnace Creek is ephemeral and is generally dry in fall. There is no open water to attract cattle. Cattle would probably not graze this drainage. Toler Canyon seldom has open water and has no trees. This area has not attracted cattle in the past. Monitoring would ensure that the area continues to meet rangeland health standards.

c. Impacts of the No Action Alternative

Impacts would be the same as the proposed action.

b. Impacts of No Grazing Alternative

No impacts would occur.

Q. WILD AND SCENIC RIVERS

1. Affected Environment

The proposed action and alternatives would have no effect on wild and scenic rivers because there are no rivers so designated in the allotment.

R. WILDERNESS

1. Affected Environment

The White Wolf Allotment overlaps a portion of the White Mountains Wilderness Study Area (WSA). About 26% (2,900 acres) of the White Mountains WSA are included in this allotment. Another 8,000 acres (about 71% of the WSA) are within the Oasis Ranch Allotment. The two allotments span nearly 100% of the White Mountain Wilderness Study Area.

The 11,200-acre White Mountain Wilderness Study Area extends along the east side of the White Mountains from Cottonwood Creek north to Perry Aiken Creek. It encompasses the eastern foothills

and lower elevations of the White Mountains up to the USFS boundary. Elevations range from 5600' to 7600.' Springs, streams, and riparian communities are found in many of the canyons at lower elevations within the WSA. There are five riparian areas that figure prominently within this wilderness study area: They are: Perry Aiken Creek, McAfee Creek, Toler Creek, Indian Garden Creek, and upper Cottonwood Creek. Two immediately adjacent but excluded riparian areas also exist. Furnace Creek lies within an excluded cherrystem for most of its length. Lower Cottonwood Creek runs mostly outside and along the southern boundary of the WSA. The White Wolf Allotment overlaps the northern end of the WSA from McAfee Creek south to Furnace Creek.

The WSA is a popular camping, fishing, hiking, equestrian, and hunting area. The area is more heavily-watered and accessible than the range's west side. The topography is relatively gentle, rocky, but with large alluvial fans grading into rounded slopes and ridges. The western portions of the former FLPMA WSAs that now comprise the current 1994 WSA scored high in wilderness characteristics in BLM's 1990 Wilderness Inventory reports. The land was found to be relatively natural and pristine, appearing to be affected primarily by natural forces with relatively few manmade intrusions or anomalies. There are less than a dozen old prospects and mines sprinkled throughout the area. All are inactive, small, and localized in scope. Historic features include an old homestead site, 3-4 cabin ruins, and a couple of short and mostly down, fence segments. A marijuana farm was discovered here two years ago and was promptly cleaned up. There are fewer than 4 miles of vehicle ways designated within the WSA under NEMO, excluding the Furnace Creek cherrystem. In 1990, the area was found to offer exceptional opportunities for solitude and for primitive and unconfined recreation because of its essentially primeval character. There are no developed foot or equestrian trails. Most visitors strike out cross-country on foot or by horse, traveling up well-watered drainages or along open or lightly forested ridgelines. The area is often used by the Fishlake area Paiute Indians and by reservation residents from the Owens Valley for pinyon nut gathering.

The White Wolf Allotment is a perennial cattle grazing allotment. Current use levels and those in place at the time of wilderness study area designation (October 1994) for the allotment are described as follows: The allotment was permitted 307 AUMs annually from September 15 to February 28. Between 1992-1996, the permittee used 307 AUMs during periods of use; taking non-use only in 1995 and 1996. Over the past ten years, the permittee has taken non-use eight years out of ten. The permittee last grazed the allotment in 1998 and 2000, using 309 AUMs annually.

There are two range developments (drift fences) within the WSA. They are located at the boundary with Inyo National Forest in Wild Horse and Toler Canyons. These fences pre-existed Congressional WSA designation in 1994 and may have pre-existed the original BLM WSAs. Good vehicle access exists outside of the WSA to these sites. Any use of motorized and/or mechanized equipment inside the WSA to repair and/or maintain these fences would require prior written approval from BLM.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action is to authorize cattle grazing at the same level (307 AUMs) and during the same season of use as that permitted in 1994 when the area became a Wilderness Study Area. Grazing would be temporarily suspended on the allotment until such time as the frequency of perennial grasses recover and Rangeland Health Assessments for native species are met. BLM would begin removing wild horses to meet this objective. Other problems with the allotment, the presence of

noxious weeds in some riparian/wetland areas and a new stream diversion do not occur within the WSA.

Under the proposed action, ecological health would be restored to large portions of the WSA currently negatively affected by wild horses. Wild horses would be removed and grazing would be suspended until native species recover. Declining conditions or trends in vegetation would be reversed and visual resources would be improved. Wilderness values of naturalness and untrammeledness would be preserved and enhanced. Impacts of subsequent grazing on the WSA would not exceed impacts occurring in 1994 and more recently, when rangeland health standards were not being met and vegetation was on a downward trend.

b. Impacts of No Action Alternative

Under the No Action Alternative, grazing would not be suspended and still could occur at permitted use levels on lands not meeting rangeland health standards. This would most likely result in conditions that would cause further declines in perennial grasses, resulting in greater degradation of native plant communities within the WSA. This would contribute to losses in wilderness character, losses in naturalness and untrammeledness, and to losses in wilderness values, with respect to the preservation of native species and wildlife habitat.

c. Impacts of No Grazing Alternative

Impacts of No Grazing on the WSA would be the same as the Proposed Action, except that grazing would not be resumed when perennial grasses returned and rangeland health standards were met. This would remove native plant communities from any subsequent grazing pressure. Under the No Grazing alternative, all impacts from cattle use would disappear. There would be no trampling, trailing, soiling, or loss of vegetative cover during seasons of active use. This would enhance naturalness, restore untrammeledness, improve aesthetic and scenic qualities, and generally provide more opportunities within the WSA for quality primitive and unconfined recreation.

S. WILD HORSES AND BURROS

1. Affected Environment

Wild Horse and Burro:

The Piper Mountain Herd Management Area (HMA) is addressed in the CDCA Plan. This HMA consists of approximately 96,297 acres, of which approximately 2,250 acres is within the White Wolf Allotment. The present AML was established in the CDCA plan at 17 horses (201 AUMs) and 82 burros (686 AUMs). The White Wolf Allotment identified 27 AUMs for burros and 0 AUMs for wild horses.

The Piper Mountain HMA includes areas common to livestock grazing. The following table reflects the livestock grazing Allotments within the Piper Mountain HMA and allocated AUMs for wild horses and burros within them.

Table 9. Wild Horse and Burro Forage Allocations

Allotment	Allocated Wild Burros AUMS	Allocated Wild Horse AUMs
Whitewolf	27	0
Oasis Ranch	39	14
South Oasis	223	65
Last Chance	164	16
Deep Springs	0	26

There has been a shift in the number and location of wild horses and burros throughout the area. The burro population has dropped from an estimated 150 in 1980 down to the present estimate of 0 burros. It is speculated the removals conducted by Nevada and seasonal movements to Sand Spring where total removals have been conducted, has reduced the burro populations down to zero. The wild horse population at Piper Mountain has also dropped from an estimated 40 horses in 1980 to 0. In the mid 1980's, a group of 30 or more wild horses were seen in Deep Springs Valley foraging in the alfalfa fields during the summer. It is assumed that the herd dispersed either further north into Fish Lake Valley utilizing Furnace Creek up to Wild Horse Canyon or to the Silver Peak HMA administered through the Tonopah, Nevada Field Office. The Silver Peak HMA is adjacent to the northern portion of Piper Mountain HMA and there is a good potential that wild horses moved between the two HMAs.

In 2003, a helicopter census of the Fish Lake Valley, west Silver Peak and Piper Mountain Herd Management Areas and part of the White Mountain Wild Horse Territory (WHT) was conducted. No horses or burros in the Piper Mountain HMA were observed. North of the HMA boundary, 24 horses were spotted within the White Wolf Allotment. These horses were moving off and on from the White Mountain WHT and possibly moving south from the Fish Lake Valley HMA. It was apparent that the White Wolf-Oasis Ranch Allotment boundary fence restricted the horses moving onto the Piper Mountain HMA.

It is apparent that the White Wolf - Oasis Ranch Allotment boundary fence is an effective barrier from keeping the wild horses from their free roaming nature as indicated that horse activity occurred on the north side of the fence (White Wolf Allotment) and no horse activity on the south side of the fence (Oasis Ranch Allotment). The horse trails within the White Wolf Allotment were leading east to west from the valley floor to the Inyo Mountains.

In 2005, the Tonopah Field Office amended there land use plan and eliminated the Silver Peaks HMA.

In 2006, the Tonopah Field Office conducted a total removal of wild horses and burros from the Silver Peaks Herd Area and removed 143 wild horses, 6 burros and 5 mules.

In September, 2007 rangeland health assessments were conducted and determined that wild horses were a contributing factor for the allotment not meeting rangeland health standards.

In October of 2007, 14 wild horses were removed from the White Wolf Allotment due to safety issues along the highway and addressing the range resource issues.

Allotment, exclosure and private fences has impacted the distribution of wild horses and burros throughout the HMA and may have been a factor in their inability to move back and forth from areas

where they use to freely roam within the HMA. Due to these fences and the lack of permanent water in Oasis Ranch Allotment, it would be very unlikely to see horses drifting back into Piper Mountain from this area.

It is anticipated that the long term management for wild horses and burros for this area will be re-evaluated sometime in the future, especially in relation to the White Mountain WHT and the number and location of wild horses and their free-roaming nature which may have been affected by the variety of fences that have been erected over the years to protect agricultural crops and the development of grazing pastures. An evaluation to the wild horse and burro element is necessary to determine if it is feasible to maintain the Piper Mountain Herd Area as a herd management area for wild horses and/or burros.

2. Environmental Consequences

a. Impacts of Proposed Action and No Action Alternative

Continued actions to meet rangeland health standards would involve removing wild horses from this allotment. Due to the nature of wild horse movement from the White Mountain WHT and the Fish Lake Valley HMA, these removals would be impacting the population levels within these herds.

There would be no negative impacts to the Piper Mountain HMA because only approximately 2% of the HMA is within the allotment and there are no critical waters located in the area.

The proposed fencing maintenance could inadvertently confine wild horses on the wrong side of the fence if the horses were using this break to access certain areas to graze or water.

The cumulative impacts of renewing the grazing permits should not affect the wild horses and burros with the current forage allocations for all species. However, the cumulative impacts by existing and proposed fencing projects, may impact the free-roaming nature of wild horses and burros.

Recommended Mitigation:

Close coordination with the Inyo National Forest and Tonopah, NV Field Office which administers the management of this WHT and the Fish Lake Valley HMA, respectively, would be necessary to address management actions necessary to control impacts from wild horses.

Prior to any fence repair with an active wild horse trail going through it, an assessment needs to be made to assure the health of the horse is not jeopardized in closing them off from critical waters or trapping them in areas where they should not be.

2. Impacts of No Grazing Alternative

The forage allocations from the CDCA Plan allows for the opportunity to re-evaluate if the Piper Mountain HMA is suitable for re-introduction of wild horses and burros. This allotment would be evaluated to determine if existing fence lines used in the management of cattle grazing would be removed, increasing the ability for the free-roaming nature of wild horses and burros. Other range improvements would be evaluated for their suitability in the management of wild horses and burros. This may determine if a re-introduction of wild horses and burros to these areas would be warranted under their current forage allocation. The area would also be evaluated for its suitability as a wild horse and /or burro range which would change the available AUMs for these animals.

If other grazing lease renewals are not renewed within the Piper Mountain HMA, the same impacts as described, but to a larger scale.

T. WILDLIFE

1. Affected Environment

No T&E species would be affected by the Proposed Action. Long-eared myotis (*Myotis evotis*), Townsend's big-eared bat (*Corynorhinus townsendii*), and Pallid bat (*Antrozous pallidus*) have been recorded on the allotment. These bat species are BLM Sensitive Species that tend to use riparian corridors. Riparian habitat along Furnace Creek supports a variety of insects that are important food for bats. The trees and rock crevices along the creek provide roosting locations.

Mule deer, bighorn sheep, and pronghorn antelope may occasionally use portions of the allotment. A strip along the southwestern portion of the allotment (about 9,000 acres), abutting the USFS land was considered a winter concentration area (California Department Fish and Game, 1985). The CDFG (CDFG, 2008) web site describes the deer herd:

“The subspecies of deer inhabiting Zone X-9c is the Inyo mule deer. The deer herd found within the boundaries of Zone X-9c is the Inyo-White Mountains Deer Herd. Deer in Zone X-9c are migratory, spending summers at higher elevations (7,500-12,000 feet) in the Inyo and White Mountains and winters at lower elevations (4,500-7,500 feet). Deer migration between these summer and winter ranges occurs twice annually, once during spring and then again in the fall. Migrations generally follow traditional routes oriented along major topographic features, such as drainages or the bases of mountain ranges. Fall migration back to the winter range is generally patterned by snow storms and freezing temperatures at the higher elevations. This migration generally begins in late October and follows the same traditional routes used by deer in the spring. During heavy fall snowstorms, deer will migrate together from the summer range, often making the trip to the winter range in just a few days. As the snowline lowers and the days become progressively shorter, deer concentrate on the winter range for the breeding season, which begins in mid-November.”

CDFG (1985) states that competition with cattle in the spring is potentially the most impacting on deer, while Riparian areas are of concern for fawning sites, although none have been specifically identified by the CDFG on the allotment. These may be at higher elevations than are present on the allotment. Maintaining riparian areas in proper functioning condition would ensure adequate cover for fawning. Maintaining the upland plant community in a condition that meets rangeland health standards would ensure that enough forage and cover is present for wintering deer. Bighorn sheep use a small portion of the White Mountains, an area between Mt. Barcroft and Montgomery Peak, but there was no use on the eastern slopes of the White Mountains (Weaver and Mensch, 1970).

Horses have altered the plant communities, decreasing the shrub and perennial grass component. The frequency of bunch grasses has been reduced by year-round horse grazing rather than by cattle grazing. Removing excess horses would help the rangeland to attain a “met” condition and improve the habitat. A list of wildlife species that may use Furnace Creek was prepared for the EA that addresses the vehicle route up this canyon.

There is potential habitat for the Panamint alligator lizard (Emmerich, 2005) in Furnace Creek and other canyons but there has been no trapping or intensive search effort here to date, so we will look at potential habitat in this analysis. Raptors such as the sharp-shinned hawk and Cooper's hawk are likely to migrate or winter here, but no nests were found during a PRBO spring survey in 2006 (Heath, 2006). A Cooper's hawk was recorded during this survey. A Swainson's hawk nested in a large cottonwood tree at a ranch house 7-8 miles away in the 1960s (U.S. Bureau of Land Management, 2000), and this species has been observed on fence posts in the valley bottom. Smaller cottonwoods and willows are present on the BLM portion of Furnace Creek, but no Swainson's

hawks or long-eared owls were observed during the PRBO survey. Nesting and migratory songbirds benefit from the high quality riparian habitat (appendix 4). Other raptors on the allotment include golden eagles, prairie falcons, ferruginous hawks, and burrowing owls. A healthy rangeland would produce sufficient prey for these species. The continuous alfalfa fields along the eastern border of the allotment provide habitat used by additional prey for raptors. While the allotment is meeting the foraging needs of raptors, there is lack of nesting sites due to the terrain, which is unrelated to human activities.

2. Environmental Consequences

a. Impacts of Proposed Action

There would be no affect with respect to bighorn sheep. Maintaining the range in a condition that meets rangeland health standards would allow transient bighorn sheep and pronghorn antelope to find enough forage as they traverse the basins. The fences do not provide barriers to movement for deer or antelope, which easily jump over or go under. With water sites out on the flats, cattle would not be attracted to the higher country used by bighorn sheep. Mule deer would also have sufficient winter and spring forage if utilization remains at the proposed levels. There would be sufficient riparian cover as well, with proper utilization levels. Habitat for the Panamint alligator lizard would be in a condition to support a stable population.

The prey base for the raptors would not be affected by grazing if proper cattle utilization of grasses and shrubs is maintained. Hawks, eagles, and owls population levels would not be restricted since cattle grazing would not reduce prey habitat. Periodic monitoring would prevent over-grazing. The nearby agricultural fields would supplement winter food supplies. If sufficient water is available on the flats, cattle would not use Furnace Creek, preventing impacts to this riparian habitat. Troughs generally include ramps to reduce drowning of wildlife.

b. Impacts of No Action Alternative

This Alternative would have the same impacts as the Proposed Action.

c. Impacts of No Grazing

No grazing would probably not affect the ability of the grass component to recover since the proposed grazing would be fall/winter, which is outside of the growing season. A small number of horses continue to consume grass, so unless the horses are removed, the no grazing alternative applies only to cattle, so there would continue to be grazing.

U. VEGETATION

The project area is located in the Great Basin Floristic Province at the northern edge of the Desert Floristic Province as described in the *Jepson Manual, Higher Plants of California*. This has resulted in components from both these provinces occurring in the area. Sawyer and Keeler-Wolf in *A Manual of California Vegetation* describe the vegetation as Series (communities) dominated by shrubs. The vegetation in the White Wolf Allotment is typical of the region and consists almost exclusively of great basin shrub communities.

The vegetation on the White Wolf Allotment is strongly influenced by both topography and the underlying soils. The valley bottom is composed of fine textured soils. The valley bottom terminated at alluvial fans which extends to the mountains along the east and west side of the valley. A series of normally dry drainages run from the mountains across the fans and into the valley bottom. Soils on the fans are coarse textured with rocks and cobbles through the soil profile.

There are three major plant series located in this allotment. The Winterfat Series occurs along the valley bottom portion of the White Wolf Allotment. The vegetation is highly influenced by the soils which are fine textured and slightly saline. The vegetation includes winter fat (*Krascheninnikovia (Eurotia) lanata*), bud sage (*Artemisia spinescens*), four-wing saltbrush (*Atriplex canescens*), and Indian ricegrass (*Achnatherum (Oryzopsis) hymenoides*). Indian ricegrass reaches its maximum density in this vegetation/soils type. According to the Esmeralda County Soils Survey (USDA NRCS, 1995), Indian ricegrass cover can be between 20% and 30 % in this soils series with a mean annual precipitation of 6". The mean precipitation in the allotment area is slightly lower (5") which would lower expected cover. Comparable cover data has not been collected for the White Wolf Allotment Area. Base line (1987-8) frequency data for Indian ricegrass indicates the potential frequency is 20% to 30% on better sites. Rangeland health data collected in this vegetation type identified areas with sharp declines in Indian ricegrass cover and numerous dead plants. As a result one of the trend plots was re-sampled to see clarify changes. From the trend plot, it was found that there was a significant decline in Indian ricegrass in this vegetation series. Wild horse use in the area has been an increasing issue in the White Wolf Allotment. At the time of the CDCA Plan in 1980, horses were not an issue and no allocation was made for horses. By the mid 1980s nearly 50 head were seen in the White Wolf Allotment. During the rangeland health assessments in 2007, 28 head of horses were counted in the allotment. Even after a removal of 14 head, 21 head of horses were counted still in the area. Although the horse use was only around 400 AUMs in 2007, horses are almost exclusively grass eaters. It is thought that the cause of the decline in perennial grasses is a result of a draught the last several years especially 2007 when there was none of the normal spring and summer precipitation combined with wild horse grazing. Observations on grasses indicate that whether or not they were grazed, the vigor was much reduced. Other species such as winterfat increased in frequency. These changes are consistent with changes in the adjacent allotments. Due to the declines of certain key species, most sites in this area did not meet health standards in 2007.

The fans along the west side of the valley are comprised of a Great Basin Mixed Scrub series. This is a combination of series in a mosaic over the landscape. The soils, like the vegetation, are also in a mosaic over the area. The principal species in this area include spiny hop-sage (*Grayia spinosa*), menidoria (*Menodora spinescens*), four-wing saltbush, budsage, Indian ricegrass, and galleta grass (*Pleuraphis (Hilaria) jamesii*). According to the Esmeralda County Soils Survey (USDA NRCS, 1995), Indian ricegrass cover can be between 0% and 10 % in these soils series. Rangeland health assessments found Indian ricegrass in most sample areas, but cover was lower than expected and dead plants were observed. . Due to the declines of certain key species, several sites in this area did not meet health standards in 2007. As with the valley bottoms, climate and wild horses both likely play a role in the changes. It is unknown what role the apparent warming observed at Dyer, Nevada (see Climate section B.2.) has in the apparent shift in dominant plant species from Indian ricegrass to shrubs.

Another mixed series occurs along McAfee Creek and Furnace Creek. This series is a combination of the Fremont cottonwood and mixed willow series. Vegetation is dominated by Fremont cottonwood, (*Populus fremontii*), Willow (*Salix* spp.) and Big sagebrush. A sparse herbaceous understory occurs along the edges of the perennial creeks. Ephemeral streams occur in several other canyons in the White Wolf Allotment. These include Toler and Wild Horse Canyons where there is a moist area with salt grass (*Distichlis spicata*) and willow (*Salix* spp.) Further information on this area is found in the Wetland/Riparian section of this document.

Most plants in the allotment are growing-renewable resources which can tolerate some level of use on a sustained basis. Much of the perennial plant's production is directed at maintenance of energy

reserves which are necessary to sustain future years' initial growth and flowering. Of secondary importance is the production of seeds. This means that perennial plants need to maintain an adequate level of photosynthetic processes through the year until they go dormant. Grazing removes photosynthetic material and stored energy from plants. The amount of material that can be removed from a plant depends upon the species, the time of year, overall health of the plant and growing conditions (soil moisture and nutrients). This amount of a perennial plant that can be safely removed on a sustained basis is referred to as the proper use factor (PUF). It is expressed as a percent of the current year's growth that can be removed on a sustained basis. Each species has its own PUF. These can run from 50% for some grass species to 10% or less for some shrub species. These PUFs were developed for more average years and should be considered excessive in draught years. The CDCA Plan contains recommended PUFs (appendix 2 and USDI BLM 1980b).

The California Desert Conservation Area (CDCA) Plan rated the allotment in good condition. The CDCA Plan established the carrying capacity for the Oasis Ranch Allotment at 1,147 AUMs. From this carrying capacity the CDCA Plan allocated 27 AUMs to wild burro use and 307 AUMs to livestock allocations. Current wild horse use is around 400 AUMs.

2. Environmental Consequences

a. Impacts of Proposed Action Alternative:

Historically the White Wolf Allotment has been in good condition. This has been the result of a number of factors including a low stocking rate (approximately 27% of carrying capacity) and grazing only during the dormant season for the grasses. The proposed action is to continue the grazing the same way it has historically been conducted once the area meets range health standards. Although the current stocking rate for the allotment only allocates around 1/4 of the production, the current health assessments for the Oasis Ranch Allotment indicate that the current grazing is resulting in some areas not meeting rangeland health standards even with no grazing for the last 7 years. The loss of perennial grasses resulted in the not-met range health rating. It is thought that the observed declines in perennial grasses is the result of a combination of climatic and grazing impacts. The climatic factors cannot be changed, however the grazing management can be changed in response to changing conditions. The exclusion of grazing as proposed action would meet the regulations (43 CFR 4180.1) require the authorized officer to take actions when it is found that an allotment is not meeting range health standards. It is doubtful that the range could return to meeting range health standards without the control of the wild horse populations. If wild horse populations are reduced, the proposed action to suspend grazing until certain thresholds are met will result in a positive change in the vegetation, especially the perennial grass. The achievement of the targets for the return of grazing would allow the allotment to meet the rangeland health standards. Once cattle return to the allotment, grazing will return to the system that led to good forage conditions in the early 1980s. The proposed action with its targets and tighter monitoring should help ensure that the trend will continue upward. The maintenance of range improvements would have very small impacts on vegetation. The total area associated with improvements is less than 2 acres.

b. Impact of the No Action Alternative:

The no action alternative would likely result in conditions that would cause declines in perennial grasses. It also would not meet the regulatory requirement to take corrective actions. The impacts of range improvements is the same as with the proposed action

c. Impacts of No Grazing Alternative:

The no grazing alternative would remove cattle grazing as an impact to vegetation. Without the control of wild horse populations, the range would not return to meeting range health standards. The removal of existing range improvements would result in a disturbance of less than 2 acres.

V. CUMULATIVE IMPACTS

There are a number of resource disturbing activities in the region. Many of these are documented in the NEMO EIS (USDI BLM 2005a) and are incorporated by reference. These include paved and unpaved roads, farming, mining, rights-of-ways, residential and commercial development and livestock grazing. The roads, farming, mining, rights-of-ways and development activities tend to be permanent dedication of sites and constitute a total loss of the site productivity. Mining in the area dates back to the late 1800s and continues to today. This allotment has seen over 130 years of grazing. In the 60 years prior to the Taylor Grazing Act (1934), large herds of cattle used the area with no regulation.

Table 10. Cumulative Impacts to Various Resources

Land use -> Resource	Proposed Action	No Action	No Grazing	Wild Horses	Paved Roads	Unpaved Roads	Farming	Mining
Air Quality	less than 0.01 % of regional PM 10 emissions No long term impact	less than 0.01 % of regional PM 10 emissions No long term impact	No impact	less than 0.01 % of regional PM 10 emissions No long term impact	1% of regional PM10 emissions	20 % of Regional PM 10 emissions	less than 0.1 % of regional emissions in 2005	0.5 % of regional emissions
Biological Soil Crusts	Minimal impact	Minimal impact	No impact	Minimal impact	Paved roads are a total dedication of resources	unpaved roads are a total dedication of	Total dedication of site for use	Casual use also some Sand and Gravel represent partial to total loss of habitat
Flood Plains	No effect	No effect	No effect	No effect	Roads can concentrate water and direct flows	Roads can concentrate water and direct flows	Most farming in area in flood plains	No effect
Invasive, Non- Native Species	Non-native invasive species favor intense use sites (under 10 acres) Historic heavy use	Non-native invasive species favor intense use sites (under 10 acres) Historic heavy use	Historic use sites will recover to resemble surrounding specie mix and densities		Roadsides and associated maintenance are a major vector for introduction and spread of new species	Roadsides and associated maintenance are a major vector for introduction and spread of new species	Intense use sites favor some non- native invasive species	Intense use sites favor some non- native invasive species Construction equipment is a major vector for introduction and spread of new species
Soils	small surface disturbance especially in concentration areas	small surface disturbance especially in concentration areas	none	small surface disturbance especially in concentration areas along	Paved roads are a total dedication of resources	unpaved roads are a total dedication of resources	Total dedication of site for use	Casual use also some Sand and Gravel represent

				major trails.				partial to total loss of soils
Special Status Plants Species – None present on allotment	none	None	None		none	None	None	None
Water Quality	None	None	None	Minor in McAfee Creek	some from runoff	some from runoff and surface erosion, also channeling water	Possible from agricultural chemicals in Fish Lake Valley	Possible from toxics and erosion
Wetlands/ Riparian Areas	None to Furnace Creek, minimal to McAfee	Possible to Furnace Creek and to McAfee	None		None	Road in Furnace Creek minimal	None	None
Wilderness (WSA)	Wilderness character and values would improve with restoration of perennial grasses and native plant communities. Grazing impacts would not exceed levels at time of designation.	Losses of perennial grasses would continue. Native plant communities would continue to decline. Wilderness character and values would be degraded.	Would do most to improve and sustain wilderness character and values over the long term.	Wild horses have the potential to adversely affect all springs and riparian areas within the WSA.	N/A	There are less than 4 miles, excluding 2 miles of Furnace Creek, of open designated vehicle routes within the WSA.	N/A	N/A
Wildlife	Minimal impact to riparian and upland species	Possible impact to riparian and upland species	Minimal impact to riparian and upland species		Direct impacts from vehicle impacts to deer, other wildlife	Direct impacts from vehicle impacts to deer, other wildlife	Agricultural fields provide supplement food for raptors	None
Vegetation	Moderate impact to	Moderate impact to	none	Horses are selectively	total dedication of	total dedication of	can result in long term	can result in long term

	renewable vegetation recovery in one growing season	renewable vegetation recovery in one growing season		grazing out the perennial grasses	sites	sites	total dedication of site	total dedication of site
	Historic use heavier	Historic use heavier						

Livestock Grazing

The cumulative effect of suspending grazing would be a less flexible grazing operation for the duration of the suspension while the grasses recover. However, to continue grazing and have cattle and wild horses in competition for an increasingly scarce resource would be detrimental to the forage as well as the long term viability of the cattle operation on the allotment.

Air Quality

The cumulative effect area for air resources for is the Great Basins Valleys Air Basin. The measure of cumulative emissions is reflected in concentrations measured at a series of monitoring stations located in the region. The area is currently unclassified for all of the NAAQS. There are few sources of emissions in the Oasis Ranch Allotment area. These sources include area sources such as farming, travel on paved and unpaved roads and mobile sources such as vehicles (ARB 2006b). All of these sources combined have not resulted in exceedances of the national air quality standards (NAAQS). The expected emission levels are within the cumulative NAAQS 24 hour and one year PM2.5 and PM10 emission standards and the one and eight hour ozone emission standards and are not likely to result in or contribute to exceedances of the National Ambient Air Quality Standards.

Soil Crusts

There are a number of soil disturbing activities in the allotment areas. These include paved and unpaved roads, farming, rights-of-ways and livestock grazing. The roads and rights-of-way tend to be permanent dedication of sites and constitute a total loss of the crustal community. Grazing activities are low intensity, short term activities and allow for yearly recovery. Evidence indicates that the complex crust communities that exist in the area will continue with grazing and the allotments will continue to meet health standards for soil crusts.

Invasive non-native species

There are a number of activities that result in site modifications and/or are vectors to move invasive/non-native species. Construction activities can disturb large areas and construction equipment is a well known carrier of seeds as it moves from infested areas to non infested area. The Ridgecrest Field Office Integrated Weed Management Plan includes a weed prevention section that addresses cleaning construction equipment to avoid contamination (BLM 2006b). Road maintenance moves seeds along the road sides as it progresses. Fill used for maintenance can contain seeds. Several new exotic species are following roads into and through the desert. Cattle use at intense use sites such as corrals and watering sites can cause conditions that favor some invasive non-native species. Experience and observations in these allotments indicate that these will be preexisting sites and the species will already be there. None of these alternatives would result in significant impacts from invasive non-native species.

Soils

The existing grazing activities would contribute little to any soil losses occurring on a regional basis. Many of the existing grazing intense use sites have been used for many years. Most of the regional erosion problems come from poor drainage on and adjacent to roads and rights-of ways and exposed bare ground associated with ranching activities.

Special Status Plants

A number of activities in the region potentially could impact Special Status Plants. These include roads, rights-of-ways, farming and grazing. Many of these activities result in total habitat destruction. As there is only one special status plant in the area and it occurs away from most activities, the threat is very small. Cattle grazing is more likely to cause the loss of individual plants rather than habitat. The special status plants have coexisted with cattle grazing for over 100 years.

Water Quality

There are a number of activities in the region which could degrade water quality. In the White Wolf Allotment, there is little free water that could be impacted. Grazing represents only a very small portion of the non-point-source pollution in the watersheds. Other sources include paved and unpaved roads, rights-of-ways, farming and highway construction. The implementation of grazing BMPs or the elimination of grazing would not change the impaired classification for the watersheds. Most of the regional sediment problems come from poor drainage on and adjacent to highways, roads, trails and rights-of-ways.

Vegetation

Grazing activities are short duration and allow for yearly recovery. Grazing consumes a portion of the renewable production and the rest and restrictions on use allow for recovery. Grazing is one of several land uses that result in impacts to vegetation. Cattle grazing is currently not impacting vegetation, but wild horse use is causing negative impacts to vegetation. Other impacting uses include paved and unpaved roads, rights-of-ways and farming. All of these uses result in a total removal of vegetation from areas. The removal of grazing would still allow the other uses to continue to impact vegetation.

Cultural Resources

The degree of potential cumulative impacts and effects to cultural resources, to a large degree, depends upon which allotment is at issue. The size, location relative to the prehistoric and historic uses of it, along with other BLM approved uses within the allotment, all factor into the cumulative determinations.

While not yet quantified, there are on-going and increasing OHV uses occurring within the allotment. When added to the effects of OHV use within the allotment, those adverse effects that could potentially be caused by cattle grazing associated with the proposed action do not contribute significantly to any increased adverse cumulative effects upon cultural resources.

Native American Concerns

The combination of grazing and other activities in the area, such as electrical power transmission lines, and their associated access roads, along with recreation OHV activities within the area could reach significant levels. However, compared to these other on-going activities, the cumulative effects of grazing upon cultural resources would not be a significant increase.

Socio-Economic

The loss of grazing privileges by any one ranch is probably negligible to the local economy as a whole. Cumulative impacts would be felt in the Bishop, California and Fishlake Valley, Nevada communities because they are traditional ranching communities and part of the traditional character of these communities would be jeopardized by the loss of this entity.

Wetland Riparian

Riparian areas on the allotment are being impacted by horses and OHV activity (in Furnace Creek). These impacts result in the areas being Functional at Risk, which means that with additional management, they could be proper functioning in a short time.

Wilderness

The White Mountain WSA is natural and pristine. There are few authorized or illegal activities that negatively impact wilderness. A marijuana farm in upper Cottonwood Creek was cleaned up two years ago. At the present time, there are no active mines in the area and no major cleanup sites. ORV trespass is not a significant problem here. The terrain is severe and many of the open routes which total less than 4 miles are impassible. Wild horses pose a significant threat to vegetation, springs and riparian areas. However, their numbers are comparatively low with respect to the number of cattle periodically grazing on the two allotments spanning the WSA. Livestock grazing probably has the most profound and widespread impact on wilderness.

Wildlife

The presence of the agricultural fields adjacent to the allotment means prey for many of the raptors is available when the range is less productive due to climate. Horses graze the allotment, reducing forage for deer, bighorn sheep, and pronghorn antelope. Migrating and nesting songbirds should not be impacted by the proposed action, and not be affected by a small number of OHVs using the road if it opens.

Wild Horse and Burro

The cumulative impacts of renewing the grazing permits should not affect the wild horses and burros with the current forage allocations for all species. However, the cumulative impacts by fencing projects may have impacted the free-roaming nature of wild horses and burros.

CHAPTER 4 – CONSULTATION AND COORDINATION

1. Public Participation & CCC

Consultation, Coordination, and Cooperation with Affected Interests groups, Interested Public groups, and other Government Agencies has taken place from the October 2007 through the present in the summer of 2006. The Affected Interest group consisted primarily of lessee and no response has been forthcoming from them. Government agencies included the US Fish and Wildlife Service, the California Department of Fish & Game, and the California State Lands Commission. To date, only the **** has responded and that was to individual specialists who had specific questions. The CDF&G has not responded to the full environmental assessment document. Interested public groups to which the document was submitted included environmental groups and a few individuals. (see Appendix 2 for chronology of Consultation, Coordination, and Cooperation).

Participating staff:

Name	Title	Specialty
David Sjaastad	Resources Branch Chief	Interdisciplinary Team Leader
Sam T. Fitton	Natural Resource Specialist	Grazing Management

Donald J. Storm	Archeologist	Cultural, Native American
Glenn Harris	Natural Resource Specialist	Botany, Soil, Air, and Water
Shelley Ellis	Wildlife Biologist	Riparian & Wildlife, Special Status Plants
Robert Parker	Wildlife Biologist	Riparian & Wildlife
Alex Niebergs	Wild Horse & Burro Specialist	Wild Horse & Burro Management
Craig Beck	Recreation Specialist	Recreation
Martha Dickes	Wilderness Specialist	Wilderness
Peter Graves	NEPA	

Below is listed the CCC with the Permittee/lessees and other interested public that have been contacted for this action.

Cultural

Consultation with the State Historic Preservation Officer regarding the range permit renewal process is accomplished pursuant to the procedures outlined in the *Supplement to the Protocol*. Grazing permit renewals have been scheduled for review in accordance with the *Supplement*. BLM Ridgecrest has submitted a schedule for the phased identification and evaluation of historic properties that might be threatened by continued grazing within the allotment. The Supplement provides a systematic long term management strategy to accomplish the identification and evaluation of cultural properties, as well as Standard Treatment Measures that may be utilized when BLM determines that significant historic properties would be affected by livestock grazing. In cases where BLM identifies that conflicts cannot be resolved, the BLM would consult with the California State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and the *Protocol*.

The *Supplement* applies to the renewal of grazing permit authorizations and existing range improvements. All proposed undertakings for range improvements or changes in management prescription would be reviewed for effects to cultural properties pursuant to procedures set forth in the in the *Protocol* and in accordance with Section 106 of the National Historic Preservation Act (NHPA).

Native American

BLM has consulted with five Native American Tribes regarding the proposed action. The Tribes include the Bishop Paiute Tribe, the Big Pine Paiute Tribe, the Fort Independence Paiute Tribe, and the Lone Pine Paiute-Shoshone Tribe, and Timbisha Shoshone Tribe. BLM requested comment on the proposed undertaking during November 2007, and invited the tribes to consult under the *Executive Memorandum of April 29, 1994* (Government-to-Government Consultation) and other applicable laws and regulations. None have requested to initiate consultation, or have commented on this proposed action.

Wilderness

On December 20, 2007: Notice of Proposed Action (NOPA) sent out to affected interests and interested public. The NOPA covered White Wolf Allotment which encompass wilderness areas.

Wildlife

BLM has gathered information from biologists and interested parties, such as Kevin Emmerich, Robert Herschler. The Point Reyes Bird Observatory conducted a spring bird study and provided BLM with a report. The California Department of Fish and Game provided information as well.

Much of this information was gathered for preparation of the Furnace Creek Environmental Assessment.

Affected Interests:

November 2007: Scoping document and a letter sent to all permittees/lessees asking for comments and input to the Oasis Ranch, White Wolf, Last Chance, Lacey-Cactus-McCloud, Tunawee Common, Walker Pass, and Hansen Common Environmental Assessments.

November 2007: Letter to Native American Tribes concerning permit renewals on the Oasis Ranch, White Wolf, Last Chance, Lacey-Cactus-McCloud, Tunawee Common, Walker Pass, and Hansen Common allotments mailed, and request comments.

Interested Public:

November 2007: Scoping document and a letter sent to all interested publics asking for comments and input to the Oasis Ranch, White Wolf, Last Chance, Lacey-Cactus-McCloud, Tunawee Common, Walker Pass, and Hansen Common Environmental Assessments.

December 2007: Notice of Proposed Action in Wilderness for the Oasis Ranch, White Wolf, Last Chance, Lacey-Cactus-McCloud, Tunawee Common, Walker Pass, and Hansen Common allotments mailed.

Government Agencies:

November 2007: Scoping document and a letter sent to all Government agencies asking for comments and input to the Oasis Ranch, White Wolf, Last Chance, Lacey-Cactus-McCloud, Tunawee Common, Walker Pass, and Hansen Common Environmental Assessments.

REFERENCES

References for Wildlife, Threatened/Endangered species:

California Department of Fish and Game. 1985. Inyo-White Mountains Deer Herd Management Plan

California Department of Fish and Game. 2008. <http://www.dfg.ca.gov/wildlife/hunting/deer/docs/cazonemaps/x9czoneinfo2007.pdf>

Emmerich, K. 2005. Personal communication.

Heath, Sasha K. 2006. Breeding Bird Assessment of Furnace Creek, Mono County, California. PRBO (Point Reyes Bird Observatory) Contribution #1514.

Weaver, R. A. and J. L. Mensch. 1970. Desert Bighorn Sheep in Northern Inyo and Southern Mono Counties. Wildlife Management Administrative Report No. 70-7.

U.S. Bureau of Land Management. 2000, CNDDDB3\gis\cnddbnt.shp

U.S. Bureau of Land Management. 1980. The California Desert Conservation Area Plan, Riverside District Office, Riverside, CA.

References for Air Quality, Biological Soil Crusts, Invasive Species, Soils, Special Status Plants, Water Quality, & Vegetation

- ARB. 1992. California's Air Pollution Control and Air Quality Management Districts. California Environmental Protection Agency, Air Resources Board. Sacramento, CA
- ARB. 1993. California Air Pollution Control Laws. California Environmental Protection Agency, Air Resources Board. Sacramento, CA
- ARB. 2001a. California's State Implementation Plan. California Environmental Protection Agency, Air Resources Board. Sacramento, CA . Available online at: <http://www.arb.ca.gov/sip/siprev1.htm>.
- ARB. 2003b. Air Quality Emissions and Modeling. California Environmental Protection Agency, Air Resources Board Sacramento, CA. Available online at: <Http://www.arb.ca.gov/html/ae&m.htm>.
- ARB. 2006a. Area Designations. California Environmental Protection Agency, Air Resources Board Sacramento, CA. Available online at: <http://www.arb.ca.gov/desig/desig.htm>.
- ARB. 2006b. California Air Quality Data. California Environmental Protection Agency, Air Resources Board. Sacramento, CA Available online at: <http://www.arb.ca.gov/aqd/aqdpagalt.htm>.
- ARB. 2006c. 2005 Estimated Annual Average Emissions. California Environmental Protection Agency, Air Resources Board Sacramento, CA Available online at: <http://www.arb.ca.gov/ei/maps/basins/abmdmap.htm>.
- ARB. 2006d. California Almanac of Emissions and Air Quality. California Environmental Protection Agency, Air Resources Board. Sacramento, CA Available online at: http://www.arb.ca.gov/app/emsinv/t25cat/cat_top25.php.
- Belnap, Jane and O. L. Lange. 2003. Biological Soil Crusts: Structure, Function and Management. Springer, New York
- Belnap, Jane. 2005. Personal communication
- Bossard, Carla C., John Randall and Marc C. Hoshovsky. 2000. Invasive Plants of California's Wildlands. University of California Press, Berkeley, CA
- Bowers, Michael A., 1987, Precipitation and the Relative abundance of desert winter annuals: a 6-year study in the Mojave Desert, Journal of Arid Environments, 12, 141-149
- Brooks, M. L. 1998. Ecology of a Biological invasion: Alien Annual Plants in the Mojave Desert. Dissertation, University of California, Riverside, CA
- Burcham, Lee T. 1957. California Rangeland-An Historico-Ecological Study of the Range Resources of California. Division of Forestry. Sacramento, CA.
- Calkins, David L. 1994. Personal communications. USEPA. San Francisco, CA
- Goddard Institute for Space Studies. 2007. Annual Mean Temperature Change for Three Latitude Bands. Datasets & Images, GISS Surface

Temperature Analysis, Analysis Graphs and Plots, New York, New York.
Available online at: <http://data.giss.nasa.gov/gistemp/graphs/fig.B.lrg.gif>

Hickman, James C. et al. 1993. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley, CA

Harris, Glenn. 1974-2007. personal observations. Bureau of Land Management, Ridgecrest Field Office, Ridgecrest, CA

Intergovernmental Panel on Climate Change (IPCC). 2001. Third Assessment Report: Climate Change 2001. Cambridge University Press, Cambridge, United Kingdom, and New York, New York. Available online at: <http://www.ipcc.ch/pub/online.htm>

IPCC. 2007. Climate Change 2007: The Physical Basis (Summary for Policymakers). Cambridge University Press, Cambridge, United Kingdom, and New York, New York. Available online at: <http://www.ipcc.ch/SPM2feb07.pdf>

Johnson, Hyrum B. and Herman S. Mayeux. 1992. A View on Species Additions and Deletions and the Balance of Nature. *Journal of Range Management*. 45(4):322-333

National Academy of Sciences. 2006. Understanding and Responding to Climate Change: Highlights of National Academies Reports. Division on Earth and Life Studies, National Academy of Sciences, Washington, District of Columbia. Available online at: <http://dels.nas.edu/basc/Climate-HIGH.pdf>

Ono, Duane. 2000. Personal communications, Great Basin Air Pollution Control District. Bishop, CA

RWQCB. 1994. Water Quality Control Plan for the Lahontan Region. California Regional Water Quality Control Board, Lahontan Region. South Lake Tahoe and Victorville, CA

Sanders, Kenneth D. 1992. Can Annual Rangelands Be Converted and Maintained As Perennial Grasslands Through Grazing Management. Symposium on Ecology, Management and Restoration of Intermountain Annual Rangelands. Boise, ID

Sawyer, John O. and Todd Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society. Sacramento, CA

Sheley, Roger L. and Janet K. Petroff. 1999. Biology and Management of Noxious Rangeland Weeds. Oregon State University Press, Corvallis, OR

SWRCB, 1998. California Unified Watershed Assessment. California State Water Resource Control Board. Sacramento, CA

SWRCB, 2004. California Nonpoint Source Encyclopedia. California State Water Resource Control Board.. Sacramento, CA. Available online at: www.swrcb.ca.gov/nps/encyclopedia.html/

USDA NRCS, 1995, Soil Survey of the Esmeralda County Area, Nevada, Natural Resource Conservation Service, Reno, NV.

USDI Bureau of Land Management. 1980a. Draft California Desert Conservation Area Plan and EIS. Riverside, CA

USDI Bureau of Land Management. 1980b. California Desert Conservation Area Plan. Riverside, CA

USDI Bureau of Land Management. 1980c. California Desert Conservation Area Plan Appendix XIII: Livestock Grazing., Riverside, CA

USDI Bureau of Land Management. 1999a. Air Quality Conformity Analysis and Determination Process. Course Number 7000-06. NTC, Phoenix, AZ

U.S. Bureau of Land Management. 2007. Rangeland Health Determination for the Oasis Ranch Allotment. California Desert District. Ridgecrest Field Office. Ridgecrest, CA

U.S. Bureau of Land Management. 2001a. Air Quality Conformity for Managers – Satellite Broadcast Course Number 7000-06BC . National Science & Technology Center, Denver, CO. Available online at: <http://www.blm.gov/nstc/air/index.html>

USDI Bureau of Land Management. 2001b. Biological Soil Crusts: Ecology and Management, Technical reference 1730-2. USDI Bureau of Land Management, Printed Materials Distribution Center, Denver, CO

USDI Bureau of Land Management. 2002. Final Environmental Impact Statement and Proposed Northern and Eastern Mojave Desert Management Plan; Amendment to the California Desert Conservation Area Plan. Riverside, CA

U.S. Bureau of Land Management. 2007a. Draft Air Quality Handbook. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

U.S. Bureau of Land Management. 2007b. Grazing Case Files. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

U.S. Bureau of Land Management. 2007c. Range Improvement Case Files. California Desert District, Ridgecrest Field Office, Ridgecrest, CA

USEPA. 1982. Grazing Nonpoint Source Control Strategy. Environmental Protection Agency, Region VIII, Denver, CO

USEPA. 1993. Federal Register Notice #5863213. Vol. 58, Number 228, P63213-63259. November 30, 1993. Washington D.C.

USEPA. 1999. Handbook for Criteria Pollutant Inventory Development, A beginner's Guide for Point and Area Sources. At <http://epa.gov/ttn/chief>. Washington, DC

USEPA. 2003. Compilation of Air Pollution Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources. At <http://epa.gov/ttn/chief/ap42/index.html> Washington, DC

USEPA. 2004a. National Management Measures to Control Nonpoint Source Pollution from Agriculture. At <http://www.epa.gov/owow/nps/agmm/index.html>. Washington, DC

USEPA. 2004b. Polluted Runoff (Nonpoint Source Pollution). At <http://www.epa.gov/nps/MMGI/Chapter2/ch2-2e.html>. Washington, DC

U. S. Government Accounting Office, 2007, Climate Change Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources (GAO-07-863), General Accounting Office, Washington DC. Available online at: <http://www.gao.gov/cgi-bin/getrpt?GAO-07-863>

Whitson, Tom D., Larry C. Burrill, Steven A. Dewey, David W. Cudney, B. E. Nelson, Richard D. Lee and Robert Parker. 2000. Weeds of the West. Western Society of Weed Science.

APPENDIX 1
ALLOTMENT MAP

APPENDIX 2
PROPER USE FACTORS
FOR FORAGE SPECIES

PROPER USE FACTORS FOR FORAGE SPECIES

IN THE RIDGECREST FIELD OFFICE AREA

Proper Use Factors (P.U.F.'s) are related as a percentage of plant that is allowed to be grazed. Usually an average is taken from sampling a local population at a site. These P.U.F.'s are taken from the CDCA Plan of 1980. Under the No Action alternative P.U.F.'s for key perennial forage species are used as guidelines for utilization. When the Regional Standards and Guidelines become effective with the signing by the Secretary of Interior the P.U.F.'s of key forage perennial species will still be used to measure utilization.

Plant- Scientific Name	Common Name	P.U.F.
TREES & SHRUBS		
<i>Acamptopappus sphaerocephalus</i>	Goldenhead	10
<i>Ambrosia dumosa</i>	Burrobush	10
<i>Artemesia spinescens</i>	Budsage	20
<i>Artemesia tridentata</i>	Great Basin Sage	<5
<i>Atriplex canescens</i>	Four-wing Saltbush	40
<i>Atriplex confertifolia</i>	Shadscale	10
<i>Atriplex hymenelytra</i>	Desert Holly	<5
<i>Atriplex polycarpa</i>	Cattle Spinach	20
<i>Chrysothamnus nauseosa</i>	Rubber Rabbit Brush	<5
<i>Chrysothamnus viscidiflorus</i>	Green Rabbit Brush	<5
<i>Coleogyne ramosissima</i>	Blackbrush	<5
<i>Encelia farinosa</i>	Brittlebrush	<5
<i>Ephedra nevadensis</i>	Nevada joint fir, Mormon Tea	30
<i>Ephedra viridis</i>	Mountain joint fir	20
<i>Ericameria cooperi</i>	Goldenbush	0
<i>Ericameria linearifolius</i>	Linear-leaved Goldenbush	<5

<i>Eriogonum fasciculatum</i>	California buckwheat	20
<i>Eriogonum wrightii</i>	Wright's buckwheat	40
<i>Grayia spinosa</i>	Spiny Hopsage	30
<i>Gutierrezia sarothrae</i>	Snakeweed	0
<i>Hymenoclea salsola</i>	Cheesebush	<5
<i>Isomeris arborea</i>	Bladder-pod	10
<i>Juniperus californica</i>	California Juniper	0
<i>Juniperus occidentalis</i>	Western Juniper	0
<i>Juniperus osteosperma</i>	Utah Juniper	0
<i>Krascheninnikovia lanata</i>	Winter Fat	40
<i>Larrea tridentate</i>	Creosote bush	0
<i>Lepidium fremontii</i>	Desert Alyssum	<5
<i>Lepidospartum squamatum</i>	Scale-broom	<5
<i>Lycium andersonii</i>	Anderson thornbush	10
<i>Lycium cooperi</i>	Peach thornbush	10
<i>Machaeranthera tortifolia</i>	Desert aster	20
<i>Menodora spinescens</i>	Spiny menodora	20
<i>Opuntia basilaris</i>	Beavertail cactus	0
<i>Psoralea fremontii</i>	Indigo brush	10
<i>Salazaria mexicana</i>	Paperbag bush	10
<i>Salix lavaegata</i>	Red Willow	10
<i>Salvia dorii</i>	Purple Sage	10
<i>Senna armata</i>	Desert cassia	<5
<i>Stephanomeria pauciflora</i>	Desert Straw	30
<i>Tetradymia spinosa</i> var. <i>longispina</i>	Cotton felt-thorn	0

<i>Yucca brevifolia</i>	Joshua tree	<5
FORBS		
<i>Mirabilis bigelovii</i>	Wishbone bush	40
<i>Sphaeralcea ambigua</i>	Desert Mallow	40
GRASSES		
<i>Achnatherum hymenoides</i>	Indian Rice Grass	50
<i>Achnatherum speciosa</i>	Desert Needlegrass	50
<i>Distichilis spicata</i>	Saltgrass	30
<i>Erioneuron pulchellum</i>	Fluffgrass	20
<i>Hilaria jamesii</i>	Galleta grass	50
<i>Poa scabrella</i>	Pine bluegrass	50
<i>Sitanion hystrix</i>	Squirrel-tail	40
<i>Sporobolus airoides</i>	Alkali Sacaton	40

APPENDIX 3
PROPOSED REGIONAL STANDARDS & GUIDELINES, &
FALLBACK STANDARDS & GUIDELINES
GOVERNING LIVESTOCK MANAGEMENT

PART I

The following standards & guidelines are the proposed regional standards which the BLM must meet to assure public rangeland health. These standards and the guidelines may not be implemented until approved and signed by the Secretary of the Interior.

Regional Standards:

Soil

Soils exhibit infiltration and permeability rates that are appropriate to soil type, climate geology, landform, and past uses. Adequate infiltration and permeability of soils allow accumulation of soil moisture necessary for optimal plant growth and vigor, and provide a stable watershed as indicated by:

- Canopy and ground cover are appropriate for the site;
- There is diversity of plant species with a variety of root depths;
- Litter and soil organic matter are present at suitable sites;
- Maintain the presence of micro biotic soil crusts that are in place;
- Evidence of wind or water erosion does not exceed natural rates for the site;
- Hydrologic and nutrient functions maintained by permeability of soil and water; infiltration are appropriate for precipitation.

Native Species

Healthy, productive and diverse habitats for native species, including special status species (Federal T&E, federal proposed, federal candidates, BLM sensitive, or California State T&E, and CDD UPAs) are maintained in places of natural occurrence as indicated by:

- Photosynthetic and ecological processes continue at levels suitable for the site, season, and precipitation regimes;
- Plant vigor, nutrient cycle, and energy flow are maintaining desirable plants and ensuring reproduction and recruitment;
- Plant communities are producing litter within acceptable limits;
- Age class distribution of plants and animals are sufficient to overcome mortality fluctuations;
- Distribution and cover of plant species and their habitats allow for reproduction and recovery from localized catastrophic events;
- Alien and noxious plants and wildlife do not exceed acceptable levels;
- Appropriate natural disturbances are evident;
- Populations and their habitats are sufficiently distributed to prevent the need for listing special status species.

Riparian/Wetland and Stream Function

Wetland systems associated with subsurface, running, and standing water, function properly and have the ability to recover from major disturbances. Hydrologic conditions are maintained as indicated by:

- Vegetative cover will adequately protect banks, and dissipate energy during peak water flows;
- Dominant vegetation is an appropriate mixture of vigorous riparian species;
- Recruitment of preferred species is adequate to sustain the plant community;
- Stable soils store and release water slowly;
- Plants species present indicate soil moisture characteristics are being maintained;
- There is minimal cover of invader/shallow-rooted species, and they are not displacing deep-rooted native species;
- Maintain shading of stream courses and water sources for riparian dependent species;
- Stream is in balance with water and sediment being supplied by the watershed;
- Stream channel size and meander is appropriate for soils, geology, and landscape;
- Adequate organic matter (litter and standing dead plant material) is present to protect the site and to replenish soil nutrients through decomposition.

Water Quality

Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the California State Standards, as indicated by:

- The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen;
- Achievement of the Standards for riparian, wetlands, and water bodies;
- Aquatic organisms and plants (e.g., macro invertebrates, fish and algae) indicate support of beneficial uses;
- Monitoring results or other data that show water quality is meeting the Standard.

Regional Guidelines:

- Facilities shall be located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland functions.
- The development of springs and seeps or other projects affecting water and associated resources would be designed to protect the ecological function and processes of those sites.
- Grazing activities at an existing range improvement that conflict with achieving proper functioning conditions (PFC) and resource objectives for wetland system (lentic, lotic, springs, adits, and seeps) shall be modified so PFC and resource objectives can be met, and incompatible projects shall be modified to bring into compliance. The BLM would consult, cooperate, and coordinate with affected interest and livestock producers(s) prior to authorizing modification of existing projects and initiation of new projects. New range improvement facilities shall be located away from wetland systems if they conflict with achieving or maintaining PFC and resource objectives.
- Supplements shall be located a sufficient distance away from wetland systems so they do not conflict with maintaining riparian wetland functions.

- Management practices shall maintain or promote perennial stream channel morphology (e.g., gradient, width/depth ratio, channel roughness, and sinuosity) and functions that are appropriate to climate and landform.
- Grazing management practices shall meet State and Federal water quality Standards. Where impoundments (stock ponds) and having a sustained discharge yield of less than 200 gallons per day to surface or groundwater are excepted from meeting State drinking water Standards per SWRCB Resolution Number 88-63.
- In the California Desert Conservation area all wildfires in grazing allotments shall be suppressed. However, to restore degraded habitats infested with invasive weeds (e.g., tamarisk) prescribed burning may be utilized as a tool for restoration. Prescribed burns may be used as a management tool where fire is a natural part of the regime.
- In years when weather results in extraordinary conditions seed germination, seedling establishment and native plant species growth shall be allowed by modifying grazing use.
- Grazing on designated ephemeral rangeland shall be allowed only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.
- During prolonged drought, range stocking shall be reduced to achieve resource objectives and/or prescribed perennial forage utilization. Livestock utilization of key perennial species on year-long allotments shall be checked about March 1 when the Palmer Severity Drought Index/Standardized Precipitation Index indicates dry conditions are expected to continue.
- Through the assessment process or monitoring efforts, the extent of invasive and/or exotic plants and animals shall be recorded and evaluated for future control measures. Methods and prescriptions shall be implemented, and an evaluation would be completed to ascertain future control measures.
- Restore, maintain or enhance habitats to assist in the recovery of federally listed threatened and endangered species. Restore, maintain, or enhance habitats of special status species including federally proposed, Federal candidates, BLM sensitive, or California State T&E to promote their conservation.
- Grazing activities shall support biological diversity across the landscape and native species and micro biotic crusts are to be maintained.
- Experimental research efforts shall be encouraged to provide answers to grazing management and related resource concerns through cooperative and collaborative efforts with outside agencies, groups, and entities.

PART II

These are the Fall Back Standards and Guidelines which will be in effect until the Secretary of Interior signs the new Regional Standards and Guidelines.

43 CFR 4180.2 Standards and Guidelines for Grazing Administration

(1) Fallback standards.

- (i) Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.
- (ii) Riparian – wetland areas are in properly functioning condition.
- (iii) Stream channel morphology (including but not limited to gradient width/depth ratio, channel roughness and sinuosity) and functions are appropriate for climate and landform.
- (iv) Healthy, productive and diverse populations of native species exist and are maintained.

(2) Fallback Guidelines

- (i) Management practices maintain or promote adequate amounts of ground cover to support infiltration, maintain soil moisture storage, and stabilize soils;
- (ii) Management practices maintain or promote soil conditions that support permeability rates that are appropriate to climate and soils;
- (iii) Management practices maintain or promote sufficient residual vegetation to maintain, improve or restore riparian-wetland functions of energy dissipation, sediment capture, groundwater recharge, and stream bank stability;
- (iv) Management practices maintain or promote stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions that are appropriate to climate and landform;
- (v) Management practices maintain or promote the appropriate kinds and amounts of soil organisms, plants and animals to support the hydrologic cycle, nutrient cycle, and energy flow;
- (vi) Management practices maintain or promote the physical and biological conditions necessary to sustain native populations and communities;
- (vii) Desired species are being allowed to complete seed dissemination in 1 of every 3 years (Management actions will promote the opportunity for seedling establishment when climatic conditions and space allow.);
- (viii) Conservation of Federal threatened or endangered, Proposed, Category 1 and 2 candidate, and other special status species is promoted by the restoration and maintenance of their habitats;
- (ix) Native species are emphasized in the support of ecological function;
- (x) Non-native plant species are used only in those situations in which native species are not readily available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health;
- (xi) Periods of rest from disturbance or livestock use during time of critical plants growth or re-growth are provided when needed to achieve healthy, properly functioning conditions (The timing and duration of use periods shall be determined by the authorized officer.);

- (xii) Continuous, season-long livestock use is allowed to occur only when it has been demonstrated to be consistent with achieving healthy, properly functioning ecosystems.
- (xiii) Facilities are located away from riparian-wetland areas wherever they conflict with achieving or maintaining riparian-wetland function;
- (xiv) The development of springs and seeps or other projects affecting water and associated resources shall be designed to protect the ecological functions and processes of those sites; and
- (xv) Grazing on designated ephemeral (annual and perennial) rangeland is allowed to occur only if reliable estimates of production have been made, an identified level of annual growth or residue to remain on site at the end of the grazing season has been established, and adverse effects on perennial species are avoided.

APPENDIX 4
FURNACE CREEK
RIPARIAN VEGETATION SURVEY

This is from the 2004 evaluation of the upper portion of Furnace Creek (BLM managed) riparian vegetation. Survey was done in August of 2004, finding no surface water. Springs along side of creek were dry as well. This area would be rated PFC if not for the road crossings.

Point	Est. Width Riparian, Total (feet)	Primary woody species	Surface Water?	Suitable SWWF	Cover (Woody riparian + herbaceous) %	Species Seen
1	60	Salix, POFR	No	Marginal	95	
2	60	Salix	No	No	95	
3	90	Salix, POFR	No	No	95	
4	100	Salix	No	Marginal	90	
5	60	Salix, POFR	No	Marginal	90	RUHU
6	40	Salix	No	No	95 (looked decadent)	RUHU
7	45	Salix, POFR	No	Marginal	90- 95	
8	30	Salix	No	No	95	
9	30	Salix	No	No	95	
10	30	Salix, Pine	No	No	95	
11	20	Salix	No	No	59	
12	30	Salix	No	No	95	
13	25	None	No	No	95	
14	20	Salix, POFR	No	No	90-95 (shrubs)	