

# **ENVIRONMENTAL ASSESSMENT LIVESTOCK GRAZING AUTHORIZATION**

**EA Number      CA 170-01-10**

## **Allotment Number and Name(s)**

**6012   Zurich**  
**6013   Owens Valley**  
**6016   Owens Valley Common**  
**6031   Poleta Canyon**  
**6043   Chalk Bluff**

**BL M Bishop Field Office**  
**Prepared**  
**December 2000**

## CHAPTER 1: INTRODUCTION

The Bureau of Land Management (BLM) is proposing to issue a 10 year long grazing permit on these allotments to authorize livestock grazing. The approximate allotment Public Land acreages are:

<u>Allotment Name</u>	<u>Public Land acres</u>
Zurich	8,839
Owens Valley	1,764
Owens Valley Common	640
Poleta	2,345
Chalk Bluff	15,607

The allotments are located in the Owens Valley Management Area of the Bishop Field Office. Their elevation range is between 4,000 and 4,900 feet. Vegetation communities are a mix of Great Basin salt bush scrub and shadscale scrub. The Chalk Bluff allotment is comprised of shadscale scrub, blackbrush scrub, and mixed desert shrub communities.

### **Need for the Proposed Action**

The proposed action is needed to authorize grazing in accordance with grazing regulation 43 CFR 4100 and be consistent with the provisions of the *Taylor Grazing Act*, *Public Rangelands Improvement Act*, and *Federal Land Policy and Management Act*. Action may be required to maintain or improve resource conditions including rangeland health. Status of existing permit/lease: The grazing permits for these allotments will expire on 2/28/01. In accordance with the *National Environmental Policy Act* (NEPA), an Environmental Assessment (EA) must be prepared to analyze the affects of livestock grazing, in order to determine if re-authorizing the grazing permit(s) is appropriate.

**Plan Conformance:** The proposed action is subject to the following plan:

Bishop Resource Management Plan (RMP), approved on March 23, 1993.

The proposed action has been determined to be in conformance with this plan as required by regulation (43 CFR §1610.5-3(a)).

Remarks: The proposed action will occur in an area identified for livestock grazing in the Bishop Resource Management Plan. The proposed action is consistent with the land use decisions and resource management goals and objectives of the plan, pages 8 thru 23 and 40 thru 46.

The five allotments meet all of the Secretary of Interior's Approved Rangeland Health Standards as indicated in the BLM California Rangeland Health Environmental Impact Statement and



Decisions Record of July 2000.

Rangeland Health field assessments of the Standards were completed on these dates:

Zurich	April 1999
Owens Valley	April 1999
Owens Valley Common	April 1999
Poleta	April 1999
Chalk Bluff	May 2000

A database detailing the results of these assessments has been completed and is located in the resources/images/range computer directory at the BLM Bishop Field Office.

### **Relationship to Statues, Regulations, and Plans**

#### Endangered Species

Several of the allotments are within the range of federally listed threatened or endangered species. However, no Endangered Species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability in these allotments. Pursuant to Section 7 of the Endangered Species Act, formal consultation with the Fish and Wildlife Service (FWS) is required on all allotments for which livestock grazing may affect listed species. The stipulations of any grazing permit may be modified to conform to the terms and conditions specified in a FWS biological opinion to minimize take of listed animal species. In addition, the terms and conditions of any grazing permit may also be modified to conform to decisions made to achieve recovery plan objectives as determined through subsequent land use plan amendments or revisions. All Section 7 consultations with FWS were completed in 2000.

#### Cultural Resources

California BLM has the responsibility to manage cultural resources on public lands pursuant to the 1966 National Historic Preservation Act, the 1980 Rangeland Programmatic Memorandum of Agreement with the Advisory Council on Historic Places (WO IM 80-369), the 1997 Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act, the State Protocol Agreement Between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer (1998) and other internal policies.

The stipulations of any grazing permit may be modified to reflect the presence of cultural resources. Background site record and literature review will be conducted as a minimum level of review as part of the permit renewal EA. Present inventory will focus on known or suspected areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas, salt block stations. In general, following the Bishop Field Office research design for grazing assessments (Halford 1999), all

areas with a high probability for the congregation of cattle and for the occurrence of significant cultural resources will be field evaluated. The results of these analyses will be used to modify grazing permits to protect or mitigate impacts to cultural resources.

### Wilderness

These allotments do not occur within any designated Wilderness Area. However, approximately 75% of the Chalk Bluff allotments (11,700 acres) occur within WSA CA-010-081. Continued livestock grazing within this allotment would be in compliance with the BLM Wilderness Interim Management Policy (IMP) (Appendix A.). Additionally, the Owens Valley Common, Poleta, and approximately 60% of the Zurich allotment (totaling 10,050 acres) that contained former WSA 065 are to be managed in a like manner as the U.S. Forest Service adjacent lands per the agreement made in the mid-1990's.

### Water Quality

Direction for implementation of the Federal Clean Water Act (CWA) of 1972 (P.L. 92-500, as amended) is provided by the Code of Federal Regulations (40 CFR) and by a variety of USEPA guidance documents on specific subjects. To meet the requirements of the CWA on public lands, BLM is currently developing a state-wide water quality management plan under an MOU with the California Water Resources Control Board. As part of the water quality plan, BLM is required to submit a listing of Best Management Practices (BMPs) to the state and to the U.S. Environmental Protection Agency for approval. Pursuant to the decisions affecting water quality in the Bishop Resource Management Plan, BMPs for the Field Office area have been submitted to meet the requirements under the CWA.

Section 4180.1 of the Grazing Administration Regulations (4180.1, Federal Register Vol 60, No. 35, pg.9970) directs that certain conditions of rangeland health exist on public lands which include the statement that “water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives....”. The Standards and Guidelines for Rangeland Health in the Central California area, as it applies to surface and groundwater resources and their quality have as a primary objective to maintain the existing quality and beneficial uses of water, protect them where they are threatened (and livestock grazing activities are a contributing factor), and restore them where they are currently degraded (and livestock grazing activities are a contributing factor). In the following instances the objective becomes a higher priority :

- (a) where beneficial uses of water bodies have been listed as threatened or impaired pursuant to Section 303(d) of the CWA;
- (b) where aquatic habitat is present or has been present for Federal threatened or endangered, candidate and other special status species dependent on water resources; and
- (c) in designated water resource sensitive areas such as riparian and wetland

areas.

### Air Quality

The southern portion of the Owens Valley Management Area, south of Tinemaha Reservoir, falls within a Federal Air Quality Non-Attainment/ Maintenance Area (Figure 1) and is subject to the following legal requirement:

Section 176 (c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 *et seq.*) and regulations under 40 CFR part 93 subpart W, with respect to the conformity of general Federal actions to the applicable state implementation plan (SIP) apply to projects within non-attainment areas. Under those authorities, "no department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan". Under CAA 176 (c) and 40 CFR part 93 subpart W, a Federal agency must make a determination that a Federal action conforms to the applicable implementation plan before the action is taken.

#### 40 CFR Part 93.153 Applicability.

( c ) The requirements of this subpart shall not apply to the following Federal actions:

( iii ) Continuing and recurring activities such as permit renewals where activities will be similar in scope and operation to activities currently being conducted.

The Great Basin Unified Air Pollution Control District (GBUAPCD) has state air quality jurisdiction over the Owens Valley Management Area.

## **CHAPTER 2: PROPOSED ACTION AND ALTERNATIVES**

### **Proposed Action**

The action is to continue present management, but with revised Terms and Conditions to the expiring Grazing Permit. The completed Rangeland Health allotment assessments document that continuation of livestock grazing, in the same manner and degree, complies with the intent of the Rangeland Health initiative and its Standards.

Terms and Conditions will be incorporated into the reissued Grazing Permits to ensure compliance with the Rangeland Health Standards and Guidelines and Bishop RMP decisions pertinent to livestock grazing.

A. Livestock Numbers and Season of Use

<u>Allotment Name</u>	<u>Number</u>	<u>Kind</u>	<u>Season of Use</u>	<u>% Public Land</u>	<u>Permitted Use (animal unit months)</u>	
Zurich	66	cattle	3/1- 4/30	100		132
		66	cattle	11/1- 2/28	100	260
						Total 392
Owens Valley	19	cattle	3/1 - 4/30	100		39
		19	cattle	11/1 - 2/28	100	77
						Total 116
Owens Valley Common	5	cattle	3/1 - 4/30	100		10
		5	cattle	11/1 - 2/28	100	22
						Total 32
Poleta Canyon 17	cattle		3/1 - 4/30	100	34	
		17	cattle	11/1 - 4/30	100	66
						Total 100
Chalk Bluff	76	cattle	3/1 - 5/15	98		186
		76	cattle	10/1 - 2/28	98	369
						Total 555

B. Range Improvements

There are no existing, nor any proposed new improvements, that need to be eliminated or constructed in order to maintain or achieve rangeland health.

C. Measures to Maintain or Achieve Standards (Revised Terms and Conditions of the Grazing Permit).

1. Grazing use is not to exceed 40% of annual growth on key forage species (all allotments) and leave a 4-6" stubble height on riparian vegetation (Zurich allotment).
2. No salt or other nutrient supplement placement or sheep bedding within 1/4 mile of

creeks, aspen groves, meadows, sage grouse strutting grounds, or special status plant habitat.

3. No supplemental feeding (actual forage, i.e. hay) on public land or private lands that are unfenced from the public land at any time.
4. No trailing through a neighboring allotment without the BLM's authorization.
5. Grazing permits shall contain terms and conditions appropriate to achieve management and resource condition objectives for the public land, or to assist in the orderly administration of the public rangelands and to ensure conformance with the provisions of Subpart 4180 ( Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration). This is per Subpart 4130.3 Terms & Conditions and Subpart 4130.3-2 Other Terms and Conditions.
6. The authorized officer may modify terms and conditions of the permit when the active use or related management practices are not meeting the land use plan, allotment management plan or other activity plan, or management objectives, or is not in conformance with the provisions of 4180 (Fundamentals of Rangeland Health and Standards & Guidelines for Grazing Administration). This is per Subpart 4130.3-3 Modification of permits or leases.

#### D. Monitoring

Monitoring would consist of documenting utilization levels to ensure that grazing use does not exceed the 40% level. This would be done annually to assure compliance with terms and conditions of the permit. No long term monitoring methods to determine condition and trend are planned. At some future date, a reassessment of rangeland health may be done using the existing methodology as comparison to current conditions.

#### **No Grazing Alternative**

This alternative would result in not reissuing a grazing permit for these allotments. As a result, grazing would be eliminated. This would be a permanent cancellation. The BLM would be required to complete an RMP Plan Amendment process in accordance with BLM Planning Regulations.

### **CHAPTER 3: ENVIRONMENTAL ANALYSIS**

The 18 individual resource templates below combine, by resource, the affected environment, environmental consequences, and consultation sections of required elements of the EA. They include the standard critical elements of the human environment (appendix 5, BLM NEPA Handbook, as amended) and several other resource elements commonly affected by livestock

grazing.

Required Elements:

1. Air Quality
2. Areas of Critical Environmental Concern (ACEC)
3. Cultural Resources
4. Environmental Justice
5. Farmlands, Prime or Unique

The proposed action and no grazing alternatives would have no affect on Farmlands because none are present on any of the five allotments.

6. Flood plains

The proposed action and no grazing alternatives would have no affect on flood plains because there are none on the public lands on any of the five allotments.

7. Invasive, Non-native Species
8. Native American Concerns

The Native American Tribal Councils, for the six tribes that reside within the Bishop Field Office jurisdiction, have been contacted and have not expressed any specific concerns relative to the affects of livestock grazing for these five allotments. There are general concerns that are addressed below.

9. Recreation

The proposed action and no action alternative would have no affect on recreation because of the lack of proposed facilities or management practices that could potentially alter existing recreation uses or use patterns.

10. Social and Economic
11. Soil
12. Waste, Hazardous or Solid

The proposed action and no grazing alternatives would have no affect on Hazardous or Solid Waste as there are no sites occurring on these five allotments.

13. Water Quality, Surface and Ground

14. Wetlands/Riparian Zones

15. Wild and Scenic Rivers

There are no designated Wild and Scenic Rivers within these five allotments.

16. Wilderness

These allotments do not occur within any designated Wilderness Area. However, grazing within the Wilderness Study Areas, mentioned above in Relationship to Statutes, Regulations, and Plans, will not impair wilderness qualities.

17. Wildlife

18. Wild Horses and Burros

The proposed action and no grazing alternatives would have no affect on Wild Horses and Burros as there are no populations occurring on these five allotments.

19. Vegetation

## AIR QUALITY

### A. Affected Environment

All five of these allotments occur outside of a federal non-attainment/maintenance area within the Great Basin Unified Air Pollution Control District's (GBUAPCD) jurisdictional boundaries.

### B. Environmental Consequences

#### 1. Impacts of Proposed Action

Fugitive dust emissions could occur due to the soil disturbance as a result from the trampling action of the livestock when soil moisture levels are low. Support vehicle use on the access roads will generate small amounts of PM<sub>10</sub> emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment PM emissions. Ruminant animals emit methane gas which is a precursor emission for ozone. The support vehicles emit various precursor emissions for ozone. Actual emissions amounts from this grazing activity are negligible. No significant offsite impacts are anticipated.

#### 2. Impacts of No Grazing

Same as above.

### 3. Cumulative Impacts

The proposed action area is within the jurisdiction of the Great Basin Unified Air Pollution Control District.

The expected emission levels are within the levels in the attainment demonstrations in the SIPs and the cumulative NAAQS 24 hour and one year PM<sub>10</sub> emission standards and the one hour ozone emission standards and are not likely to result in or contribute to exceedences of the National Ambient Air Quality Standards. These impacts would be the same for both Alternatives.

**C. Consultation** Jim Parker, Great Basin Unified Air Pollution Control District( GBUAPCD)

**D. Maps** GBUAPCD map of PM10 non-attainment areas (Figure 1)

**E. References** None

## **AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)**

### **A. Affected Environment**

Approximately 2.5 sections (1,600 acres) at the north end of the Chalk Bluff allotment occur within Zone 1 of the Fish Slough ACEC. Zone 1 consists primarily of the Owens Valley Native Fish Sanctuary, BLM Spring and the main feeder springs, slough, and marsh of Fish Slough proper. The ACEC was designated in 1984, encompassing nearly 36,000 acres, in recognition of the unique assemblage of resource values. Such values are : endangered species (plants and animals), wetlands, and archeological resources.

### **B. Environmental Consequences**

#### 1. Impacts of Proposed Action

Cattle, customarily, do not frequent the escarpment which is the eastern boundary of Zone 1. This is due to distance from available water and their preference for other foraging areas. Additionally there is an allotment boundary/gap fence, with associated cattleguard on the Fish Slough Road, which prevents easy access to the valley bottom of Zone 1.

Rarely is there any problem with the cattle from Chalk Bluff entering Zone 1. Reissuing of the grazing permit would not create any new impacts.

#### 2. Impacts on No Grazing

This alternative would result in an absolute elimination of the possibility of cattle entering Zone 1.

### 3. Cumulative Impacts

There would be no cumulative impacts under either alternative.

**C. Consultation** Previous consultation with the following agencies, which annually review the implementation and monitoring components of the ACEC plan:

U.S. Fish and Wildlife Service  
Los Angeles Department of Water and Power (LADWP)  
University of California, Natural Reserve System  
California Department of Fish and Game

**D. Maps** Management Zones- Fish Slough ACEC (Figure 2)

### **E. References**

Ferren, W.R. 1991. Biotic inventory and ecosystem characterization for Fish Slough: Inyo and Mono Counties, CA. Unpublished report by the Fish Slough Research Team of the University of California, Santa Barbara for the California Department of Fish and Game.

U.S. Fish and Wildlife Service. 1998. Owen Basin Wetland and Aquatic Species Recovery Plan, Inyo and Mono Counties, California. Portland, Oregon

## **CULTURAL RESOURCES**

### **A. Affected Environment**

Located on the western fringe of the Great Basin physiographic province the Owens Valley region, incorporated within the Bishop Field Area, contains the highest archaeological site densities within the Great Basin (Basgall and McGuire 1988; Bettinger 1975, 1982). In 1981 and 1982 the BLM completed two Environmental Impact Statements (EIS) addressing grazing on public lands within the Bishop Field Area; "Proposed Livestock Grazing Management for the Benton-Owens Valley Planning Unit", 1981 and "Proposed Livestock Grazing Management for the Bodie-Coleville Planning Units", 1982. In both EIS's cultural resource reviews are limited to Class I literature searches of existing data. The general conclusion was:

Livestock use impacts on cultural resources include: displacement (vertical and horizontal) and breakage of artifacts, and the mixing of depositional associations through trampling; destruction or enhanced deterioration of structures and

features through rubbing; and an acceleration of natural erosional processes. Plants valued by Native American traditionalists could be trampled or consumed by livestock, adversely affecting plant availability at some locations. For purposes of analysis it is assumed that the impacts of livestock use are distributed in proportion to the actual distribution of livestock, with the most intensive impacts occurring at livestock use concentration areas. Cultural Resources located on lands having erosional or other types of watershed deterioration problems attributed to livestock use impacts are assumed to receive high impacts. Cultural resources are non-renewable, and impacts of livestock use on cultural resources are cumulative (Bodie-Coleville EIS 1982:4-92).

Using existing survey data (BLM 1978; Busby et al. 1979; Hall 1980; Kobori et al. 1980), site densities were predicted to range from 9 sites per square mile ( $m^2$ ) in the Benton Planning Unit to 4 sites  $m^2$  in the Owens Valley Planning Unit, with an average of 9.54 sites/ $m^2$  in the Bodie/Coleville Planning units.

### **Previous Research on Grazing Impacts to Cultural Resources**

Relatively few studies have been undertaken to address the impacts of domestic livestock grazing to archaeological resources (Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Osborn et al. 1987; Roney 1977; Thomas D. Burke, personal communication 1998), with more emphasis being placed on the effects of human trampling in site formation processes (see Nielson 1991). Nonetheless, the same conclusions have been drawn from these studies as summed by Nielson (1991).

Intensive trampling modifies the horizontal distribution of artifacts, it obscures patterns existing in their original deposition, and eventually introduces new trends in their spatial arrangement. By producing vertical migration of materials it also can move artifacts across stratigraphic units, and mix in the same deposits items originating in different occupations. When trodden, artifacts undergo several types of damage, like breakage, micro-chipping and abrasion. The resulting traces sometimes mimic the damage produced by use or by other post-depositional processes and therefore can lead unwittingly to erroneous functional interpretations (Nielson 1991:483-484).

Variables influencing the level of impact at any given site include: 1) soil type (e.g., hard or rocky soil substrates will lead to greater artifact damage and horizontal displacement); 2) soil moisture (e.g., wet soils will lead to greater vertical displacement and stratigraphic mixing); 3) vegetation type/ground cover (depending on site landform specifics, erosion may increase as vegetation cover decreases resulting in significant secondary impacts); and 4) intensity of grazing.

The studies reviewed here are experimental tests of trampling impacts (Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Nielson 1991;

Osborn et al. 1987; Roney 1977). All of the studies found that smaller artifacts (< 2 g [ASPPN 1991]) tend to migrate vertically more readily than larger artifacts thus biasing site interpretation in cases where no subsurface analyses are involved. In a controlled experiment within a portable corral, Roney (1977) found that after 40 hours, in which 78 cows were rotated through the corral, that only (5%) of 60 flaked stone artifacts could be found on the surface. The hard soil substrate was churned to a fine dust to 5 cm, 81% of the artifacts were horizontally displaced up to .75 m and 48% were damaged and broken. Roney (1977) concluded that "...cattle do produce significant physical damage to lithic artifacts."

Nielson (1991), in his assessment of human trampling, found the same trends with top soil loosening occurring to 1-2 cm on a hard soil substrate with subsoils being compacted. Again smaller items tended to migrate downward, but were less apt to move horizontally than large specimens. Sixty percent of the lithic debitage showed damage ranging from abrasion, microflaking, and breakage. As would be expected, ceramics showed the greatest level of impact with a random distribution of sizes being reduced to a skewed, unimodal distribution dominated by smaller size classes less than 30 cm in diameter. We can predict that cattle impacts would be highly magnified over Nielson's (1991) results from his studies on human trampling, but would follow the same trends.

In field visits Tom Burke (personal communication 1998), owner and principal investigator of Archaeological Research Services, Inc., has found cattle grazing to have "substantial adverse effect to archaeological site integrity". In heavy use areas mixing can occur up to 10-20 cm in most conditions and up to 30-40 cm in wet conditions. The author's field investigations corroborate Burke's assessments. As would be expected, Burke has found impacts to be highest in areas where cattle tend to congregate such as springs, water courses, troughs, shade zones, and salt licks. The zone of impact around such features extends from 25-100 meters, with a linear pattern of roughly 25 to 50 meters following stream courses. Field assessments in the Bishop Field Area support these observations.

In summary, it can be concluded that livestock grazing can have adverse effects to archaeological resources causing artifact damage, movement, and mixing. In the case of standing structures, cattle rubbing or scratching can cause severe impacts causing structure degradation and collapse (Chuck Fell, Bodie State Historical Park, personal communication 1995). Intensity of grazing, soil hardness, moisture, vegetation cover, and type are factors influencing the level and types of impacts. Erosion is a secondary impact resulting from grazing that can also have negative effects to cultural sites. The areas of greatest concern are those locations where cattle congregate and tend to spend a large percentage of their time. In zones where cattle are more dispersed, such as upland locations, it can be predicted that impacts will be mainly surficial, causing no stratigraphic mixing, but perhaps resulting in horizontal displacement of artifacts. In rocky areas and zones without sufficient feed very little to no cattle impact is expected to occur (field observations 1999).

## **B. Environmental Consequences**

### 1. Impacts of Proposed Action

Cattle use on the subject allotments is generally highly dispersed. Due to the fact that no known sites occur within areas of heavy congregation, impacts to cultural properties are predicted to be minimal as a result of the proposed action.

### 2. Impacts of No Grazing

This alternative would eliminate all threats of damage to cultural properties that could result from the proposed action.

### 3. Cumulative Impacts

Cultural resources would be cumulatively affected from a variety of actions including livestock grazing. Continued trailing through a site may cause horizontal movement of artifacts, including artifact damage and wear. These types of impacts will be, generally, highly localized and would not adversely affect those properties of a given site which may make it eligible for listing on the National Register of Historic Places. Areas of continual cattle congregation and those where wallowing is prevalent can result in significant cumulative impacts to a cultural property, causing both horizontal and vertical mixing of deposits, artifact damage, and negative impacts to features such as living floors, hearths, and house structures. Due to the fact that no known sites occur within any zones of congregation on the subject allotments, no adverse impacts are predicted to occur as a result of the proposed action.

### **C. Consultation**

Thomas D. Burke, personal communication 1998, concerning grazing impacts to archaeological resources.

Chuck Fell, Bodie State Historical Park, personal communication 1995, concerning impacts to historic buildings and resources.

**D. Maps** None, due to the proprietary nature of the cultural resource information.

### **E. References**

ASPPN. 1990. Impacts Of Domestic Livestock Grazing On Archaeological Resources  
Archaeological Sites Protection and Preservation Notebook, Technical Notes I-15. U.S.  
Army Engineer Waterways Experiment Station, Vicksburg MS.

Basgall, Mark E., and Kelly R. McGuire. 1988. The Archaeology of CA-INY-30, Prehistoric  
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## ENVIRONMENTAL JUSTICE

## **A. Affected Environment**

There are no low-income or minority populations living on any of the allotments.

There are seven Native American communities in the Eastern Sierra which are near allotments. Members of these communities do some hunting and subsistence collecting of materials from public lands on various allotments – pinyon nuts, basket weaving materials, medicinal plants, etc.

There may be some low-income Hispanic or other ethnic minorities working on various allotments, working for some of the cattle and sheep operations. Depending upon actual decisions made, there may be some impacts to certain individuals.

## **B. Environmental Consequences**

### **1. Impacts of Proposed Action**

Continued livestock grazing would have no affect upon any low-income or minority populations. If any changes in grazing operations are required, there may be a loss of a job to a member of a low-income or minority population. There may also be new jobs created. Any such impacts would be limited to a single job here or there and there would not be a disproportionate impact, either negative or positive, to such a group.

### **2. No Grazing**

If there were no grazing allowed on public land, there may be a loss of some jobs to members of a low-income or minority population. Any such impacts would be limited to a single job here or there and would not be a disproportionate impact to such a group.

There might be a slight positive impact to some groups through increased availability of some resources that are collected on public lands. This would however vary by area and type of resource, and would probably be minimal.

### **3. Cumulative Impacts**

Cumulative impacts to low income or minority populations from past, present, and reasonably foreseeable public or private actions including any actions on non federal lands would be extremely low and would not be disproportionate to impacts on other segments of the population under any of the alternatives. A “no grazing” scenario would potentially have the most negative impact, but again, would not be disproportionate to the low income or minority population.

## **C. Consultation**

There are seven Native American communities in the Eastern Sierra which are near allotments.

When we began the allotment assessment process in 1999, these communities were all contacted by letter (January 11, 1999), with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. The communities either said that there were no impacts or decided not to comment / participate. None indicated a desire or need to participate in the assessment process. (Consultation log available for FY99)

Each of the tribal offices was contacted again by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to follow up after they received the letter. Again, they stated that there are no impacts to their communities by the grazing program that could be construed as disproportionate impacts under the Environmental Justice criteria. (Consultation log available for FY2001)

A couple of the communities expressed some specific concerns that are addressed in the Native American Consultation section of the document.

## **NATIVE AMERICAN CONCERNS**

### **A. Affected Environment**

There are seven Native American communities in the Eastern Sierra. All of the communities are near, and in some cases even surrounded by, one or more allotments. None of the communities are living on an allotment. There are no treaty rights (hunting, fishing, etc.) associated with any of the communities or any of the allotments.

Some members of these communities hunt and some do some subsistence collecting of materials from public lands – pinyon nuts, basket weaving materials, medicinal plants, fire wood, etc. However, this is general use and there were no specific “traditional use areas” identified by any of the Tribes on any of the allotments. Any other traditional uses or use areas have not been divulged to this office.

Some general concerns mentioned by the Tribes are:

- They have general concerns with overgrazing and want us to control overgrazing to protect the ecosystem and ensure that it is functioning properly
- They have concerns that water (or other) developments not impact cultural sites and that they not affect deer habitat (through de-watering streams / springs, or trampling of habitat around new troughs, etc.)
- They do not want cattle grazing on top of individual burials or grave sites or within known Native American cemeteries
- They do not want sheep bedding on top of cultural sites
- They do not want BLM to use herbicides on plants that they might collect
- They do not want BLM to cut / remove pinyon

All project development proposals are examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat and cultural resources. This practice will continue under all alternatives.

Herbicides are used very sparingly and only in certain very restricted circumstances. Any potential application is examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat and cultural / traditional uses. This practice will continue under all alternatives.

There are no Pinyon in these allotments.

## **B. Environmental Consequences**

### 1. Impacts of Proposed Action

The Assessment showed that there is no overgrazing in these allotments, that they are in proper functioning condition. The intent is to keep the ecosystem functioning properly.

A cultural inventory and assessment is being done as part of the allotment assessment process. This cultural inventory and assessment will identify any current problems (water projects, fences, livestock bedding areas) causing impacts to cultural sites, including burials, so that they may be corrected.

### 2. No Grazing

Removing grazing would generally result in fewer impacts to the natural environment, thus alleviating the Native American concerns with overgrazing, water project development, grazing impacts to cultural resources/burial sites, etc.

### 3. Cumulative Impacts

The cumulative impacts of doing the allotment assessments and of issuing grazing permits within the requirements of the standards and guidelines will result in the long term protection and improvement of the ecosystems found within the jurisdiction of the Bishop Field Office – better habitats for plants and animals, protection of cultural sites, etc. These improvements, coupled with continued coordination and consultation with the Tribes, should result in BLM addressing the Tribes' concerns in a manner agreeable to the Tribes.

## **C. Consultation**

All seven Native American communities – Bridgeport, Mono Lake, Benton, Bishop, Big Pine,

Ft. Independence, and Lone Pine – were contacted in January 1999 by letter, with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. The communities either said that there were no impacts or decided not to comment / participate. (Consultation log available for FY99)

Each of the tribal offices was contacted by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to follow up after they received the letter. Various individuals stated some general concerns which are addressed above; but again, they stated that there are no direct specific impacts to their communities or to their community members by the grazing program. (Consultation log available for FY2001)

## INVASIVE, NON-NATIVE SPECIES

### A. Affected Environment

Allotment	Invasive Species	Estimated % Cover
Zurich	None present	
Owens Valley	<i>Bromus madritensis ssp. rubens</i> , <i>Schismus arabicus</i>	5% and 5%
Owens Valley Common	<i>Bromus madritensis ssp. rubens</i>	Trace
Poleta	None present	
Chalk Bluff	<i>Bromus madritensis ssp. rubens</i>	Trace

Currently, the density of invasive, non-native plant species is low and is not affecting native species composition or vigor on the allotment or contributing to other environmental impacts, such as fire hazard, increased erosion, or large-scale reductions in mycorrhizal densities (Bethlenfalvay and Dakessian 1984). Periodic monitoring (1-3 years) of the allotments will facilitate documenting changes in site composition and density of these non-native species.

### B. Environmental Consequences

#### 1. Impacts of Proposed Action

Provisions for grazing before seed set of these species has been included in allotment grazing stipulations. Early season grazing, normally before seed set, of these annual grasses may help reduce the spread of these invasives (Olson 1999) by reducing inputs into the seed bank of particular sites. Other potential long-term impacts of the proposed action if weed densities

increase include a reduction in native plant cover and vigor (below and above ground production), increased erosion leading to increased germination of invasive weed seed (Evans and Young 1972) , and a reduction in mycorrhizal populations. Currently, the cover values for these species is low which will likely reduce the chance for rapid spread of these species if grazing timing stipulations are judiciously complied with.

## 2. No Grazing

No grazing before seed set of these invasive species could increase the seedbank inputs into particular sites overtime and potentially increase the density of some of these invasive, non-native species. However, no grazing would also reduce the chances that residual weed seed from sites is spread to new areas and would minimize the likelihood that the other long-term impacts discussed above would occur.

## 3. Cumulative Impacts

Cumulative impacts under the Proposed Action and No Grazing alternatives would include Off-highway vehicle (OHV) use that would exacerbate the spread of invasive weeds. However no unregulated OHV use was identified during the allotment assessments.

## **C. Consultation**

Coordination with the California Native Plant Society, Bristlecone Chapter

## **D. References**

Evans, R.D. and J.A. Young. 1972. Microsite requirements for establishment of annual rangeland weeds. *Weed Science*. 18:154-161

Bethlenfalvay, G.J., and S. Dakessian. 1984. Grazing effects on mycorrhizal colonization and floristic composition of vegetation on a semiarid range in norther Nevada. *Journal of Range Management* 37: 312-316

Olson , B.E. 1999. Grazing and weeds. Pages 85-97 in R.L. Sheley and J.K. Petroff, editors. *Biology and management of noxious rangeland weeds*. Oregon State University Press, Corvallis, Oregon.

## **SOCIAL AND ECONOMIC VALUES**

### **A. Affected Environment**

Regionally livestock operations involve use of BLM, Forest Service (USFS), or City of Los Angeles Department of Water & Power lands (LADWP). These five allotments have two permittees. Mr. Kenny Miller has the Chalk Bluff allotment and James Cashbaugh has the

remaining four allotments. There is a careful balance of head numbers and seasons of use, for grazing these allotments, such that any substantial change of use, would negatively affect their overall operation. Having other permits or lease land available does not in itself lead to increased flexibility.

The local economy is benefitted by these grazing operations from monies spent to establish and maintain a ranching operation and contributions to the labor force. This is true of any privately owned business. In Inyo County agriculture ranks third, behind recreation/tourism and government agency operations, as an economic production sector. Of a 100% total in agricultural values, livestock production accounted for 50%. This amounted to \$ 6,765,000. or 50% of the total \$ 13,477,750. agricultural production. This represents a 3% increase from 1988. On a state-wide average, for every \$1.00 in agricultural production, there is a \$3.00 value to the economy.

## **B. Environmental Consequences**

### **1. Impacts of Proposed Action**

The local economy is benefitted by these grazing operations from monies spent to establish and maintain a ranching operation and contributions to the labor force. This is true of any privately owned business. Sustaining these operations, from continued use of BLM allotments, would have a positive economic affect on the stability of their overall livestock operation. The social value of retaining a rural, agricultural lifestyle would be preserved and would be in keeping with the public's perception of the Owens Valley's western culture. The proposed action will not impact the social and economic stability of these ranching operations.

### **2. No Grazing Alternative**

If grazing were terminated on these BLM allotments, there would be slight to moderate impacts to both operators. The grazing capacity of their LADWP leases may not accommodate the increased use or meet LADWP's management requirements of those lands. The permittees may be forced to operate with fewer cattle. There would be unauthorized grazing use onto BLM lands, since their LADWP lease lands are unfenced. It would not be cost effective for LADWP to construct fences to contain cattle. The BLM may experience criticism resulting from this decision from its local constituency.

### **3. Cumulative Impacts**

There will be no cumulative impacts from the proposed action.

## **C. Consultation**

George Milovich, Agricultural Commissioner Inyo-Mono Counties (personal communication).

#### **D. Maps**

None

#### **E. References**

1999 Annual Crop and Livestock Report, Inyo- Mono Counties (prepared June 1, 2000)

### **SOILS**

#### **A. Affected Environment**

The soil classification of the allotments has been mapped in detail by the Natural Resource Conservation Service (NRCS). Soils associations are primarily gravelly loam, which are generally very deep and well drained. Valley floor soils may also have inclusions of calcareous loam along remnant river terraces that exhibit duripans which inhibit water infiltration and restrict shrub rooting depths. Alluvial fans, the predominance of allotment acreage, are comprised of either shadscale gravelly loam or gravelly loams. These soils are mostly shallow, well drained, with gravelly to cobbly surfaces and subsurface textures. These soils tend to limit the establishment of seeds and seedling development.

Erosion potential of these soils range from slight to moderate on the valley floor due to wind erosion and can be somewhat attributable to the effects of cattle grazing and hoof action which disturbs the soil surface. The erosion potential on the alluvial fans is low due to the gravelly surface texture and low occurrence of cattle use compared with the valley floor. There are no identified erosion problems on the allotments.

Soils on the Chalk Bluff allotment are predominantly a shallow tableland association, which are very shallow, volcanics that are shallow and restrict water infiltration and plant rooting. These soils primarily occur on slopes and ridges. Ashy loamy sands are inclusions occurring within depressions or valleys between the slopes. These soils are well drained, which provide a more favorable habitat for both grasses and mixed desert shrub species.

Erosion potential of these soils on Chalk Bluff is low due to infrequent and limited areas of use by cattle. There are no identified erosion problems on the allotment.

BLM assessed these allotment in 1999 and 2000 to determine if the rangeland health standards were being met. Specific soils standards relate to permeability and infiltration. All sites examined were found to meet the standards for soils.

#### **B. Environmental Consequences**

### 1. Impacts of Proposed Action

The proposed action will create no new impacts.

### 2. No Grazing

The proposed action will create no new impacts.

### 3. Cumulative Impacts

There will be no cumulative impacts from the proposed action.

## **C. Consultation**

Reference to Benton Owens Valley Soil Survey as updated by NRCS.

## **D. Maps**

None

## **E. References**

Bishop Resource Management Plan and Environmental Impact Statement. August 1991.  
Benton-Owens Valley Planning Unit, Draft Environmental Impact Statement

## **WATER QUALITY, SURFACE, AND GROUND WATER**

### **A. Affected Environment**

Perennial surface water occurs only in the Zurich and Chalk Bluff allotments.

Surface water in the Zurich allotment consists of a small shallow stream extending onto public land for a distance of approximately 0.3 miles. The source for this flow is on LADWP property at a site known as the Graham Ranch. Due to the source being on non-public land there is no known water quality data available. Water quality is apparently good due to the presence of an amphipod species, Owens springsnail, which is typically intolerant of degraded water quality.

Surface water in the Chalk Bluff allotment is the main channel flowing from the Fish Slough marsh. The allotment borders the channel for approximately one mile. Water quality has not been comprehensively analyzed. Water quality (as groundwater) at the 3 main spring sources in Fish Slough fall well within secondary drinking water standards for the following parameters: total dissolved solids (mg/L), nitrate nitrogen (mg/L), nitrite nitrogen (mg/L), chloride (mg/L), sulfate (mg/L), and pH. The outflow of Fish Slough near the southern boundary of the Chalk

Bluff allotment has undergone flow accretion from other lesser producing (discharge) springs as flow moves to the south from the main spring sources. Water quality at the southern terminus of the marsh may be different for the parameters described.

## **B. Environmental Consequences**

### 1. Impacts of Proposed Action

Water quality should be maintained or slightly improved (Zurich allotment) with implementation of the proposed terms and conditions.

### 2. No Grazing

Grazing occurs infrequently, and in most years not at all, along the small channel on public land flowing from the Graham Ranch spring located on LADWP property. Therefore water quality conditions would be expected to remain at or near the current constituent concentrations.

### 3. Cumulative Impacts

There are no cumulative impacts evident from implementation of the proposed action or adoption of other alternatives.

## **C. Consultation**

No consultations were conducted with any person, group or agency.

## **D. Maps**

None

## **E. References**

Acculabs Inc. - Analytical Report (Standard Methods for the Examination of Water and Wastewater, 18<sup>th</sup> and 19<sup>th</sup> editions; Methods for Determination of Organic Compounds in Drinking Water, EPA-600/74-79-020)

## **WETLANDS/RIPARIAN ZONES (CRITICAL ELEMENT)**

### **A. Affected Environment**

The outflow of springs on private land above the Zurich allotment extends onto the allotment for about three tenths of a mile. The small, shallow stream supports a narrow but healthy riparian zone, with willows - mostly shrub-form but a few large trees - as the dominant vegetation. The stream's influence extends several meters out to each side as evidenced by a zone of sagebrush;

cryptobiotic crusts are particularly extensive and vigorous within this slightly more mesic zone. There is no evidence of any impacts; riparian habitat quality seems to be limited only by the small amount of water. Owens springsnail, a rare snail which is indicative of good water quality, is found throughout this stream. Mule deer tracks are abundant near the stream and tule elk also use the area. Some riparian-obligate songbirds may nest here, although such a narrow riparian strip is generally not of great value to them.

The stream is entirely absorbed into the ground after 0.3 mile and sparse, decadent willow growth continues for about another 0.2 mile.

Also see the narrative for Area of Critical Environmental Concern above.

## **B. Environmental Consequences**

### 1. Impacts of Proposed Action

The biological condition of the riparian habitat should be maintained or slightly improved with implementation of the proposed terms and conditions.

### 2. No Grazing

Riparian habitat conditions would be expected to remain at or near their current level of quality without livestock grazing.

### 3. Cumulative Impacts

There are no cumulative impacts evident from implementation of the proposed action or other alternatives.

## **C. Consultation**

No consultations were conducted with any person, group or agency.

## **D. Maps**

None

## **E. References**

Hershler, Robert. 1989. Springsnails (Gastropoda: Hydrobiidae) of Owens and Amargosa River (exclusive of Ash Meadows) drainages, Death Valley system, California-Nevada. *Proceed. Biol. Soc. Wash.* 102(1):176-248.

## **A. Affected Environment**

Vegetation communities on the southern four allotments are a mix of Great Basin salt bush scrub and shadscale scrub. The Chalk Bluff allotment is comprised of shadscale scrub, blackbrush scrub and mixed desert shrub communities. Common small mammals, reptiles and birds are distributed throughout these communities, as sampled by a 1978 wildlife inventory that included both these habitat types.

Small mammals include black-tailed hare, Audubon cottontail rabbit, white-tailed antelope squirrel, Great Basin and Merriam's kangaroo rats, little pocket mouse, western harvest mouse, canyon mouse, deer mouse and desert wood rat. Coyotes are a common mammalian predator in these habitats.

Reptiles of these habitat types include leopard lizard, sagebrush lizard, side-blotched lizard, desert horned lizard, western whiptail, western fence lizard, gopher snake, speckled rattlesnake, Mojave rattlesnake and sidewinder.

Birds likely to breed in these communities include black-throated sparrow, Brewer's sparrow, sage sparrow, rock wren, horned lark and loggerhead shrike, and some of these are also year-round residents. The three sparrows are species of interest because they are considered sagebrush obligates and may be declining range-wide as a result of loss of sagebrush habitat, although in this area they are known to breed in other desert shrub communities. Upland game birds - chukar (non-native), California quail and mourning dove - may reside and breed near water sources at the foot of the Inyo mountains, e.g. Graham Ranch and Ulymeyer Spring on the Zurich allotment.

Chalk Bluff, a steep, rocky escarpment, is encompassed in part by the southern boundary of the allotment by that name. The bluff and surrounding area have been the focus of a raptor survey, currently in its third year, which has confirmed that it offers important raptor hunting and nesting habitat. The area is used by winter resident raptors including Cooper's hawk and rough-legged hawk, and breeding resident species including northern harrier, red-tailed hawk, golden eagle, prairie falcon, barn owl and great horned owl.

Mule deer use parts of the Chalk Bluff allotment during the winter and access the main channel of Fish Slough as a readily available water source.

Tule elk, a species native to other parts of California and introduced to the Owens Valley in the 1930s after becoming rare within their native range, have a calving area within the Zurich allotment. Tule elk are currently at or near the maximum number allowed in the valley, as mandated by state law.

Also see "Wetlands/Riparian zones" above.

Threatened or Endangered Species: No threatened or endangered species are known to use

habitat within these allotments. As noted in the ACEC narrative above, a small portion of the Chalk Bluff allotment lies within Zone 1 (the wetland portion) of the Fish Slough ACEC which was established in part for the protection of wetland T&E species habitat, but cattle are effectively prevented from using this part of the allotment. The listed species - Owens pupfish and Fish Slough milkvetch - occupy parts of the wetland farther to the north and have specific habitat requirements that do not occur within the allotment due to altered hydrology and will not occur in the foreseeable future without active restoration. Peregrine falcons could potentially use the Chalk Bluff escarpment but none have been observed.

## **B. Environmental Consequences**

### 1. Impacts of Proposed Action

The overall habitat quality of the allotments should be maintained or slightly improved with implementation of the proposed terms and conditions.

### 2. No Grazing

Overall wildlife habitat conditions would be improved, particularly in the immediate affects for species guilds like rodents. Granivorous rodents would likely benefit, over time, by an increased volume of seed producing plant species. The typical consequence would be a somewhat increased rodent population benefitting predatory species groups like canids and raptors.

### 3. Cumulative Impacts

There are no cumulative impacts evident from implementation of the proposed action or continuation of the current management practice. Implementation of the No Grazing alternative would be expected to result in a substantial positive impact following the discussion provided under the No Grazing impact narrative.

## **C. Consultation**

No consultations were conducted with any person, group or agency.

## **D. Maps**

None

## **E. References**

Bishop Field Office, Unit Resource Analysis, Step III, 1978.

## **VEGETATION**

### **A. Affected Environment**

A baseline range inventory for these allotments was completed in 1977 and correlated to the recently completed 1999 NRCS soil/vegetation inventory to document plant cover and composition as well as develop updated ecological site descriptions. The allotments occur in the Great Basin and Northern Mojave Floristic Provinces. The dominant plant communities are mixed desert scrub and shadscale scrub. Shadscale scrub is dominated by shadscale (*Atriplex confertifolia*) and budsage (*Artemisia spinescens*) with a sparse (15% or less) understory of desert needlegrass (*Achnatherum speciosum*) and Indian rice grass (*Achnatherum hymenoides*) (Barbour and Major 1977). Additional species include, but are not limited to: hop sage (*Grayia spinosa*), horsebrush (*Tetradymia canescens* and *T. axillaris*), Nevada ephedra (*Ephedra nevadensis*), winter fat (*Krasheninnikovia lanata*), yellow rabbitbrush (*Chrysothamnus naseosus*), green rabbitbrush (*Chyrsothamnus teretifolious*), gold bush (*Ericameria cooperi*), cheesebush (*Hymenoclea salsola*). During years of high precipitation annual forbs are abundant and include species from the following genera: Cryptantha, Mentzelia, Linanthus, Phacelia, as well as genera in the Asteraceae Family.

The majority (80-90%) of these plant communities within these allotments have not been significantly impacted by livestock grazing because of the infrequent use and low number of animals that make use of these allotments as well as the general topography and rough terrain which reduces livestock access. Generally, utilization of key forage species, e.g. desert needlegrass, hopsage, winterfat and budsage is slight to moderate and occurs in spring (March-early May). Forage capacity on these allotments is low and the plant communities are incapable of sustaining large numbers and frequent livestock use which has been shown to be detrimental to the various attributes of ecological function including plant vigor, seedling recruitment and recovery (Clary and Holmgren 1987; Hughes 1982).

## **B. Environmental Consequences**

### **1. Impacts of Proposed Action**

Impacts of the Proposed Action on the vegetation within these allotments is directly effected by grazing timing, intensity and stocking rates. Current stocking rates are low and do not significantly impair the large-scale ecological function of these plant communities during non-drought years. Grazing does occur in spring which has been shown to increase shadscale (*Atriplex confertifolia*) and reduce bud sage (*Artemisia spinosa*) densities at moderate to high grazing intensities (Clary and Holmgren 1987). The key forage species which receive the most use at spring turn-out are the perennial bunch grasses. Continued grazing at current levels will affect very small portions (in the vicinity of water troughs and mineral blocks) of the allotments and not contribute to reductions in overall plant community ecological function as long as current Rangeland Health Guidelines are adhered to, e.g. 40% utilization. There may be increases in invasive weeds in proximity to high concentration use areas e.g. watering facilities and mineral blocks.

### **2. No Grazing**

Under the No Grazing alternative no impacts to the ecological function of these plant communities will take place.

### 3. Cumulative Impacts

Cumulative impacts may include changes in Department of Water and Power allotment management which could prompt permittees to seek out more grazing opportunities on Public Land.

#### **C. Consultation**

Coordination with the California Native Plant Society, Bristlecone Chapter

#### **D. Maps**

Allotment Assessment Maps

#### **E. References**

Barbour, M.G., Major J. 1977. Terrestrial Vegetation of California. John Wiley and Sons. Pages 853-854.

Clary, W.B. and R.C. Holmgren 1987. Difficulties in interpretation of long-term vegetation trends. IN: Proceedings of the Symposium on Plant-Herbivore Interactions. General

Technical Report INT-222. U.S. Forest Service, Intermountain Research Station, Ogden, Utah.

Hughes, L.E.. 1982. A grazing system in the Mohave Desert. Rangelands 4, 256-257.

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**Date:** \_\_\_\_\_

**Received by:** \_\_\_\_\_  
Environmental Coordinator

**Date:** \_\_\_\_\_

## **FINDING OF NO SIGNIFICANT IMPACTS**

I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action will not have any significant impacts on the human environment and that an EIS is not required.

There will be no effect on threatened or endangered species as a result of the action.

I have determined that the proposed project is in conformance with the Bishop Resource Management Plan, which was approved March 25, 1993. This plan has been reviewed, and the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

It is my decision to implement the proposed action and issue 10-year grazing permits with the currently used standard grazing stipulations to the grazing operators for the five allotments. Livestock grazing management on these five allotments will remain unchanged from past use, but subject to adherence with the Central California Rangeland Health Standards and Guidelines and RMP decisions pertaining to livestock use. The Rangeland Health Assessments conducted, indicate that there are no significant environmental impacts from current use and the allotments all meet the Rangeland Health Standards..

**Authorized Official:**

Steve Addington  
Field Manager, Bishop Field Office

**Date:** \_\_\_\_\_