

ENVIRONMENTAL ASSESSMENT (DRAFT) LIVESTOCK GRAZING AUTHORIZATION

EA Number CA 170-07-09

Allotment Number and Name(s)

**6018 Hot Creek
6022 Wilfred Creek
6044 Long Valley
6045 Tobacco Flat
6051 Wells Meadow
6081 Casa Diablo**

**BLM Bishop Field Office
Prepared
June 2007**

TABLE OF CONTENTS

Chapter 1: INTRODUCTION	1
A. Summary	1
B. Background	1
C. Purpose and Need for the Action	2
D. Scoping and Issues	3
E. Tiering to Existing Land Use Plan(s)/Environmental Impact Statement(s)	3
F. Prevention of Unnecessary or Undue Degradation	4
G. Relationship to other Statutes, Regulations, and Plans	4
H. Plan Conformance	7
I. Rangeland Health	8
Chapter 2: PROPOSED ACTION AND ALTERNATIVES	9
A. Alternative 1 - Proposed Action	9
B. Alternative 2 - Current Management (No Action)	14
C. Alternative 3 - No Grazing	17
D. Other Alternatives	17
Chapter 3: ENVIRONMENTAL ANALYSIS	18
A. LIVESTOCK MANAGEMENT	18
B. AIR QUALITY	22
C. AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)	23
D. CULTURAL RESOURCES	23
E. ENVIRONMENTAL JUSTICE	27
F. ESSENTIAL FISH HABITAT	28
G. FARMLANDS, PRIME OR UNIQUE	29
H. FLOOD PLAINS	29
I. INVASIVE, NON-NATIVE SPECIES	29
J. NATIVE AMERICAN CULTURAL VALUES	31
K. RECREATION	32
L. SOCIAL AND ECONOMIC VALUES	34
M. SOILS	35
N. VEGETATION/THREATENED AND ENDANGERED	37
O. WASTE, HAZARDOUS OR SOLID	42
P. WATER QUALITY, DRINKING-GROUND	43
Q. WETLANDS/RIPARIAN ZONES	45
R. WILD AND SCENIC RIVERS	47
S. WILDERNESS	48
T. WILDLIFE/THREATENED AND ENDANGERED	49
U. WILD HORSE AND BURROS	53
V. CUMULATIVE IMPACTS	53
Chapter 4: CONSULTATION AND COORDINATION	58
Chapter 5: APPENDICES	61
MAPS (1 – 3)	62 - 64

Chapter 1: INTRODUCTION

A. Summary

This environmental assessment (EA) is prepared to analyze and disclose the environmental consequences of re-authorizing livestock grazing permits for 10-years as proposed on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments. The EA is a site-specific analysis of potential impacts that could result from the implementation of the proposed action or one of the alternatives. The EA assists the Bureau of Land Management (BLM) in project planning and in ensuring compliance with the National Environmental Policy Act (NEPA) and other applicable laws and policies affecting the proposed action and alternatives. If the authorized officer determines that this action has “significant” impacts following the analysis in the EA, then an Environmental Impact Statement (EIS) would be prepared for the action. If not, a Grazing Decision will be issued along with a Finding of No Significant Impact (FONSI) statement, documenting the reasons why implementation of the selected alternative would not result in “significant” environmental impacts.

B. Background

The six allotments analyzed in this EA are located in the Long Valley and Owens Valley Management Areas of the BLM Bishop Field Office. Their elevation range is between 5,000 feet at the lowest elevations of the Wells Meadow allotment in the Owens Valley Management Area to 7,400 feet at the highest elevations of the Hot Creek allotment in the Long Valley Management Area. Vegetation communities are dominated by Great Basin Big Sagebrush and Bitterbrush. Livestock kind, permitted season of use, allocated animal unit months (AUMs), and use type for each allotment as prescribed in the Bishop Resource Management Plan (BLM 1993) are:

Allotment	Kind	From	To	AUMs	Use
Hot Creek	Cattle	5/15	10/31	445	Perennial
Wilfred Creek	Cattle	6/1	11/30	295	Perennial
Long Valley	Cattle	5/1	10/31	11	Perennial
Tobacco Flat	Cattle	6/16	10/15	32	Perennial
Wells Meadow	Cattle	4/1	10/15	129	Perennial
Casa Diablo	Sheep	6/15	9/30	40	Perennial

The approximate public, state, and private (which includes Los Angeles Department of Water and Power) land acreages (See Maps 1-3) within each allotment are:

Allotment Name	Public Land	State Land	Private Land
Hot Creek	6,216	0	4,074
Wilfred Creek	7,823	0	5,433
Long Valley	204	0	12,885
Tobacco Flat	381	0	222
Wells Meadow	1,281	0	241
Casa Diablo	2,206	0	956

There is no designated critical habitat for any federally listed species in any of these six allotments and no federally listed species are known to occupy any of these allotments.

The 10-year grazing permits for these six allotments have expired. In the interim, the two grazing permits which authorize use on the Hot Creek and Wells Meadow allotments were renewed under Section 402 of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended (43 USC 1752). These permits will expire in 2011. The three interim grazing permits authorizing use on the Wilfred Creek, Long Valley, Tobacco Flat, and Casa Diablo allotments were issued in accordance with Section 328 of Public Law 107-67. These permits will expire in 2013. Renewing permits under the appropriations acts authorized existing grazing use to continue, while allowing BLM time to complete rangeland health allotment assessments and to meet applicable National Environmental Policy Act (NEPA) requirements to analyze the environmental consequences of issuing 10-year grazing permits.

C. Purpose and Need for the Action

The purpose of the action is to consider whether to authorize grazing for 10-years on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments. If authorized, grazing would be in accordance with 43 Code of Federal Regulations (CFR) 4100 and consistent with the provisions of the Taylor Grazing Act (1934), as amended, the Public Rangelands Improvement Act (1978), and the Federal Land Policy and Management Act (FLPMA) of 1976. The purpose of the action is also to ensure that grazing authorizations implement provisions of, and are in conformance with, the Bishop Resource Management Plan (BLM 1993) and the Secretary of the Interior approved Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (July 2000).

The action is needed to respond to the expired 10-year grazing permits and to replace the appropriation act permits with fully processed 10-year grazing permits.

D. Scoping and Issues

Public Scoping

On January 23, 2006, the Bishop Field Manager sent a letter to the five permittees who graze these six allotments informing them of the status of the 10-year grazing permits and included a proposed schedule for environmental assessment and permit completion.

On November 20, 2006, the Bishop Field Manager sent a second letter to the five permittees who graze these six allotments informing them how the environmental assessments would be prepared and the status of the 10-year grazing permits. Included with the letter was a proposed schedule for environmental assessment completion.

On December 28, 2006, a Notice of Proposed Action (NOPA) was sent to the five permittees who graze these six allotments and to interested publics including the Interim Management Policy for Lands under Wilderness Review (IMP) mailing list. The NOPA contained the Need for the Proposed Action, Plan Conformance, the Proposed Action and Alternatives, a schedule for EA completion, and area maps. The NOPA was also posted on the BLM internet site for public review at <http://www.blm.gov/ca/bishop>. The NOPA provided a 30 day comment period on the proposed action and alternatives.

On June 19, 2007, a draft EA was posted for two weeks on the BLM internet site for public review at <http://www.blm.gov/ca/bishop>. The draft EA was developed using the BLM, California State Office Revised Environmental Assessment Template for Consideration of Livestock Grazing Authorizations (Instruction Memorandum No. CA-2007-014). The five permittees and the Center for Biological Diversity were notified that the EA had been posted on the BLM internet site.

Issues and Alternatives

No additional issues or alternatives were identified as a result of public scoping.

E. Tiering to Existing Land Use Plan(s)/Environmental Impact Statement(s)

The Bishop Resource Management Plan (BLM 1993) provides a comprehensive framework for managing land use authorizations, including grazing permits, for public lands administered by the Bishop Field Office. The Bishop Resource Management Plan replaced the Benton-Owens Valley (BLM 1982) and the Bodie-Colville (BLM 1983) Management Framework Plans. Grazing decisions and changes in grazing decisions from the Benton-Owens Valley and the Bodie-Coleville Management Framework Plans are summarized in Appendix 4 of the Bishop Resource Management Plan (pages A4-1 through A4-11).

This EA is tiered to the Final Bishop Resource Management Plan and Environmental Impact Statement (BLM 1991). Tiering helps focus this EA more sharply on the significant issues

related to grazing on the allotments while relying on the Final Bishop Resource Management Plan and Environmental Impact Statement for the overall analysis of grazing actions throughout the Field Office. Livestock grazing was analyzed in Chapter 4, Impacts, of the Final Bishop Resource Management Plan and Environmental Impact Statement (pages 4-20 through 4-26).

Impacts associated with adoption of the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (July 2000) were analyzed in Chapter 4 of the Rangeland Health Standards and Guidelines for California and Northwestern Nevada Final Environmental Impact Statement (BLM 1998). The analysis contained in this EA also tiers to that analysis.

F. Prevention of Unnecessary or Undue Degradation

In addition to management prescriptions analyzed in this EA, including all terms and conditions, BLM may use its authority to close any area of an allotment to grazing use or take other measures to protect resources at any time, if needed. Therefore, issuance of a grazing permit with appropriate terms and conditions is consistent with BLM's responsibility to manage public use, occupancy, and development of the public lands and to prevent unnecessary or undue degradation of those lands (43 USC 1732(b)).

G. Relationship to other Statutes, Regulations, and Plans

The following Statutes, Regulations, and Plans provide additional legal framework for grazing on public lands.

Air Quality

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 apply to projects within any Federal Air Quality Non-Attainment/Maintenance 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:

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

Where livestock grazing occurs within an area classified as a Federal Air Quality Non-Attainment/Maintenance Area, BLM will make a determination whether the action is in conformance with the applicable State Implementation Plan requirement. The Great Basin Unified Air Pollution Control District (GBUAPCD) has state air quality jurisdiction over parts of Inyo and Mono County.

The Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments occur outside of any Federal Air Quality Non-Attainment/Maintenance Area.

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 (2004) and other internal policies.

Special Status Plant Species

Special Status Plant Species are those species that have been listed by the California Native Plant Society as List 1B species, which includes plants that are rare, threatened, or endangered in California and elsewhere. All of the plants constituting List 1B meet the definition of Sec. 1901, Chapter 10 (Native Plant Protection Act), or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. The Bishop Resource Management Plan (BLM 1993, p. 17) stipulates year-long protection of sensitive plants (Special Status Plants) and their associated habitats.

Three Special Status Plant Species are present on the Hot Creek, Wilfred Creek, and Long Valley allotments. Refer to Section N of this document for a listing of these species and their associated trend and Environmental Impact analyses. No Special Status Plant populations are known to occur in the Tobacco Flat, Wells Meadow, and Casa Diablo allotments based on historical records, field monitoring, and/or habitat suitability

Threatened and Endangered Species (T&E)

Pursuant to Section 7 of the Endangered Species Act, formal consultation with the U.S. 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. In addition, the terms and conditions of any grazing permit may also need to be modified through subsequent land use plan amendments

or revisions to conform to decisions made to achieve recovery plan objectives. In August 2003, the Bishop Field Office submitted a Biological Evaluation and requested formal consultation on the Bishop Resource Management Plan under Section 7(a) (2) of the Endangered Species Act to the FWS. The Biological Evaluation analyzed potential effects of six listed species that occur within the Bishop Field Office's jurisdiction. A subsequent request for action on the formal consultation was made to the FWS in September 2005. To date, no action has been taken by the FWS.

No Threatened or Endangered Species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability in the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments.

Water Quality

All allotments are within watersheds governed by basin plans subject to California's Clean Water Act. Nationally, Executive Order # 12088 directs federal agencies to comply with state administrative procedures. Recently, Standards and Guidelines reiterated the intent of the Federal Clean Water Act (CWA) and States' water quality plans. An MOU (BLM Manual Supplement 6521.11) with the California Department of Fish and Game (CDFG) describes how BLM and CDFG will coordinate when activities could affect aquatic or riparian habitat. The Unified Federal Policy to Insure a Watershed Approach in Federal Land and Resource Management (UFP) requires 1) all plans and activity management be conducted on a watershed basis, 2) that all land owners/managers within a watershed be solicited for participation in the planning and management of the watershed, 3) that citizens and officials are better informed of planning and management, and 4) that best science is used. The EA should analyze grazing within the Watershed Concept described in the UFP. Where there is a threat to water quality or where water quality violates state standards, coordination must occur with the regional water quality control board(s) and where aquatic or riparian habitat may be impacted CDFG coordination must occur as well. All allotments that contain any water bodies (streams, lakes, springs, etc.) must have adopted Best Management Practices (BMP) for all associated livestock management activities that could affect water quality. 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.

Wild and Scenic Rivers

Wild and scenic river values are described in Appendix 2 of the draft Bishop RMP and EIS dated September of 1990. The Interim Management Guidelines for Study Rivers provides direction for grazing management on eligible creeks until the creek is designated a wild and scenic river or released from the wild and scenic river review process. Continued livestock grazing within allotments would be in compliance with this policy. For further information, see Appendix 3 of the final Bishop RMP and EIS dated August of 1991.

The Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments

contain no designated or eligible segments of Wild and Scenic Rivers. However, the Hot Creek allotment contains approximately one mile of Hot Creek, determined to be eligible for wild and scenic rivers study within the Bishop RMP (1993). It is classified as recreational.

Wilderness Study Areas

Livestock grazing on public lands within Wilderness Study Areas (WSAs) must comply with and be managed consistent with BLM's Interim Management Policy Handbook (H-8550-1) For Lands Under Wilderness Review. The law provides for, and the BLM's policy is to allow, continued grazing uses on lands under wilderness review in the manner and degree in which these uses were being conducted on public land when the Federal Land Policy and Management Act (FLMPA) was signed (October 21, 1976). Grazing within WSAs is subject to reasonable regulations, policies, and practices.

The Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments do not occur within any congressionally designated Wilderness or Wilderness Study Area.

H. Plan Conformance

Determination

The proposed action is in conformance with the Bishop Resource Management Plan (RMP) approved on March 23, 1993, as amended by the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (Central California S&Gs) approved on July, 13, 2000.

Rationale

The proposed action would occur in areas identified as available for livestock grazing in the Bishop RMP (BLM 1993). The proposed action is consistent with the General Policies, Area Manager's Guidelines, Valid Existing Management, Standard Operating Procedures, Decisions, and Support Needs prescribed in the RMP. A summary of key RMP prescriptions specific to the proposed action include: 1) Livestock management decisions from the Benton-Owens Valley and the Bodie-Coleville Grazing Environmental Impacts Statements (EISs) provide the basis for grazing management throughout the Bishop Field Office (RMP, Valid Existing Management, page 10 and Area-Wide Decisions, page 22). Those livestock grazing decision carried forward are summarized in Appendix 4 (RMP, pages A4-1 through A4-11); 2) Standard Operating Procedures specific to grazing systems, grazing management, and range improvement project development throughout the Bishop Field Office (RMP, pages 10 through 12); and 3) Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) that amended the Bishop RMP (Central California S&Gs, pages 3 through 12).

I. Rangeland Health

Rangeland health assessments have been completed on these grazing allotments in conformance with the Record of Decision, Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (Decision, pg 12). Qualitative rangeland health field assessments were completed for each allotment on the following dates:

Hot Creek	June 2000
Wilfred Creek	June 2000
Long Valley	May 2001
Tobacco Flat	May 2001
Wells Meadow	April 2000
Casa Diablo	May 2002

Geographical Information System (GIS) database information was used to stratify the number of areas (ecological sites) to sample. Field assessments consisted of following protocol established in BLM Technical Reference 1734-6, Interpreting Indicators of Rangeland Health Version 3 (2000). A preponderance of the evidence is the criterion for determining if rangeland health standards are being met at each sample site. Rangeland Health Assessment Determinations, following the Central California Resource Advisory Council assessment protocol, were completed for the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments. Areas of allotment does (does not) meet the Secretary of the Interior Approved Rangeland Health Standards as follows:

Rangeland Health Standard	Meets Standard	Does Not Meet Standard	Livestock are a causal factor for not meeting Yes or No	Remarks (locations, etc.)
Hot Creek		X	No	Riparian only of Little Hot Creek because of low discharge and soil type. For SWA 721: lack of forb understory for sage grouse habitat.
Wilfred Creek		X	Yes	Not meeting the species standard because past grazing had high utilization levels, now reduced and improving.
Long Valley	X			
Tobacco Flat	X			
Wells Meadow	X			
Casa Diablo	X			

Chapter 2: PROPOSED ACTION AND ALTERNATIVES

An environmental assessment (EA) for a livestock grazing permit must consider a reasonable range of alternatives (WO IM No. 2000-022) including 1) issuing a new permit based on the application (the proposed action), 2) issuing a new permit with the same terms and conditions as the expiring permit (no action), and 3) a no grazing alternative. If the application for a permit is the same as the expiring permit (no changes in the terms and conditions), then the proposed action and the no action alternative are the same. In addition, other alternatives may be needed to resolve conflicts or address new conditions or new information. If other alternatives are identified during scoping but are determined by BLM not to reasonably address the purpose and need for action, they may be dismissed from further analyses.

No additional alternatives were identified as a result of livestock operator consultation, cooperation, and coordination or public scoping efforts. The proposed action, no action, and no grazing alternatives are described in detail below.

A. Alternative 1 - Proposed Action

The proposed action is to authorize grazing for 10-years on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments with applicable terms and conditions and other provisions as described in this section. The proposed action differs from current management (the no action alternative) in that the terms and conditions from both the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) are applied specifically for each allotment, with defined implementation guidelines, and tailored to specific vegetation communities and other resources present on these six allotments.

Terms and conditions, and provisions related to range improvements and monitoring requirements included in the proposed action are:

A. Mandatory Terms and Conditions

Mandatory terms and conditions including livestock number, livestock kind, season of use, percent public land (% P.L.), and allocated animal unit months (AUMs) are required for each allotment in accordance with 43 CFR 4130.3-1.

The proposed mandatory terms and conditions as prescribed in the Bishop Resource Management Plan (BLM 1993) for each allotment are:

Allotment	Number	Kind	From	To	% P. L.	AUMs
Hot Creek	98	Cattle	5/15	10/31	1	5
	93	Cattle	5/15	10/31	2	10
	100	Cattle	5/15	10/31	11	61
	57	Cattle	5/15	10/31	50	159
	81	Cattle	6/20	8/13	36	53
	47	Cattle	7/01	9/15	13	15
Wilfred Creek	44	Cattle	6/1	11/30	66	175
	80	Cattle	6/1	11/30	27	130
Long Valley	2	Cattle	5/1	10/31	100	11
Tobacco Flat	8	Cattle	6/16	10/15	100	32
Wells Meadow	20	Cattle	4/1	10/15	100	129
Casa Diablo	57	Sheep	6/15	9/30	100	40

B. Terms and Conditions - Bishop Resource Management Plan

All Allotments

No trailing through a neighboring allotment is allowed without prior authorization by the BLM. Prior to trailing through a neighboring allotment, the trailing permittee would notify the BLM and all identified interested parties.

Hot Creek (6018) and Wilfred Creek (6022)

No salt or other nutrient supplement is allowed within 1/4 mile of creeks, meadows, sage grouse strutting grounds, or special status plant populations.

Long Valley (6044)

No salt or other nutrient supplement is allowed within 1/4 mile of creeks, meadows, or special status plant populations.

Tobacco Flat (6045)

No salt or other nutrient supplement is allowed within 1/4 mile of creeks or meadows.

C. Terms and Conditions - Central California Standards for Rangeland Health and Guidelines for Livestock Grazing

All Allotments

The goal of these terms and conditions is to provide the permittee the opportunity to realize the highest, long-term, agricultural, economic return with the least risk to rangeland health. Livestock would be managed to progress toward maintaining or promoting adequate vegetative ground cover, and maintaining soil moisture storage and soil stability appropriate for the ecological sites within the management units. Maintaining adequate ground cover should allow soil organisms, plants, and animals to support the hydrologic, nutrient, and energy cycles.

Sagebrush Grassland: *Wilfred Creek (6022) and Long Valley (6044)*.

Sagebrush Grassland and Pinyon-Juniper Woodland Rangelands: *Hot Creek (6018), Tobacco Flat (6045), and Casa Diablo (6081)*.

Sagebrush Grassland and Semi-desert Grass and Shrubland: *Wells Meadow (6051)*

Livestock grazing operations will be conducted so that forage utilization on key perennial species does not exceed 40 percent on the average. Key areas will be selected and utilization on key species will be estimated in accordance with the current BLM technical reference. Utilization monitoring will be conducted by a BLM employee, permittee, and/or trained range consultant. Then, all key area data for the allotment will be averaged and checked by a BLM employee to determine if the term and condition has been met. If utilization guidelines on the average of the upland key areas across the allotment are exceeded for 2 consecutive years or in any 2 years out of every 5 years, BLM will consult with the permittee to address the situation, potentially with a management change (e.g. change in livestock distribution). Because of the potential long-term damage to perennial grass species associated with severe grazing, when grazing utilization exceeds 70% in any upland key area for more than 2 consecutive years, immediate management action will be taken to remedy the problem in the area of the allotment that key area represents.

Riparian Areas & Wetlands: *Hot Creek (6018) and Wilfred Creek (6022)*

Grazing practices should maintain a minimum herbage stubble height of 4-6 inches on the average on all stream-side, riparian, and wetland areas at the end of the growing season. There should be sufficient residual stubble or regrowth at the end of the growing season to meet the requirements of plant vigor, maintenance, bank protection, and sediment entrapment.

Critical Mule Deer Habitat: *Hot Creek (6018), Wilfred Creek (6022), Long Valley (6044), Tobacco Flat (6045), and Wells Meadow (6051)*

Within identified critical mule deer winter range and migration habitat (Bishop RMP, 1993) within your allotments, there will be no more than an average of 20 percent utilization of the current year's annual growth on key browse species (bitterbrush) prior to October 1.

D. Other Terms and Conditions

All Allotments

No supplemental feeding (i.e. hay, pellets/cubes, or other forages) is allowed at any time on public lands without the BLM's authorization. If authorization is granted, the permittee would be required to obtain "certified weed-free" feed for supplemental feeding of livestock.

Range improvements in each pasture/allotment would need to be functioning properly prior to livestock turnout.

Periodically check livestock for weed seed to minimize or stop the spread of weeds such as perennial pepperweed from private land or other areas where known weed infestations exist. A guide on preventing the spread of weeds along with specific species of concern is described in the Eastern Sierra Weed Management Area Noxious Weed Identification Handbook.

Notify BLM of noxious weed locations when encountered on allotments.

Hot Creek (6018) Additional

The Hot Creek allotment will be managed as 6 units and billed under actual use. Under Mandatory Terms and Conditions; *Line 1* refers to the Upper Beef unit, *Line 2* refers to the Little Sandy unit, *Line 3* refers to the Grouse Spring (Long Ear) unit, *Line 4* refers to the Alkali Lake unit, *Line 5* refers to the Little Hot Creek unit as part of the USFS Antelope allotment, and *Line 6* refers to the Haileyville unit as part of the USFS Glass Mountain allotment. The BLM will manage and bill the Upper Beef, Little Sandy, Grouse Spring (Long Ears), and Alkali Lake units. Cattle numbers shown will be the maximum allowable for the full season of use. The permittee may run different cattle numbers and a shorter use period so long as use levels are not exceeded. The permittee's annual application will reflect the anticipated cattle numbers and use period for each unit. Actual use data is due to BLM 15 days after come off. The Inyo National Forest will manage and bill the Little Hot Creek unit as part of the USFS Antelope allotment and the Haileyville unit as part of the USFS Glass Mountain allotment.

Wilfred Creek (6022) Additional

The allotment will be managed as 2 units and billed under actual use. Under Mandatory Terms

and Conditions; *Line 1* refers to the east unit (east of the Owens River) and *Line 2* refers to the west unit (west of the Owens River). On or about 7/1, cattle will be turned out onto BLM land with the majority going into the west unit. Cattle will be allowed to drift from the west unit to the east unit. Cattle numbers shown will be the maximum allowable for the full season of use. The permittee may run different cattle numbers and a shorter use period so long as utilization levels are not exceeded. Cattle will be removed from the allotment when use levels are reached or earlier if desired by the permittee. Actual use data is due to BLM 15 days after come off.

Wells Meadow (6051) Additional

The allotment will be grazed under a 3 pasture deferred-rotation system and billed under actual use. Cattle will move to the next pasture once use is met. Cattle will come off the allotment once all 3 pastures have been grazed. Actual use data is due to BLM 15 days after come off.

E. Range Improvements

No new range improvements need to be constructed and no existing range improvements need to be removed to achieve or maintain rangeland health on these six allotments. Therefore, no new range improvements are planned to be constructed and no existing range improvements are planned to be removed as part of the proposed action. However, existing range improvements under cooperative rangeland improvement agreements for these allotments need to be maintained and properly functioning annually. If, through monitoring, the Bishop Field Office identifies a need to construct a new range improvement to achieve or maintain rangeland health or to address a site-specific resource concern, a subsequent site-specific project level environmental assessment would be completed at that time.

F. Monitoring

In general, rangeland allotment monitoring (both upland and riparian) would continue to be conducted annually and/or periodically under three applicable oversight categories. These categories include 1) short term monitoring, 2) long term trend monitoring, and 3) compliance assurance. All monitoring would continue to be performed according to BLM policy and following protocols from BLM approved manuals and technical references. Monitoring would be conducted on an annual schedule for Selective Management Category to Improve (I) allotments and periodically on Selective Management Category to Maintain (M) and Custodial (C) allotments.

The Wilfred Creek and Wells Meadow allotments are designated as Category I allotments in the Bishop Resource Management Plan (Appendix 4, pages A4-5 through A4-7). Consistent with BLM policy, monitoring on these two allotments would be conducted annually.

The Long Valley, Tobacco Flat, and Casa Diablo allotments are designated as Category C allotments and the Hot Creek allotment is designated as a Category M allotment in the Bishop Resource Management Plan (Appendix 4, pages A4-5 through A4-7). Consistent with BLM

policy, monitoring on these four allotments would be conducted periodically.

Short Term Monitoring

Short term monitoring is a tool to gauge the cause and effect of the current grazing management on resource conditions on the allotments. This monitoring consists of information addressing current climatic conditions and the collection of utilization data (including stubble height, if appropriate). Monitoring would consist of documenting utilization levels to ensure that forage utilization on key perennial species does not exceed 40 percent on the average. Key areas would be selected and utilization on key species would be estimated in accordance with the current BLM technical reference. This would assure compliance with permit terms and conditions for the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments.

Long-Term Trend Monitoring

Trend refers to the direction of change. Rangeland data are collected at different points in time on the same site in accordance with the BLM technical reference and the results are then compared to detect change. Trend data are important in determining the effectiveness of on-the-ground management actions.

The Wells Meadow allotment has 3 permanent trend plots on BLM managed public lands. These trend plots were last read in 2007 and prior to that in 1992. A comparison of the 2007 data to the 1992 data indicate that the trend index is up on 2 of the 3 plots and significantly up on the 1 of the 3 plots. Cover and composition of non-native grasses measured in 2007 did not show measurable increases from previous years.

The Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, and Casa Diablo allotments do not have established long-term trend plots. There is no plan at this time to establish long-term trend plots in these five allotments given current management priorities.

Compliance Assurance

Allotment compliance would be conducted on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments on an annual schedule to assure adherence to permit terms and conditions. Compliance involves assuring that livestock are on/off the allotment according to annual application dates, counting livestock numbers, identifying their location, checking brands, and assuring range improvements function properly.

B. Alternative 2 - Current Management (No Action)

This alternative involves issuing new 10-year permits with the same terms and conditions as under the existing authorizations. The only difference between this alternative and the proposed action alternative is that under current management the terms and conditions from both the

Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) are applied broadly to these allotments, without defined implementation guidelines, and have not been tailored to specific vegetation communities and resources on the allotments.

A. Mandatory Terms and Conditions

Mandatory terms and conditions would be the same as described in the proposed action alternative.

B. Terms and Conditions - Bishop Resource Management Plan

No salt or other nutrient supplement or sheep bedding is allowed within 1/4 mile of creeks, aspen groves, meadows, sage grouse strutting grounds or special status plant habitat.

No trailing through a neighboring allotment without prior authorization by the BLM.

Burned areas will be rested for a minimum of 3 growing seasons before grazing, to achieve proper functioning condition, recovery of vegetation or desired plant community.

The Bishop RMP Decision for the Desired Plant Community for riparian vegetation along streams is: “riparian vegetation growth is vigorous for woody plants and at least 4-6 inches of residual herbaceous plant height will remain at the end of the growing season or at the time of livestock turnoff, whichever is later.”

C. Terms and Conditions - Central California Standards for Rangeland Health and Guidelines for Livestock Grazing

Comply with the Central California Standards and Guidelines for Livestock Grazing Management.

The maximum forage utilization limit for key perennial species is not to exceed 40% on sagebrush grassland, semi-desert grassland, semi-desert grass and shrubland or pinyon-juniper woodland rangelands. On salt desert shrubland ranges, the maximum utilization limit for key perennial species is not to exceed 35%.

The maximum forage utilization limit in riparian areas and wetlands is not to exceed 45% for herbaceous species or 20% for shrubs and trees.

The maximum utilization limit for bitterbrush in mule deer concentration areas (i.e. migration corridors or winter ranges) is not to exceed 20% of annual growth before October 1.

D. Other Terms and Conditions

No supplemental feeding (i.e. hay, pellets/cubes, or other forages) is allowed at any time on public lands without the BLM's authorization.

Ensure that livestock are not infested with or cannot transport weed seed, or other weed plant material from such species as 'perennial pepperweed,' coming from private land or other areas where known weed infestations exist. Specific species of concern are those described in the Eastern Sierra Weed Management Area Noxious Weed Identification Handbook.

Hot Creek (6018) Additional

The allotment will be managed as 6 units and billed under actual use. Under Mandatory Terms and Conditions; *Line 1* refers to the Upper Beef unit, *Line 2* refers to the Little Sandy unit, *Line 3* refers to the Grouse Spring (Long Ear) unit, *Line 4* refers to the Alkali Lake unit, *Line 5* refers to the Little Hot Creek unit as part of the USFS Antelope allotment, and *Line 6* refers to the Haileyville unit as part of the USFS Glass Mountain allotment. Permittee is under actual use billing for the Upper Beef, Little Sandy, Grouse Spring (Long Ears), and Alkali Lake units. Actual use data is due to BLM 15 days after come off. Cattle numbers are the maximum allowable for the full season of use. Permittee may run different cattle numbers and a shorter use period so long as use does not exceed 40% on key species and 4"-6" stubble height on meadows (average of all meadows). Permittee's application will reflect the anticipated cattle numbers and use period for each unit. The Inyo National Forest will manage and bill the Little Hot Creek unit as part of the USFS Antelope allotment and the Haileyville unit as part of the USFS Glass Mountain allotment.

Wilfred Creek (6022) Additional

The allotment will be managed as 2 units and billed under actual use. Under Mandatory Terms and Conditions; *Line 1* refers to the east unit (east of the Owens River) and *Line 2* refers to the west unit (west of the Owens River). Cattle numbers shown will be the maximum allowable for the full season of use. The permittee may run different cattle numbers and a shorter use period so long as use levels are not exceeded. On or about 7/1, cattle will be turned out onto BLM land with the majority going into the west unit. Cattle will be allowed to drift from the west unit to the east unit. Cattle will be removed from the allotment when use levels are reached or earlier if desired by the permittee.

Wells Meadow (6051) Additional

The allotment will be grazed under a 3 pasture deferred-rotation system and billed under actual use. Cattle will move to the next pasture once use is met. Cattle will come off the allotment once all 3 pastures have been grazed. Actual use data is due to BLM 15 days after come off.

E. Range Improvements

Range improvements would be the same as described in the proposed action alternative.

F. Monitoring

Monitoring would be the same as described in the proposed action alternative.

C. **Alternative 3 - No Grazing**

This alternative would cancel the permits on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow and Casa Diablo allotments. As a result, grazing would not be authorized on these allotments. Under this alternative, BLM would initiate the process in accordance with 43 CFR parts 4100 and 1600 to eliminate grazing on these allotments and amend the Bishop Resource Management Plan.

D. **Other Alternatives**

No other alternatives were identified or developed as a result of livestock operator consultation, cooperation, and coordination or public scoping efforts.

Chapter 3: ENVIRONMENTAL ANALYSIS

A. LIVESTOCK MANAGEMENT

1. Affected Environment

The Wells Meadow allotment is located on the alluvial fans of the Sierra Nevada mountains in Round Valley, which is part of the Owens Valley Management Area as defined in the Bishop RMP (See Map 1). Livestock kind, livestock class, permitted season of use, and allocated AUMs for the Wells Meadow allotment are:

Allotment	Kind	Class	From	To	AUMs
Wells Meadow	Cattle	Cow-calf	4/1	10/15	129

There is one permittee that uses the Wells Meadow allotment which is billed on actual use. The RMP decision states “eliminate grazing on the Wells Meadow allotment if the current operator transfers or relinquishes his grazing privileges.” In 2004, BLM met with the permittee to discuss the grazing plan for the allotment and RMP decision. The permittee is still considering relinquishing the permit. Currently, the allotment is being used by an Estate Lessee (livestock manager) under an annual Livestock Management Lease Agreement. The pasturing agreement certifies that both parties agree to abide by all terms and conditions set by the BLM for the Wells Meadow allotment. The allotment is used in conjunction with the permittees’ private land and LADWP lease. The allotment is used in a four pasture rotation system with three BLM pastures and one LADWP pasture. Season of livestock use will shift annually among the four pastures. Movement from one pasture to another is determined by utilization levels of key species, both perennial grasses and bitterbrush. Livestock grazing is permitted from April 1st to October 15th, for 20 cattle. Although, the allotment on average is used with ten head of cattle from May 1st to approximately July 15th, depending on forage utilization. Livestock obtain water from Lever Gate Canyon Creek which is put into a pipeline and distributed to four troughs. Timing of winter and spring precipitation has an effect on forage condition resulting in vegetative growth and vigor of perennial species and affecting the abundance of annual species. The operator may adjust their grazing plan depending on the amount of precipitation received and/or annual forage production attained in the Owens Valley. These strategies may include adjusting on/off dates around annual forage growth, a slight increase in livestock numbers in wetter years, or decreasing numbers to adjust for drought conditions. These operational changes require prior approval by the BLM.

The Hot Creek allotment is located north of Crowley Lake in Long Valley, within the Long Valley Management Area as defined in the Bishop Resource Management Plan (RMP) (See Maps 2-3).

The six units including the United States Forest Service (USFS) units, livestock kind, livestock class, permitted season of use, percent public land (% P.L.), and allocated animal unit months (AUMs) for the Hot Creek allotment are:

Hot Creek Allotment	Kind	Class	From	To	% P. L.	AUMs
Upper Beef	Cattle	Cow-calf	5/15	10/31	1	5
Little Sandy	Cattle	Cow-calf	5/15	10/31	2	10
Grouse Spring	Cattle	Cow-calf	5/15	10/31	11	61
Alkali Lake	Cattle	Cow-calf	5/15	10/31	50	159
Little Hot Creek (USFS)	Cattle	Cow-calf	6/20	8/13	36	53
Haileyville (USFS)	Cattle	Cow-calf	7/01	9/15	13	15

There is one permittee that uses the Hot Creek allotment and they follow the grazing strategy stated in the draft allotment evaluation of 1997. The Hot Creek allotment will be managed as 6 units and billed under actual use. The BLM will manage and bill the Upper Beef, Little Sandy, Grouse Spring (Long Ears), and Alkali Lake units. The majority of the Upper Beef unit is LADWP land and is comprised mainly of irrigated meadows. The allotment is used starting between May 15th and June 1st, depending on forage condition. The operator grazes the allotment for approximately one month, then removes livestock, and continues irrigating to let the meadows mature and go to seed set. The operator will return approximately September 10th and will stay until October 31st, depending on forage condition. The majority of the Little Sandy unit is LADWP land and is comprised mainly of irrigated meadows. This unit is fenced into several pastures and functions on a rotational grazing system. Livestock are moved from one pasture to the next depending on forage utilization and irrigation of the meadows. The Little Sandy unit is minimally grazed in the spring between May 15th and June 1st, depending on forage condition. No grazing occurs in July and the operator continues irrigating to let the meadows mature. Livestock return to the allotment starting around August 1st and stay for approximately one month, depending on forage condition. The majority of the Grouse Spring unit (also known as Long Ears) is LADWP land with BLM land comprised of upland sagebrush and bitterbrush plant communities. This unit is used starting in mid-June and is only used until approximately the first of August, depending on forage condition. The Grouse Spring unit is often rested for the month of August. Half the numbers of yearlings are sold by the first of September so the unit receives lighter use in the fall. The Alkali Lake unit is half BLM land and half LADWP land. Some irrigated meadows exist within this unit, along with meadows, and sagebrush and bitterbrush upland plant communities. The Alkali Lake unit receives use for approximately forty-five days starting around June 1st, depending on forage condition. The Little Hot Creek unit contains USFS, private, and BLM land, and is comprised of meadows, irrigated meadows, and upland sagebrush and bitterbrush plant communities. The USFS bills for this unit. The allotment is used starting approximately June 20th and is grazed for twenty to thirty days, depending on forage utilization. Finally, the Haileyville unit contains USFS, LADWP, and BLM land. LADWP land is comprised of meadows and some upland plant communities, and contains the majority of the forage. The USFS and BLM land are comprised solely of sagebrush and bitterbrush upland plant communities. The Haileyville unit is grazed starting about July 1st and is used for approximately two to six weeks, depending on forage condition. For all six units, the

operator may adjust their grazing plan depending on the amount of precipitation received in Long Valley. These strategies may include running different livestock numbers and changing use periods for wetter or drier years, so long as permitted AUMs and utilization levels are not exceeded. These operational changes require prior approval by the BLM.

The Wilfred Creek is located north of Crowley Lake in Long Valley, within the Long Valley Management Area as defined in the Bishop Resource Management Plan (RMP) (See Maps 2-3). The two units, livestock kind, livestock class, permitted season of use, percent public land (% P.L.), and allocated animal unit months (AUMs) for these allotments as prescribed in the Bishop RMP (BLM 1993) are:

Wilfred Creek Allotment	Kind	Class	From	To	% P. L.	AUMs
East	Cattle	Cow-calf	6/1	11/30	66	175
West	Cattle	Cow-calf	6/1	11/30	27	130

There is one permittee that uses the Wilfred Creek allotment and they follow the grazing strategy stated in the draft allotment evaluation of 1997. The allotment will be managed as 2 units and billed under actual use. The East unit refers to the east side of the Owens River and the West unit refers to the west side of the Owens River. The East unit contains both LADWP and BLM lands and is comprised of a sagebrush and bitterbrush plant community. The operator has a 200 head permit on the USFS Wilfred Creek allotment which is used in the summer months and is located east of the BLM Wilfred Creek allotment. The USFS and BLM allotments are separated by a boundary fence. Livestock grazing on public land most often occurs from mid-July to early September with approximately one hundred head of cattle, when the operator is moving livestock from the USFS allotment down to the Owens River. There is one trough located on public land that receives water from a pipeline that obtains water from Wilfred Creek located on USFS land and another trough located on public land that receives water from Long Valley Well. The majority of the West unit is LADWP land comprised mainly of meadows with BLM land comprised mainly of upland sagebrush and bitterbrush plant communities. Livestock grazing is permitted from June 1st to November 30th, although, the allotment is most often used from the 1st of July to approximately September 4th, depending on forage utilization with generally 200 head of cattle. BLM land is unfenced from the permittees' adjacent LADWP leased land, allowing unimpeded livestock drift across each agency's land. LADWP owns most of the meadows which contains the Owens River and its flood plain soils. Because of these nutrient rich soils, better quality and more productive forage is found on LADWP lands. The majority of livestock grazing occurs on LADWP due to the better quality forage; however, drift onto public land can occur throughout the grazing period. The LADWP's grazing management program is set by its own internal agency policies. The operator moves livestock weekly throughout the grazing season so utilization levels are not exceeded. For both East and West units, the operator may adjust their grazing plan depending on the amount of precipitation received in Long Valley. These strategies may include running different livestock numbers and changing use periods for wetter or drier years, so long as permitted AUMS and utilization levels are not exceeded. These operational changes require prior approval by the BLM.

The Long Valley, Tobacco Flat, and Casa Diablo allotments are located in the vicinity of Crowley Lake in Long Valley, within the Long Valley Management Area as defined in the Bishop Resource Management Plan (RMP) (See Maps 2-3). Livestock kind, livestock class, permitted season of use, and allocated animal unit months (AUMs) for these allotments as prescribed in the Bishop RMP (BLM 1993) are:

Allotment	Kind	Class	From	To	AUMs
Long Valley	Cattle	Cow-calf	5/1	10/31	11
Tobacco Flat	Cattle	Cow-calf	6/16	10/15	32
Casa Diablo	Sheep	Ewes	6/15	9/30	40

There is one permittee that uses the Long Valley allotment in conjunction with the permittees' LADWP lease. There are a few isolated parcels of BLM land within the allotment boundary adjacent to unfenced LADWP leased land. The majority of LADWP land is comprised mainly of irrigated meadows and BLM land is comprised of sagebrush and bitterbrush plant communities. Therefore, the vast majority of grazing occurs on LADWP land because of the better quality and more productive forage. However, drift onto public land can occur throughout the grazing period. Livestock grazing is permitted from May 1st to October 31st, although, the allotment is most often used from the 1st of June to approximately July 1st, depending on forage condition. Livestock water at Crowley Lake on LADWP land.

There is one permittee that uses the Tobacco Flat allotment which is the same operator that is permitted to use the Long Valley allotment. The Tobacco Flat allotment is used in conjunction with the permittees' LADWP lease and USFS permit. Livestock grazing is permitted from June 16th to October 15th, although, the allotment is most often used starting the 16th of June for approximately one month, depending on forage condition. The operator only uses the Tobacco Flat allotment approximately 1 year out of 3 years, depending on forage condition. Livestock water at one trough located on LADWP land. The operator may adjust their grazing plan depending on the amount of precipitation received in Long Valley. These strategies may include running different livestock numbers and changing use periods for wetter or drier years, so long as permitted AUMS and utilization levels are not exceeded. These operational changes require prior approval by the BLM.

There is one permittee that uses the Casa Diablo allotment as an on/off with the permittees' adjacent USFS Casa Diablo allotment. Livestock grazing is permitted from June 15th to September 30th, although, the allotment is most often used starting the 1st of August for approximately 8 days, depending on forage condition. The sheep operator uses old camps, bedding grounds, and watering sites which are mainly located on LADWP and USFS lands.

2. Environmental Consequences

a. Impacts of Proposed Action

Reissuing the grazing permits with revised, allotment specific terms and conditions would not

create negative impacts to livestock operations. Because livestock grazing practices would follow the Bishop RMP guidelines as amended by the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) and the revised terms and conditions, permittees would have to manage their livestock (e.g. strategic salt placement or adjustment in livestock distribution) so forage utilization on key perennial species do not exceed utilization levels, as defined in the proposed terms and conditions. Furthermore, these terms and conditions are designed to help maintain, protect, or improve rangeland health, increasing the probability of long term economic viability for the permittees.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. Impacts of No Grazing

The cancellation of grazing on these six allotments would require the operators to look for alternative forage and may increase the cost of their ranching operations. For the operators that also have LADWP leases and/or Forest Service allotments, the grazing capacity of their LADWP and/or Forest Service land may not accommodate the increased use or meet LADWP or Forest Service management requirements of those lands. The permittees may be forced to operate with fewer livestock. There would be unauthorized grazing drift use onto BLM land, since their LADWP leased or Forest Service permitted land are unfenced, creating additional administrative costs for the agency and the permittees.

3. Maps

Overview of Allotments (Maps 1 – 3)

B. AIR QUALITY

1. Affected Environment

The Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments are not within any federal non-attainment/maintenance area under jurisdiction of the

Great Basin Unified Air Pollution Control District's (GBUAPCD). Federal actions are not subject to conformity determinations under 40 CFR 93.

2. Environmental Consequences

a. Impacts of Proposed Action

Fugitive dust emissions could occur due to the soil disturbance as a result of the trampling action of livestock when soil moisture levels are low. Ruminant animals emit methane gas which is a precursor emission for ozone. The support vehicles emit various precursor emissions for ozone. Actual emission amounts from this grazing activity are negligible.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. Impacts of No Grazing

There would be no fugitive dust emissions from livestock trampling or precursor emissions for ozone.

C. AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

The proposed action, no action, and no grazing alternatives would have no effect on any designated Area of Critical Environmental Concern (ACEC) because the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments do not occur within or adjacent to any designated ACEC.

D. CULTURAL RESOURCES

1. Affected Environment

Located on the western fringe of the Great Basin physiographic province the Owens Valley

region, incorporated within the Bishop Field Office, 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 Office; “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.

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 (m²) in the Benton Planning Unit to 4 sites/m² in the Owens Valley Planning Unit, with an average of 9.54 sites/m² in the Bodie/Coleville Planning units.

To evaluate each allotment for cultural resource values, a Class I records search was conducted, and GIS was utilized to determine previously surveyed acres and sites recorded on each allotment. Range improvements where cattle congregate (troughs, salt licks, reservoirs, etc.) were mapped. Following the Bishop Field Office research design for grazing allotment assessments (Halford 1999), all areas with a high probability for the congregation of livestock and for the occurrence of significant cultural resources were field evaluated. Inventory was focused on known or suspected areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas, and salt block stations. The results of the analyses are used to protect or mitigate impacts to cultural resources. If significant cultural resources are identified, the stipulations of the grazing permit may be modified to reflect the presence and protection of these resources.

The following table shows the results of the cultural resource analyses on BLM administered lands within each allotment:

Allotment	Previously Surveyed (% of allotment)	Previously Recorded Sites	Newly Surveyed	Newly Recorded Sites
Hot Creek	690 acres (11%)	12	80 acres	5
Wilfred Creek	406 acres (6%)	11	60 acres	2
Long Valley	68 acres (33%)	1	0	0
Tobacco Flat	200 acres (52%)	5	30 acres	0
Wells Meadow	205 acres (16%)	2	23 acres	0
Casa Diablo	197 acres (9%)	0	0	0

2. Environmental Consequences

a. Impacts of Proposed Action

On the Long Valley, Tobacco Flat and Casa Diablo allotments, impacts to cultural properties are predicted to be minimal as a result of the proposed action for the following reasons. The allotments in general do not receive heavy use and serve as fringe allotments to LADWP leases

where more desirable water and suitable vegetation occur. AUMs on these allotments are minimal (< 40 per allotment) and as a result, cattle use on the BLM allotments is generally highly dispersed with light use. Of these allotments, only one water improvement occurs on the Tobacco Flat allotment, but no cultural resources were found during inventory of the area.

On the Hot Creek, Wells Meadows and Wilfred Creek allotments, water improvements and congregation areas were assessed following the cultural resource grazing allotment assessment research design (Halford 1999).

On the Wells Meadow allotment, four troughs occur on BLM, but during field evaluations none were found to be in use. Some areas of the allotment are receiving concentrated use, but field assessments revealed no cultural resources in the heavily used areas. If the current troughs are improved or put back into commission cultural resource inventories should be undertaken.

On the Wilfred Creek allotment, two troughs were evaluated and no sites were found to occur in the vicinity. Sites MNO-700, 701 and 702 were revisited and MNO-702 was re-recorded. This allotment serves as fringe allotment to LADWP leases and private property and grazing use was found to be minimal.

The Hot Creek allotment also serves as a fringe allotment to adjacent LADWP leases and private property in Long Valley. Field evaluations were focused on the perennial Hot Creek stream corridor and spring sites. Eighty acres were surveyed and five new sites recorded and CA-MNO-699 was rerecorded and CA-MNO-1788 was visited. While cattle use is heavy in the meadow/spring source within site MNO-699, cultural deposits are not receiving much impact due to their location above the meadow complex outside of the congregation area. At MNO-1788, the site is mainly on private and a boundary fence segregates private from public lands. Trailing occurs along the fence, but no significant cultural deposits were found on BLM and impacts on the BLM portion of the site are minimal.

In general, the cultural assessments indicate that grazing impacts to cultural resources on BLM administered lands are minimal, but continued monitoring is recommended for the Hot Creek allotment.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland

health standards and guidelines.

c. Impacts of No Grazing

This alternative would eliminate all livestock threats of damage to cultural properties.

3. Maps

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

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E. ENVIRONMENTAL JUSTICE

1. Affected Environment

There are no low-income or minority populations living on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments.

There are 11 Native American communities who reside in close proximity to these six allotments. Members of these communities do some hunting and subsistence collecting of materials from public lands on various allotments throughout the BLM, Bishop Field Office such as, pinyon nuts, basket weaving materials, medicinal plants, etc. Some work in nearby local communities or are employed on their respective reservations.

There may be low-income minorities working for the livestock operators on these allotments.

2. Environmental Consequences

a. Impacts of Proposed Action

Continued livestock grazing on these six allotments would have no effect upon any low-income or minority populations. If any changes in grazing management 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 and sustained as a result of the long-term livestock grazing sustainability from rangeland health standards implementation. Any such impacts would be limited to a single job here or there. There would not be a disproportionate impact, either negative or positive, to any low-income minority.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

If there were no grazing allowed on these allotments, 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. There would not be a disproportionate impact to any low-income minority.

There might be a slight positive impact to some groups (e.g. Native American) through increased availability of some vegetative resources that are collected on public lands. This would however vary by area and type of resource, and would probably be minimal on these allotments.

F. ESSENTIAL FISH HABITAT

The proposed action, no action, and no grazing alternatives would have no effect on essential fish habitat because there are no anadromous fish species or designated essential fish habitats present on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments.

G. FARMLANDS, PRIME OR UNIQUE

The proposed action, no action, and no grazing alternatives would have no effect on farmlands, prime or unique, because none are present on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments.

H. FLOOD PLAINS

The proposed action, no action, and no grazing alternatives would have no effect on flood plains because none are present on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments.

I. INVASIVE, NON-NATIVE SPECIES

1. Affected Environment

The following table represents invasive weed species that occur in the identified allotments:

Allotment	Invasive Weed Species	Estimated % Cover (Rangeland Health Assessments 2000, 2001, and 2002)
Hot Creek	Cheat grass (<i>Bromus tectorum</i>)	10-15%
	Russian thistle (<i>Salsola tragus</i>)	<10%
Wilfred Creek	Cheat grass (<i>Bromus tectorum</i>)	10-15%
	Russian thistle (<i>Salsola tragus</i>)	<10
Long Valley	Cheat grass (<i>Bromus tectorum</i>)	10-15%
	Russian thistle (<i>Salsola tragus</i>)	<10
Tobacco Flat	Cheat grass (<i>Bromus tectorum</i>)	20-25%
	Russian thistle (<i>Salsola tragus</i>)	10%
Wells Meadow	Cheat grass (<i>Bromus tectorum</i>)	25-30%
	Russian thistle (<i>Salsola tragus</i>)	10%
Casa Diablo	Cheat grass (<i>Bromus tectorum</i>)	20-25%
	Red brome (<i>Bromus madritensis</i> var. <i>rubens</i>)	15-20%
	Russian thistle (<i>Salsola tragus</i>)	20-25%

Rangeland Health Assessments documented low occurrences of invasive species primarily due to the ashy loam Cashbaugh soil types that dominate the Hot Creek, Wilfred Creek, and Long Valley allotments. Tobacco Flat, Wells Meadow, and Casa Diablo allotments contain higher densities of invasive species. Current invasive species densities on the Wells Meadow and Casa Diablo allotments are increasing fire frequency risk. At this time, densities are not affecting overall ecological function including reductions in native species composition.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would benefit site conditions and native vegetation because the proposed terms and conditions are designed to help reduce the spread of weeds and maintain or improve rangeland health. 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.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. 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. Impacts from invasive weed species on native plant communities may initially be slightly greater than the proposed action. 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. References

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

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.

J. NATIVE AMERICAN CULTURAL VALUES

1. Affected Environment

There are 11 Native American communities who reside in or in close proximity to the eastern Sierra region administered by the Bishop Field Office. None of these communities are living on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments. There are no treaty rights (hunting, fishing, etc.) associated with any of the communities or any of these allotments.

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

Some general concerns associated with Native American cultural values identified by the Tribes during consultation are:

- They have general concerns with overgrazing and want BLM 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 for grazing habitat improvement.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action is not expected to have any impacts to Native American concerns described above. The rangeland health assessment showed these allotments currently meet rangeland health standards. The proposed terms and conditions are designed to help protect and sustain rangeland health, keep the ecosystem functioning properly, and thereby maintain or improve the

natural environment that Native American cultural values depend on. Monitoring would continue and any impacts that affect Native American sites from high congregation and concentration of livestock use would be corrected.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

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

K. RECREATION

1. Affected Environment

Recreational access in the six allotments is approximately 50 miles of primitive four wheel drive and single track motorized vehicle routes and trails over a large geographic area. This limited access and lack of facilities precludes intensive recreation activity in most places within the allotments. Primary recreational activities that take place are motorized touring, sight seeing, hunting, hot tub soaking, and dispersed camping.

Within the Hot Creek and Wilfred Creek allotment (Whitmore area) there are several hot springs and developed tubs which have become popular recreation destinations. Wild Willies hot tub is the largest and most popular of the tubs located on public land, consisting of a partially developed site (a parking area, information kiosk, designated boardwalk, and a large concrete tub). Livestock frequent the area and are sometimes at the hot tub, within a few feet of bathers. There has been no problem with livestock conflicts to date. The recreational expectation is to share the landscape with the livestock. Additional tubs (Rock Tub, Shepherd, Crab Cooker, and Hill Top) while not as developed as Wild Willies, provide similar experiences – livestock are often in the immediate vicinity, but do not preclude use of the tubs. Some of these tubs are on Los Angeles Department Water and Power (LADWP) land, with access via public land. Some

tubs are on public land, with access via LADWP land. Encounters with livestock occur and are expected as the landscape is open range.

Within the Wells Meadow, Long Valley, Casa Diablo, and Tobacco Flat allotments, recreationists encounter livestock infrequently as there are few access points and no concentrated or specific recreation destinations.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action alternative would have no effect on recreation because throughout the allotments, there are encounters with livestock and there have been no problems to date. There are no proposed additional facilities or management practices that could potentially alter existing recreation uses or use patterns in any of the six allotments. Under the proposed action alternative, recreationists would continue to encounter livestock in those areas of concentrated use at the hot tubs in the Hot Creek and Wilfred Creek allotments and will encounter livestock infrequently elsewhere.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. Impacts of No Grazing

The impact of the no grazing alternative would have no effect on recreation because of the lack of proposed facilities or management practices that could potentially alter existing recreation uses or use patterns. Removing grazing would result in fewer encounters between livestock and visitors at the hot tubs.

L. SOCIAL AND ECONOMIC VALUES

1. Affected Environment

Regionally, livestock operations involve use of BLM, Forest Service (USFS), or Los Angeles Department of Water and Power (LADWP) lands. The Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments have five permittees. There is a careful balance of livestock numbers and seasons of use for grazing these allotments, such that any substantial change of use, would negatively affect their overall operation by reducing available forage and management flexibility required for a profitable operation.

The local economy is benefited by these grazing operations from capital spent to establish and maintain a ranching operation and contributions to the labor force. In Inyo County for 2005, agriculture was the second largest industry and remains an integral part of the county's economy (Counties of Inyo and Mono Agriculture Department 2005). Beef and alfalfa production was the primary production crops. Of a 100% total in agricultural values, livestock production accounted for 55%. This amounted to \$9,117,850 or 55% of the total \$16,614,350 agricultural production in Inyo County. In Mono County for 2005, agriculture was the second largest industry and is an integral part of the county's economy. Beef and alfalfa production is the primary production crops. Of a 100% total in agricultural values, livestock production accounted for 64% in Mono County. This amounted to \$17,115,500 or 64% of the total \$26,973,450 agricultural production.

Additionally, the allotments lie in a broad region and valley that is largely undeveloped and rural in nature. Tourism is a primary industry of the area, attracting millions of annual visitors who enjoy the rural, isolated nature of the eastern Sierra. Livestock grazing, for some people, complements the frontier setting they seek in their visits to the area.

2. Environmental Consequences

a. Impacts of Proposed Action

These grazing operations benefit the local economy from monies spent to establish and maintain a ranching operation and contributions to the labor force. Sustaining these operations, from continued use of these allotments, would have a positive economic effect on the stability of their overall livestock operation. The social value of retaining a rural, agricultural lifestyle would be preserved and would keep with the public's perception of the Long Valley and Owens Valley's western culture. The proposed action would not adversely impact the social and economic stability of these ranching operations.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management

Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

If grazing were terminated on these six allotments, there would be adverse impacts to the five operators. The grazing capacity of their other federal permits or private leases may not accommodate the increased use or meet land management requirements. The permittees may be forced to operate with fewer livestock. There would be unauthorized grazing use onto BLM lands, since their private and/or federal permitted lands are unfenced. Livestock trespass or drift onto BLM land would result in administrative costs to the agency. The BLM may also receive criticism of this decision from its local constituency because of potential agricultural economic losses.

3. References

Counties of Inyo and Mono Agriculture Department. 2005. Annual Crop and Livestock Report. (Prepared June 8, 2006).

M. SOILS

1. Affected Environment

The soil classification of the allotments have been mapped in detail by the Natural Resource Conservation Service (NRCS). Two general soil types exist on the six allotments. The first soil type is soils of the mountainous regions which are shallow to very deep, well drained sandy loams to loams. The second soil type is soils of the stony alluvial fans which are very deep, well to somewhat excessively drained sands to sandy loams. Both soils tend to limit the establishment of seeds and seedling development because of the sand to cobble structure. Furthermore, the very shallow soils may restrict water infiltration and plant rooting. These soils primarily occur on slopes and ridges. Ash 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 Great Basin shrub species.

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 livestock hoof action which disturbs the soil surface. 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. 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 erosional problems on the allotments.

BLM assessed these allotments in 2000, 2001, and 2002 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.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would create no new impacts because the proposed terms and conditions are designed to help maintain, protect, or sustain rangeland health including soils, and to keep the ecosystem functioning properly. For example, improvements in ecological attributes would be a result of less intensive forage utilization levels which would lead to increases in plant biomass production resulting in adequate soil protection (e.g. wind erosion).

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

The no grazing alternative would have little to no impact on soils since few impacts currently occur.

3. References

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

United States Department of Agriculture, Natural Resource Conservation Service. 1996. Soil Survey of Benton-Owens Valley Area, California, Parts of Inyo and Mono Counties.

N. VEGETATION/THREATENED AND ENDANGERED

Plant Communities

1. Affected Environment

Uplands

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 update ecological site descriptions. The allotments occur in the Great Basin Physiographic Province. The dominant plant community is sagebrush steppe with inclusions of mountain brush communities dominated by mountain mahogany (*Cercocarpus ledifolius*) (Tobacco Flat), (Barbour and Major 1977). Plant composition based on cover is approximately 80% shrubs, 15 % grasses and 5% forbs. Sagebrush species include mountain big sage (*Artemisia tridentata* ssp. *vaseyana*), big sagebrush (*Artemisia tridentata* ssp. *tridentata*), and low sage (*Artemisa arbuscula*). Bitterbrush (*Purshia tridentata*), desert peach (*Prunus andersonii*), Nevada ephedra (*Ephedra nevadensis*), and rabbitbrush (*Chrysothamnus*) species are subdominant. The Wells Meadow allotment also contains blackbrush (*Coleogyne ramosissima*) at the lower elevations and dispersed stands of buckbrush (*Ceanothus greggii*) in the western portion of the allotment. Understory species are varied and consist of native perennial bunch grass species; western needlegrass (*Achnatherum occidentale*), Indian rice grass (*Achnatherum hymenoides*), Great Basin wild rye (*Leymus cinereus*), and squirrel tail (*Eymus elymoides*) as well as perennial and annual forbs in the Astragalus, Eriogonum, Eriastrum, Gilia Lupinus, and Phlox genera.

The majority (80-90%) of these plant communities within these allotments are consistently grazed at the moderate to high level. Forage capacity on these allotments is moderate and the plant communities are capable of withstanding 40% use without long-term impacts to ecological function including plant vigor, seedling recruitment and recovery (Beetle *et. al* 1961, Jasmer *et. al* 1984). Active recruitment of bitterbrush has been occurring on all the target allotments, but perennial grass use in portions of the allotments often exceeds 60% due to the confined geography of the allotments and unfenced boundaries with Los Angeles Department of Water and Power irrigated meadow parcels.

Alkali Meadow

Alkali Meadow is a rare natural community, State-ranked S2.1 (very threatened) and it is the most extensive wetland vegetation type within the Wilfred and Hot Creek allotments. Dominant species include a variety of perennial grasses such as salt grass (*Distichlis spicata*), alkali cordgrass (*Spartina gracilis*), Great Basin wild rye (*Leymus cinereus*), bluegrass (*Poa secunda* ssp. *Juncifolia*), and meadow brome (*Hordeum brachyantherum*). Common rushes include baltic rush (*Juncus balticus*) and perennial forbs include *Crepis runcinata* ssp. *hallii*, *Ivesia kingii* var. *kingii* and *Pyrrcoma racemosa* var. *sessilifolia*, alkai peppergrass (*Lepidium montanum* var.

nevadense) and blue-eyed grass (*Sisyrinchium halophytum*).

2. Environmental Consequences

a. Impacts of Proposed Action

Under the proposed action, grazing impacts such as weed presence and localized soil disturbance would affect very small portions (< 1-2 acres in size) of these allotments and be associated with mineral blocks. These impacts would not contribute to a large-scale reduction in ecological function of the plant communities that occur within these allotments, but would require periodic (2-5 years) monitoring to determine impact thresholds.

The terms and conditions outlined in the proposed action would sustain and improve the following key floristic and ecological attributes within these allotments (BLM 1998);

- Increased cover of perennial grasses
- Better root distribution
- Increased species diversity
- Increased photosynthetic period
- Increased vegetation structure
- Increase in episodic recruitment of shrubs, grasses, and forbs

Such improvements in floristic and ecological attributes would be a result of less intensive forage utilization levels and range improvements which would lead to commensurate increases in annual below and above ground grass and forb biomass production. The implementation of the terms and conditions on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments would enhance and sustain the large-scale ecological function of these plant communities especially during non-drought years (BLM 1999, 2000) and when stocking rates are low.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under this alternative, livestock grazing on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments would cease. Individual plant populations within the communities that are commonly grazed would have an opportunity to complete all phenological stages. Slight increases in weed densities could occur due to a reduction of early season grazing on these target species. Impacts to the ecological function of these plant communities would be confined to natural disturbances, e.g. fire, insect damage, drought, and other non-anthropogenic induced effects.

3. Maps

Allotment Assessment Maps, CNDDDB GIS coverage (not included in EA but available at the Bishop Field Office).

4. References

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

California Department of Fish and Game. 1997. California Natural Diversity Database.

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.

Cook, C. Wayne. 1977. Effects of Season and Intensity of Use on Desert Vegetation. Utah Agricultural Experiment Station. Bulletin 483.

Department of Interior, BLM. 1998. Riparian area management: a user guide to assessing proper functioning condition and the supporting science for lotic areas. Technical Reference 1737-15, U.S. Department of the Interior, Bureau of Land Management, Denver, CO.

Department of Interior, BLM. 1998. Rangeland health standards and guidelines for California and northwestern Nevada: Final EIS. California State Office, U.S. Department of the Interior, Bureau of Land Management, Sacramento, CA.

Department of the Interior, BLM. 1998. Rangeland Health Standards and Guidelines for California and Northwestern Nevada. BLM/CA/ES-98/005+4100.

Department of the Interior, BLM. 1999, 2000. Rangeland Health Assessments. Technical

Reference 1734-6, 2000, Interpreting Indicators of Rangeland Health (Version 3).

Elmore, W. and B. Kauffman. 1994. Riparian and Watershed Systems: Degradation and Restoration IN: Ecological

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

Laycock, W.A. 1994. Implications of grazing vs. no grazing today's rangelands. In: M. Vavra, W. Laycock and R. Pieper, eds. Ecological implications of livestock grazing in the West. Society for Range Management. Denver, CO.

Threatened and Endangered Plant Species

The proposed action, no action, and no grazing alternatives would have no effect on threatened or endangered vegetation species because no federally listed threatened or endangered species are present on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow and Casa Diablo allotments based on historical records, field monitoring, and/or habitat suitability.

Special Status Plant Species

1. Affected Environment

The following allotments contain or are in the vicinity of this CNPS List 1B species as well as other plants of limited distribution;

Allotment	Plant Species	Population Trend
Hot Creek	Long Valley milk-vetch (<i>Astragalus johannis-howellii</i>)	Static
	Mono milk-vetch (<i>Astragalus monoensis</i>)	Static to increasing
Wilfred Creek	alkali ivesia (<i>Ivesia kingii</i> var. <i>kingii</i>)	Static
	alkali tansy sage (<i>Sphaeromeria potentilloides</i>) (List 2)	Unknown, but limited in distribution.
	Long Valley milk-vetch (<i>Astragalus johannis-howellii</i>)	Static to increasing
	meadow hawksbeard (<i>Crepis runcinata</i> ssp, <i>hallii</i> (List 2)	Unknown, but limited in distribution.
Long Valley	Long Valley milk-vetch (<i>Astragalus johannis-howellii</i>)	Static

List 2* - Plants rare, threatened, or endangered in California, but more common elsewhere

Populations of the Long Valley milk-vetch are most extensive throughout the Wilfred Creek allotment. The Mono milk-vetch occurs in the Hot Creek allotment which also contains eight populations of the Long Valley milk-vetch. The alkali ivesia, meadow hawksbeard and tansy sage are restricted to the Wilfred Creek allotment and Los Angeles Department of Water and Power land. Current impacts associated with livestock grazing are primarily related to periodic trampling effects on the alkali ivesia and meadow hawksbeard. Some trailing also occurs through populations of the Long Valley and Mono milk-vetch populations, but numbers of individuals within these populations are robust and active seedling recruitment of the Long Valley milk-vetch has been evident during periods associated with higher precipitation levels (e.g. 2005 and 2006). Ancillary impacts to these populations are also associated with increased off-highway vehicle use, especially in the Hot Creek allotment area as well as drought conditions (DeDecker 1979, BLM Memo 1982).

2. Environmental Consequences

a. Impacts of Proposed Action

Impacts of the proposed action would likely continue to improve the status of some of these populations because livestock use would occur after seed set of these target Special Status Plant Species, and the frequency and duration of trampling effects would be reduced.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

Impacts of the no grazing alternative would remove the periodic grazing related impacts to these Special Status Plant Species and allow areas where trailing occurs to become revegetated with native species including the Special Status Plant Species. It is unknown whether removal of livestock would significantly increase the total number of Special Status Plant Species within the target allotments.

3. Maps

CNDDDB and BLM Special Status Plant Species GIS coverage (not included in EA).

4. References

Department of the Interior, BLM. 1999, 2000. Rangeland Health Assessments, Technical Reference 1734-6, 2000, Interpreting Indicators of Rangeland Health (Version 3).

CNDDDB and BLM Special Status Plant Species GIS coverage (not included in EA).

O. WASTE, HAZARDOUS OR SOLID

The proposed action, no action, and no grazing alternatives would not generate hazardous or

solid waste on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow and Casa Diablo allotments.

P. WATER QUALITY, DRINKING-GROUND

1. Affected Environment

Perennial surface water occurs in the Hot Creek, Long Valley, Tobacco Flat, and Wilfred Creek allotments as either springs and/or streams. The Casa Diablo and Wells Meadow allotments are devoid of surface water. The water quality data available consists mostly of one-time measurements. The value of this data is limited since variations in water quality occur over time in response to management changes or stochastic variability is not reflected. None of the water sources are tributary to a California State 303d listed water quality limited stream. There is no water quality information available for the small segment of Whisky Creek in the Long Valley allotment.

The majority of surface water is represented as natural springs within the Hot Creek, Tobacco Flat, and Wilfred Creek allotments. Water quality data are limited for most of these sources to a one-time measurement of temperature, pH, and electrical conductivity. A sampling of the inventoried springs within the allotments found a geothermal component to a majority of the sources. As examples, the temperatures for springs in the Hot Creek and Wilfred Creek allotments ranged from approximately 50 to 135 °F. Since the higher temperatures are likely interfering with the biological activity at the spring source, some aquatic organisms may be fewer in number or not present in the outflow until the water has cooled some distance downstream. For these same sources, pH (a measure of the acidity or alkalinity of water) is generally near neutral (pH = 7.0) and, therefore, at a level optimal to the growth of most aquatic life like fish and invertebrate species. An oddity in pH measurement was one of two springs in the Tobacco Flat allotment which recorded a one-time value of 3.0, equal to the pH of vinegar. For electrical conductivity (which estimates the amount of total dissolved salts/solids, TDS, of water), values recorded at all of the thermal springs sampled greatly exceeded the National Secondary Drinking Water Standard (TDS = 500 mg/liter) by magnitudes of 4 to 5 times the maximum level. While an elevated TDS concentration is not a health hazard, the water may be corrosive, salty or brackish and may contain elevated levels of ions that are above the National Primary or Secondary Drinking Water Standards.

One thermal spring in the Hot Creek allotment (inventory number 12-9-1C), known as the Rock Tub, is very high in its naturally occurring concentration of arsenic, exceeding the maximum contaminant level by several orders of magnitude for the National Primary Drinking Water Standard. While water from this source is not known to be consumed by humans, the source is also apparently unsuitable for other forms of domestic use like recreational bathing. This is the only spring that has been sampled for a broad spectrum of constituents. Livestock occasionally drink from the Rock Tub artificial pool. Other springs in the area supplying thermal water to hot tubs may have similar concentrations of arsenic.

The Hot Creek allotment contains small segments of the Hot Creek and Little Hot Creek streams. Both streams were sampled at the same time periods for the same broad spectrum of constituents as spring 12-9-1C. The naturally occurring arsenic concentrations were recorded in both streams at levels well above the maximum contaminant level for the National Primary Drinking Water Standard, similar to spring 12-9-1C. Hot pool bathing has been eliminated in Hot Creek by the Inyo National Forest due to the extreme life threatening water temperature. Bathing at the spring source of Little Hot Creek occurs on the Inyo National Forest. Whether the arsenic concentrations in spring 12-9-1C, Hot Creek and Little Hot Creek are deleterious to livestock is unknown.

The use of the spring sources in the Hot Creek and Wilfred Creek allotments by cattle is intermittent during June through October, annually. The thermal nature and boggy soils around most water sources makes them unattractive to concentrated livestock use. The primary impact livestock cause to water quality is brief suspension of sediment in the outflow when they either walk in the water or push soil into the small channels when walking close to the bank edges. Soil compaction occurs in the immediate vicinity of some springs. The two springs in the Tobacco Flat allotment are never used by livestock due to their physical locations. Cattle grazing is absent along the one-half mile segment of Hot Creek due to most of the stream being in a canyon and, therefore, not accessible. Where Hot Creek opens on to a bottom land meadow downstream of the canyon, cattle do not impact the stream or banks until near the lower boundary of public land. Water quality is not affected by livestock use along Hot Creek. Little Hot Creek is a small geothermal stream running through a barren alkali flat and is entirely accessible to cattle use. Livestock have not had major detrimental effects on the stream environment and water quality constituents, based on inventory data. Little Hot Creek water quality is good, overall, as represented by various forms of aquatic invertebrate and vertebrate species. The mosquito fish (*Gambusia affinis*) and a hybridized population of Owens tui chub (*Siphateles bicolor* ssp.) occur in the stream.

2. Environmental Consequences

a. Impacts of Proposed Action

Water quality in all sources should be maintained, at a minimum, with implementation of the proposed action. Ensuring a minimum herbage stubble height of 4-6 inches at the end of the growing period should provide for sufficient protection of soil conditions at springs and along Little Hot Creek and Whisky Creek to maintain naturally occurring water constituent concentrations.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for

Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under this alternative livestock grazing on all allotments would cease. There would be unauthorized grazing drift from adjacent LADWP lands on to public land and some level of grazing use would occur at geothermal springs and along both streams unless a complex network of boundary fencing was established separating public and LADWP lands.

3. References

Bishop Field Office, 1978. Benton Unit Resource Analysis, Step II.

Bishop Field Office, 1978. Stream Inventory, Files.

Bishop Field Office, 1986. Spring Inventory, Files.

Environmental Protection Agency, Drinking Water Standards, 2007. Wilkes University, Center for Environmental Quality. 8pp.

Q. WETLANDS/RIPARIAN ZONES

1. Affected Environment

Riparian vegetation at the spring sources in the Hot Creek and Wilfred Creek allotments consists mainly of sedge, rush and grass species in various proportions depending on the local soil and water conditions. There are no woody riparian species like willow (*Salix* sp.) at any of the geothermal spring areas. Riparian vegetation in the immediate vicinity of the geothermal springs is typically at or near 100% ground cover. Each of the geothermal springs provides some small amount of acreage that meets the definition of a wetland. Small fence enclosures have been constructed around geothermal springs 9-24-4C and 12-11-3C to protect the source site and the wetted zone around the spring from livestock grazing. Riparian vegetation within the enclosures has developed a level of vigor and total biomass that is typically not found at other spring sites. Within the 12-11-3C enclosure the physical channel conditions have stabilized over the past several years such that compaction and sloughing of bank soils into the channel has been arrested. The stream aquatic habitat condition has improved in the level of turbidity (total suspended solids) which may have improved the physical conditions for the population of Owens tui chub (*Siphateles bicolor snyderi*) in the channel.

The riparian vegetation at the two spring locations in the Tobacco Flat allotment is composed primarily of willow (*Salix* sp.) with herbaceous vegetation as undergrowth. At both sites, plant composition based on cover is approximately 80% willow and 20% herbaceous species. The two spring areas are unaffected by livestock grazing and are in excellent condition in regards to soil stability, plant vigor, and their value as wildlife habitat.

Little Hot Creek runs through a nearly barren alkali flat resulting in sparse bank vegetation with less than 50% ground cover. Salt grass (*Distichlis spicata*) and wire-grass (*Juncus* sp.) are the predominant riparian species and their presence is confined to within less than one foot of the bank edge. The banks are poorly defined and riparian vegetation does not overhang the channel. This is apparently a natural condition given the chemical composition of the water (the pH is slightly higher than sea water, elevated bicarbonate and TDS levels), clay type soils, and the very low flow during summer months. Hot Creek riparian vegetation in the canyon is primarily willow (*Salix* sp.) and then becomes a bottomland meadow downstream to the public land boundary. Wire-grass (*Juncus* sp.), wild rose (*Rosa* sp.) and annual flowering herbaceous species make up the bank stabilizing vegetation along the meadow.

Livestock grazing on meadow vegetation around geothermal springs in the Hot Creek allotment typically maintains an average of 4 to 6 inch stubble height at the end of the growing season. The division of this allotment into several units and the timing and intensity of grazing provide for the ability to maintain minimum vegetation stubble height, less trampling of soils in and near the geothermal springs, and retention of biological function in the wetlands. As part of the Hot Creek allotment, Little Hot Creek undergoes some grazing, but due to its location livestock are not attracted to it for any length of time. Within the Wilfred Creek allotment, landownership patterns with contiguous LADWP property and the division of the allotment into only 2 manageable units does not provide the level of grazing control as the Hot Creek allotment. Livestock grazing effects on the riparian vegetation at geothermal springs are more pronounced on the meadows receiving a greater level of use and minimum stubble height is generally less than the amount required at the end of the growing period. Livestock trampling and compaction of soils around the geothermal springs is substantial at some sources. The spring fed meadows in the Wilfred Creek allotment will require regular monitoring to ensure the required overall average minimum stubble height is achieved. The small amount of public land at the bottom end of the meadow at Hot Creek receives some grazing use but it has not affected stream condition and riparian vegetation has stabilized banks where past grazing affected soil integrity.

2. Environmental Consequences

a. Impacts of Proposed Action

Implementation of the proposed action in the Hot Creek allotment should maintain or slightly improve riparian vegetation conditions at geothermal springs and their meadows by positively influencing plant vigor, physical structure and reduced soil trampling effects. Achieving the minimum overall average stubble height on geothermal spring fed meadows in the Wilfred Creek allotment should occur as long as the operator moves cattle frequently between the LADWP

property and public lands. Stream condition and riparian vegetation conditions on Hot Creek and Little Hot Creek will be maintained due to the timing and duration of grazing within their respective units.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under this alternative livestock grazing on all allotments would cease. There would be unauthorized grazing drift from adjacent LADWP lands on to public land and some level of grazing use would occur on riparian vegetation unless a complex network of boundary fencing were established separating public and LADWP lands.

3. References

Bishop Field Office, 1978. Benton Unit Resource Analysis, Step II.

Bishop Field Office, 1978. Stream Inventory, Files.

Bishop Field Office, 1986. Spring Inventory, Files.

R. WILD AND SCENIC RIVERS

1. Affected Environment

There are no designated wild and scenic rivers or eligible river segments on the Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments. However, the Hot Creek allotment contains approximately one mile of Hot Creek (Hot Creek gorge above the Cashbaugh Ranch) determined to be eligible for wild and scenic river study (and possible recommendation as a component of the National Wild and Scenic River System) within the Bishop RMP (1993). Hot Creek's values are geologic, ecological, and fish/wildlife, while the classification is recreational. The proposed impacts to these values are identified elsewhere in

this document.

The one mile of Hot Creek flowing on BLM land and a 320 acre corridor along the waterway is designated as eligible. Currently, the “Interim Management Guidelines for Study Rivers” provides guidance to protect all eligible waterways until the study process is completed and a suitability or nonsuitability determination is made.

2. Environmental Consequences

a. Impacts of Proposed Action

There are no impacts from current grazing on public land to the identified wild and scenic river values associated with the Hot Creek River segment.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under this alternative, the impacts would be the same as those under the Proposed Action

3. References

Bishop Resource Management Plan and Environmental Impact Statement, August 1991

S. WILDERNESS

The proposed action, no action, and no grazing alternatives would have no effect on wilderness values because the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow and Casa Diablo allotments do not occur within any congressionally designated Wilderness or Wilderness Study Area.

T. WILDLIFE/THREATENED AND ENDANGERED

Wildlife

1. Affected Environment

Plant communities comprising the upland (non-riparian) areas are generally described as shrubland habitats. The following allotments are located at elevations ranging from approximately 6800 to 8000 feet (Wilfred Creek, Hot Creek, Casa Diablo, Tobacco Flat and Long Valley) in the Long Valley caldera. The dominant vegetation community within the Hot Creek and Tobacco Flat allotments is a basin big sagebrush (*Artemisia tridentata ssp. tridentata*), bitterbrush (*Purshia tridentata*) and low sagebrush (*Artemisia arbuscula*) type with a herbaceous understory of native perennial grasses like needle and thread grass (*Hespirostipa comata*). Within this larger vegetation type in the Hot Creek allotment is a localized area of low sagebrush in the southern portion of the allotment in Sections 29 and 32 along the Owens River road. Alkali meadows occur in the vicinity of hot springs and along the Owens River in the northern area of this allotment. The dry phase alkali meadows commonly are dominated by a mixed stand of saltgrass (*Distichlis spicata*) and rubber rabbitbrush (*Chrysothamnus nauseosus*). Wet phase alkali meadows contain a significant component of sedges (*Carex spp.*), alkali cordgrass (*Spartina gracilis*) and baltic rush (*Juncus balticus*). East of the Owens River in the Wilfred Creek allotment is a basin big sagebrush and Indian rice grass (*Acnatherum hymenoides*) dominated vegetation type interspersed with dry phase alkali meadows. In this allotment west of the Owens River the basin big sagebrush/bitterbrush/low sagebrush community predominates with substantial areas of wet phase alkali meadow present. The Casa Diablo allotment predominantly contains the basin big sagebrush/Indian ricegrass vegetation type with an inclusion of the basin big sagebrush/bitterbrush/low sagebrush community in the east-central area of the allotment.

The Wells Meadow allotment is part of an alluvial fan located at the base of Wheeler Ridge in Round Valley west of Bishop, CA at an elevation of 4200 feet. The allotment is primarily a bitterbrush/ big sagebrush community with Nevada ephedra (*Ephedra nevadensis*) and desert ceanothus (*Ceanothus greggii*) as subdominant species.

The juxtaposition of different vegetation types within the allotments along with the structural complexity inherent in each type provides a physical partitioning of the environment offering habitat suitable for a host of mammal, bird, and reptile species. No specific inventory of these species groups was undertaken in any of the allotments during the 1978 wildlife inventory conducted throughout the remaining field office area. However, based on habitat requirements (Zeiner et.al 1990, Vol. I, II and III) and information collected from near similar vegetation communities along similar elevation gradients, these vegetation communities provide for a broad diversity of wildlife species. Small mammals expected to occur in one or more of the vegetation types mentioned above are chisel-toothed kangaroo rat (*Dipodomys microps*), Belding's ground squirrel (*Spermophilus beldingi*), bushy-tailed wood rat (*Neotoma cinerea*), Great Basin pocket mouse (*Perognathus parvus*), sagebrush vole (*Lemmyscus curtatus*), pygmy rabbit (*Brachylagus*

idahoensis) and black-tailed hare (*Lepus californicus*). Coyote (*Canis latrans*) and gray fox (*Urocyon cinereoargenteus*) are common mammalian predators throughout these habitats.

Reptile species found in these vegetation communities are the desert horned lizard (*Phrynosoma platyrhinos*), desert spiny lizard (*Sceloporus magister*), sagebrush lizard (*S. graciosus*), side-blotched lizard (*Uta stansburiana*) and western whiptail (*Cnemidophorus tigris*). The presence of aquatic habitat in and near to the outflow of the less thermally affected springs provides suitable conditions only for the Pacific tree frog (*Hyla regilla*) and western toad (*Bufo boreas*).

Some songbird species likely to breed in one or more of the vegetation communities include Brewer's sparrow (*Spizella breweri*), Brewer's blackbird (*Euphagus cyanocephalus*), black headed grosbeak (*Pheucticus melanocephalus*), black phoebe (*Sayornis nigricans*), green tailed towhee (*Pipilo chlorurus*), and sage sparrow (*Amphispiza belli*). Other bird species associated with the aquatic habitats (springs and wet phase meadows) in the Hot Creek and Wilfred Creek allotments, primarily, are killdeer (*Charadrius vociferus*), blue-winged teal (*Anas dicors*), cinnamon teal (*A. cyanoptera*), green-winged teal (*A. crecca*), mallard (*A. platyrhynchos*), northern pintail (*A. acuta*) and snowy egret (*Egretta thula*).

The sage grouse (*Centrocercus urophasianus*), a species allied closely with sagebrush (*Artemisia spp.*), is a focal species of management emphasis, particularly in the Hot Creek and Wilfred Creek allotments. The sage grouse is a California BLM sensitive species and as required under BLM Manual Section 6840.06(E) is to be provided with the same level of protection as a candidate species for listing under the Endangered Species Act. Both allotments are within the Long Valley caldera which has been identified, primarily, as key sagebrush habitat for sage grouse (Bi-State Local Planning Group 2004). The current knowledge of sage grouse ecology has been extensively reviewed and summarized by Connelly et al. (2000). Sage grouse in Long Valley are believed to be a non-migratory population and extensively use various parts of both allotments throughout the year for breeding, nesting, brood rearing, foraging, and winter habitat requirements. Connelly et al. (2000) suggests that for all non-migratory populations of sage grouse, habitat within 3.2 km (2.0 miles) of known strutting grounds (leks) should be given a high priority for protection and identifying critical breeding habitat. Vegetation sampling conducted by the BLM in the 1990's indicates shrub canopy cover within 2 miles of leks and at nest sites was well within the "guidelines" while grass spacing did not meet habitat requirements (Bi-State Local Planning Group 2004). In Long Valley there are nine (9) consistently counted active leks where breeding occurs each year. Information derived from radio-marked sage grouse has provided important information relating to high use areas during the breeding season, nest locations, summer/late brood habitat and winter habitat (Bi-State Local Planning Group 2004).

The available information on the sage grouse population in Long Valley for the period 1953 through 2003 is summarized under the South Mono Population Management Unit (Bi-State Local Planning Group 2004). Six (6) core leks were used to assess the long term breeding population trend in Long Valley from 1973 through 2003. The highest total number of strutting males observed on the 6 core leks combined, for years in which adequate sample size was

obtained, was 363 male grouse in 1986. During the same period, the average number of males counted on the 6 core leks was 171 male grouse. For the period 2004 through 2007, the high number of male grouse counted on the 6 core leks has been, 300, 303, 297 and 246, respectively.

Existing and potential risks to the sage grouse population and the sagebrush habitat take many forms; wildfire, drought, insect infestation of forage plants and reduced canopy cover, pinyon/juniper encroachment of sagebrush areas, predation, and various human influences on the habitat like urbanization, hunting, recreational activities, and livestock grazing.

The majority (80-90%) of these plant communities within these allotments are consistently grazed at the moderate to high level. Active recruitment of bitterbrush has been occurring on all the target allotments, but perennial grass use in portions of the allotments often exceeds 60% due to the confined geography of the allotments and unfenced boundaries with Los Angeles Department of Water and Power irrigated meadow parcels.

Mule deer (*Odocoileus hemionus*) habitat is primarily defined by the sagebrush/bitterbrush vegetation type in the Hot Creek, Wilfred Creek, Little Round Valley, Tobacco Flat and Wells Meadow allotments. These allotments provide mule deer transitional range (migration corridor and holding areas) except for the Wells Meadow allotment which is a component of the Round Valley winter range. The sagebrush/bitterbrush vegetation communities provide critically important forage and cover for mule deer. Ensuring sufficient annual production (leader growth) remains on bitterbrush after grazing by livestock is fundamental to survival for mule deer. The quality and availability of bitterbrush within the Round Valley winter range has been severely diminished over the past 25 years due principally to drought and wildfire. As a result, mule deer may be more dependent on the sagebrush/bitterbrush sites within the other allotments than has been the case historically. Livestock use of bitterbrush is, overall, within the current required level of 30% of the current year's annual production.

2. Environmental Consequences

a. Impacts of Proposed Action

The vegetation quality (vigor, canopy cover, plant density) of the plant communities in the allotments should be maintained or slightly improved from their current conditions with implementation of the proposed action. Species guilds among the rodents and songbirds should gain the most immediate benefit from improvement in the availability of food resources and cover. Sage grouse habitat conditions should be improved over the long term with some improvement in lateral cover through more residual grass biomass remaining after grazing. Mule deer habitat condition should be improved due to more residual annual growth of bitterbrush being available. Overall, the ecological attributes of soil conditions and plant communities that provide for wildlife habitat should be improved over the long term.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the Proposed Action. For this alternative, there is a possibility under certain situations that BLM and the permittee may need to work together to define allotment specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under this alternative livestock grazing on all allotments would cease. The total annual production of the plant communities would provide habitat conditions for all wildlife species in balance with the natural interaction of climate, soil and vegetation dynamics.

3. References

Bishop Field Office. 1979. Benton Planning Unit. Unit Resource Analysis, Step II.

Bishop Field Office. 1980. Benton Planning Unit. Unit Resource Analysis, Step III.

Bi-State Local Planning Group. 2004. Greater Sage-Grouse Conservation Plan for the Bi-State Plan Area of Nevada and Eastern California. 193 pp.

Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage Sage-grouse populations and their habitats. Wildl. Soc. Bull. 28 (4): 90-96.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer and M. White. 1990. California's Wildlife. Vol. I. Amphibians and Reptiles. Calif. Dept. Fish and Game, Sacramento. 272 pp.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer and M. White. 1990. California's Wildlife. Vol. II. Birds. Calif. Dept. Fish and Game, Sacramento. 732 pp.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer and M. White. 1990. California's Wildlife. Vol. III. Mammals. Calif. Dept. Fish and Game, Sacramento. 407 pp.

Threatened and Endangered Wildlife Species

The proposed action, no action, and no grazing alternatives would have no effect on threatened or endangered species because no federally listed threatened or endangered wildlife species are

present on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow and Casa Diablo allotments based on historical records and/or field monitoring.

U. WILD HORSE AND BURROS

The proposed action, no action, and no grazing alternatives would have no effect on wild horses and burros as there are no wild horse and burro populations or designated wild horse herd management areas occurring on the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments.

V. CUMULATIVE IMPACTS

Introduction

Current conditions in the project area result from a multitude of natural events and human actions that have taken place over many decades. Cumulative effects are defined as the “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions” (40 CFR § 1508.7). A description of current conditions inherently includes the effects of past actions and serves as a more accurate and useful starting point for a cumulative effects analysis than by “adding up” the effects of individual past actions. “Generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” (CEQ Memorandum ‘Guidance on the Consideration of Past Actions in Cumulative Effects Analysis’ June 24, 2005.) By comparing the “no action” alternative (current condition) to the action alternatives, we can discern the “cumulative impact” resulting from adding the “incremental impact” of the proposed action to the current environmental conditions and trends. The geographic scope of the cumulative impact analysis for this environmental assessment encompasses the public lands administered by the Bishop Field Office. This geographic scope was chosen because of the unique ecotone of public lands composing two distinct habitat types of Great Basin and Mojave Desert rangelands along the eastern Sierra front range. It is expected that the geographic scope of impacts would be confined to this region.

Past and Present Grazing Actions/Impacts

Prior to 1859, the Owens Valley had minimal if any domestic livestock grazing. L. R. Ketcham of Visalia, California in 1859 was documented as the first cattleman to drive cattle into the Owens Valley (Jeff Putman and Genny Smith (editor) 1995). By 1910 the Farm Census had reported 43,000 sheep and 20,000 cows and cattle in the Owens Valley. In 1946 the General Land Office and Grazing Service merged to create the Bureau of Land Management.

After the enactment of the Taylor Grazing Act in the 1934, BLM began taking an active role in

managing public lands in the Owens Valley, creating allotment boundaries and developing grazing management systems.

Over the last twenty years, grazing on public lands in the eastern Sierra region has generally consisted of optimizing stocking rates when vegetation capacity could support high densities of livestock and utilization, generally throughout various habitat types. Areas with habitats, vegetative/wildlife species, other resource values, etc. protected under federal law, regulation, policy, etc. were generally adhered to. Although, some utilization issues in aspen groves, etc. surfaced in locations such as the Bodie Hills allotments located in the northern reaches of the field office. On occasion, livestock exceeded their authorized time on allotments or drifted onto unauthorized allotments. These minor issues were often resolved immediately by BLM.

Presently, the Bishop Field Office administers 58 allotments with 25 permittees spanning a geographic distance from Olancho to Topaz, California, a 750,000 acre linear and narrow configuration of public land straddling the edge of the eastern Sierra and Great Basin. The physical environment ranges from Great Basin habitat in the north to Mojave Desert in the south. Subsequently, forage capability is often limited by precipitation and elevation which tends to be more favorable in the northern portion of the field office area.

The BLM is currently preparing new clarified terms and conditions for all 25 of its grazing permits on all public lands administered by the Bishop Field Office. As with the allotments addressed in this EA, the overall goal of the newly proposed grazing terms and conditions is to improve or maintain rangeland health standards on all Bishop administered land as per the standards and guidelines developed by the Central California Resource Advisory Committee process in the late 1990's. The BLM is scheduled to complete all authorizations and associated environmental assessments by 2009.

Regional Impacts

At a regional level, numerous resource disturbing activities in the Owens Valley and throughout the Bishop Field Office area have created impacts similar to or greater than livestock grazing. These activities include paved and unpaved road development, Off Highway Vehicle (OHV) activities, residential and commercial development, and fire.

The development of roads and trails throughout the region originates from the area's historic settlement at the turn of the twentieth century when access was needed to develop the area's resources and transport goods/services. Settlers, miners, ranchers, merchants, etc. developed a region of small communities and road networks to meet daily sustenance needs. Throughout the latter 20th century, the region evolved from an agrarian economy to its present day tourism. This altered traditional access use from survival and necessity to one that became recreation based, mostly motorized, although mountain biking, hiking and horseback riding may use similar routes. The thousands of miles of paved and unpaved roads in the region tend to be permanent conversions of sites and constitute a total loss of the site productivity. Associated infrastructure needs i.e. powerlines, rest areas, etc. expand the permanency and loss of rangeland habitat.

Recreation use, such as OHV activities can be short duration, but are generally repeated throughout the year reflecting the tourist value access continues to provide. Sometimes unauthorized routes are created near the rural communities by horses and/or vehicles.

The BLM and the Inyo National Forest have embarked on motorized access efforts throughout the 1990s to implement route designations to manage for environmental issues and recreation needs. These efforts have led to localized rehabilitation projects improving various habitats and scenic vistas, mostly on BLM land. Additionally, BLM works with the counties to reduce and control private subdivision proliferation and trespass onto adjoining public lands.

The dozen or so communities that occupy the Bishop Field Office area have generally been stable and small, although the Mammoth Lakes community has built high end homes and increased their housing density in the last decade. Obviously, these permanent alterations have irreversibly committed land to housing development, fragmenting plant/animal habitat, altering scenic vistas, etc. Overall, the greatest potential development impact to habitat would occur from housing development on remaining scattered private land tracts throughout the region. Property values, a desire for trophy homes, and a housing shortage have created a strong real estate market in the eastern Sierra. This has prompted landowners to pursue subdivision development, reducing small acreages of habitat in several locations.

Construction activities, road maintenance, vehicle transport, and livestock use operations are common vectors or site modifications that can move invasive/non-native species. Potential long-term cumulative 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), a reduction in mychorrhizal populations, and increased fire frequency. Eastern Sierra plant communities have experienced increased weed invasions in the past five years due to increased precipitation levels and likely increases in atmospheric nitrogen deposition (Dukes and Mooney, 1999). If this trend continues without commensurate control methods including using early season grazing (pre-seed set), weed proliferation could be exacerbated.

There are no identified long-term cumulative impacts to livestock grazing from the implementation of the proposed action. Increases in weed species (e.g. cheatgrass) on allotments have the potential to out-compete native plant species which may affect the forage base for livestock.

The past, present and in the reasonably foreseeable future cattle grazing operations would continue to have a localized, cumulative impact on soils in congregation areas such as water sources and corrals. Other land uses also contribute to compaction and accelerated erosion but on a broader scale. These cumulative impacts to soils are similar to those for vegetation. The proposed terms and conditions are designed to help maintain, protect, or sustain rangeland health which includes soils, and to keep the ecosystem functioning properly.

There would not be substantive cumulative impacts to the local or regional economy of Inyo or

Mono County from the implementation of the proposed action. 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 have disproportionate impacts on other segments of the population under.

Unpredicted wild or arson fire can have large-scale impacts to the environment, wildlife, and to persons that use public land. These impacts include permanent changes to vegetation communities due to slow fire recovery, increasing non-native invasive populations, and loss of wildlife habitat. Fire that occurs in grazing allotments has the potential to devastate the vegetation and forage base for livestock. Therefore, BLM may temporarily close the allotment until determined appropriate for livestock grazing. If this were the case, livestock operators may be forced to find alternative forage, affecting their economic operations adversely depending on local circumstances.

The addition of the Proposed Action to existing and future regional activities and impacts would not add to or cross a threshold of impact that would result in a significant impact on the human environment.

Site Specific Impacts

For the Hot Creek, Wilfred Creek, Long Valley, Tobacco Flat, Wells Meadow, and Casa Diablo allotments in this assessment, grazing issues and impacts have been minimal due to the few facilities to attract and concentrate livestock use and/or livestock preference for better quality forage located on adjoining private and LADWP land which contains the majority of meadows and riparian areas. The low occurrence of sensitive resources such as threatened and endangered plant/animal species, cultural resources, etc., reduces the likelihood of future adverse impacts as well.

Grazing operations benefit the local economy from monies spent to establish and maintain a ranching operation and contributions to the labor force. The social value of retaining a rural, agricultural lifestyle would be preserved and would keep with the public's perception of the Long Valley and Owens Valley's western culture.

There seems to be an increase in recreational activity within the Long Valley area, especially associated with the hot tubs. The proposed action alternative would have no effect on recreation because throughout the allotments, there are encounters with livestock and there have been no problems to date. Recreationists would continue to encounter livestock in those areas of concentrated use at the hot tubs in the Hot Creek and Wilfred Creek allotments and will encounter livestock infrequently elsewhere.

The physical structure and ecological function of plant communities on all six allotments are expected to maintain or improve resulting from the lower vegetation utilization standard on key forage species. Improved condition of native bunch grasses and forbs would provide an increased forage base for rodents and passerine birds across all allotments. Populations of these smaller animals should increase in average to above average precipitation years which provide

an improved food base for predators. Habitat conditions, both forage quality/quantity and plant physical structure for mule deer and other large mammals, would be improved from the current situation.

Timing of livestock grazing has reduced potential disturbance threats to sage grouse by grazing after the mating and nesting periods. Sage grouse habitat conditions should be improved with implementation of the proposed action over the long term, with improvement in vegetation cover through more residual grass biomass remaining after grazing. Overall, the ecological attributes of soil conditions and plant communities that provide for wildlife habitat should be improved over the long term.

Within the allotments, wild land fires and other natural events changing landscape conditions are expected to continue. Grazing permits would be adjusted to maintain minimal rangeland health standards when fire, drought, and other uncontrollable natural events require it.

Conclusion

The addition of the Proposed Action to the existing environment at the site specific allotment locations addressed in this EA and within the eastern Sierra region as a whole would not contribute to significant impacts on the human environment. The cumulative impacts of conducting allotment assessments and issuing grazing permits for this EA's allotments with the proposed terms and conditions would help to maintain or improve rangeland health conditions incrementally and positively. In effect, the addition of the Proposed Action would beneficially improve rangeland health conditions at a local level and further BLM's objective to complete its rangeland condition improvement strategy for the remainder of public lands as well. As a result, improvements in plants and animal habitat, water quality, cultural resources, etc. would occur at local and regional levels creating overall positive cumulative impacts.

1. References

- Evans, R.D. and J.A. Young. 1972. Microsite requirements for establishment of annual rangeland weeds. *Weed Science*. 18:154-161
- Dukes, J.S. and Mooney, H.A. 1999. Does global change increase the success of biological invaders? *Trends in Ecology and Evolution*. 14:4:135-139.
- Jeff Putman and Genny Smith (editor). 1995. *Deepest Valley: Guide to Owens Valley, Its Roadsides and Mountain Trails* (2nd Edition). University of Nevada Press, Reno, NV. pp. 231-268.

Chapter 4: CONSULTATION AND COORDINATION

Livestock Operator Consultation, Cooperation, and Coordination

The following timeline summarizes actions BLM has taken to consult, cooperate, and coordinate with affected livestock operators on the proposed action and alternatives:

On January 27, 1997, the Bishop Field Manager sent a letter to the five permittees that graze these six allotments. The letter stated, “as a requirement of implementing the Bureau’s Healthy Rangeland Standards, regulations require that mandatory terms and conditions and other terms and conditions (43 CFR Subpart 4100, Section 4130.3-1 and Section 4230.3-2 respectively) are to be included in all permits.” The letter also stated, “Another requirement of the regulations are Standards and Guidelines (S&Gs). As of this date, the BLM in California has not completed development of statewide S&Gs and has requested that the Secretary of the Interior grant a 6 month extension to allow their completion and adoption. Therefore the Fallback Standards and Guidelines, as stated in the regulations, will not go into effect on February 12, 1997 if the extension is granted.”

On January 14, 1998, the Bishop Field Manager sent a letter to the five permittees who graze these six allotments. It stated, “enclosed is a copy of the National Fallback Standards and Guidelines (S&Gs). These S&Gs will remain in effect until the California BLM Healthy Rangelands Environmental Impact Statement is completed in 1998.” Enclosures with the letter included Background, Fundamentals of Rangeland Health, S&Gs Basic Concepts, and Fallback S&Gs.

On December 15, 1998, the Bishop Field Manager sent a letter to the five permittees who graze these six allotments which explained the rangeland health allotment assessment requirements.

On December 11, 2000, the Bishop Field Manager sent a letter to the five permittees who graze these six allotments and included a copy of the Central California Standards and Guidelines. The letter invited the permittees to two scheduled meetings to ask any questions or present concerns they may have had with the Central California Standards and Guidelines.

Personal Communication

Belenky, Lisa. 2007. Center for Biological Diversity. Lisa requested to be added to the notice list for grazing permit renewal draft EAs for the Bishop Field Office.

Burke, Thomas D. 1998. Owner and principal investigator of Archaeological Research Services, Inc. BLM and Thomas discussed grazing impacts to archaeological resources. Refer to Chapter 3, Cultural Resources for further information and results.

California Native Plant Society, Bristlecone Chapter. 1999. BLM invited the Bristlecone Chapter to the Rangeland Health Assessments that began in 1999. Members from the Chapter participated at different times between 1999 through 2003. BLM and Bristlecone Chapter also discussed livestock grazing and invasive, non-native species.

Fell, Chuck. 1995. Bodie State Historical Park. BLM and Chuck discussed grazing impacts to historic buildings and resources. Refer to Chapter 3, Cultural Resources for further information and results.

Giacomini, Gary. 2007. Livestock Operator. BLM and Gary discussed livestock grazing on the Hot Creek allotment. Gary explained the livestock management for the allotment.

Lacey, Mark. 2007. Livestock Operator. BLM and Mark discussed livestock grazing on the Long Valley and Tobacco Flat allotments. Mark explained the livestock management for the allotments.

Milovich, George. 1999 through 2007. Agricultural Commissioner Inyo-Mono Counties. BLM and George discussed the process for issuing the full processed 10-year grazing permits. Also, BLM explained the general changes in terms and conditions to the expiring grazing permits due the incorporation of the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (USDI 2000). Annual Crop and Livestock Reports were obtained annually by visiting the Counties of Inyo and Mono Agriculture Department located in downtown Bishop.

Parker, Jim and Slates, Mike. 2000 and 2007. Great Basin Unified Air Pollution Control District (GBUAPCD). BLM and Jim discussed the environmental assessment (EA) livestock grazing authorizations to be conducted in the future. BLM received language from the GBUACD to be included within the EA's along with maps of the federal non-attainment/maintenance areas. BLM received an updated federal non-attainment/maintenance area map from Mike in 2007.

Voget, Stan. 2004. In December 2004, BLM met with Stan Voget to discuss the RMP decision which states "eliminate grazing on the Wells Meadow allotment if the current operator transfers or relinquishes his grazing privileges." Stan may consider relinquishing the permit as they have not used it much in the past 3-5 years due to lack of production, having to feed livestock hay, and only having about 10 cows. Stan stated, "it's not much of a loss of income to him."

Native American Communities

There are 11 Native American communities in the Eastern Sierra region, eight of whom are federally recognized, which reside near or inhabited aboriginal homelands within one or more of the allotments.

During the initialization of the allotment assessment process in FY 1999, seven Native American communities residing within the area administered by the Bishop Field Office– Bridgeport,

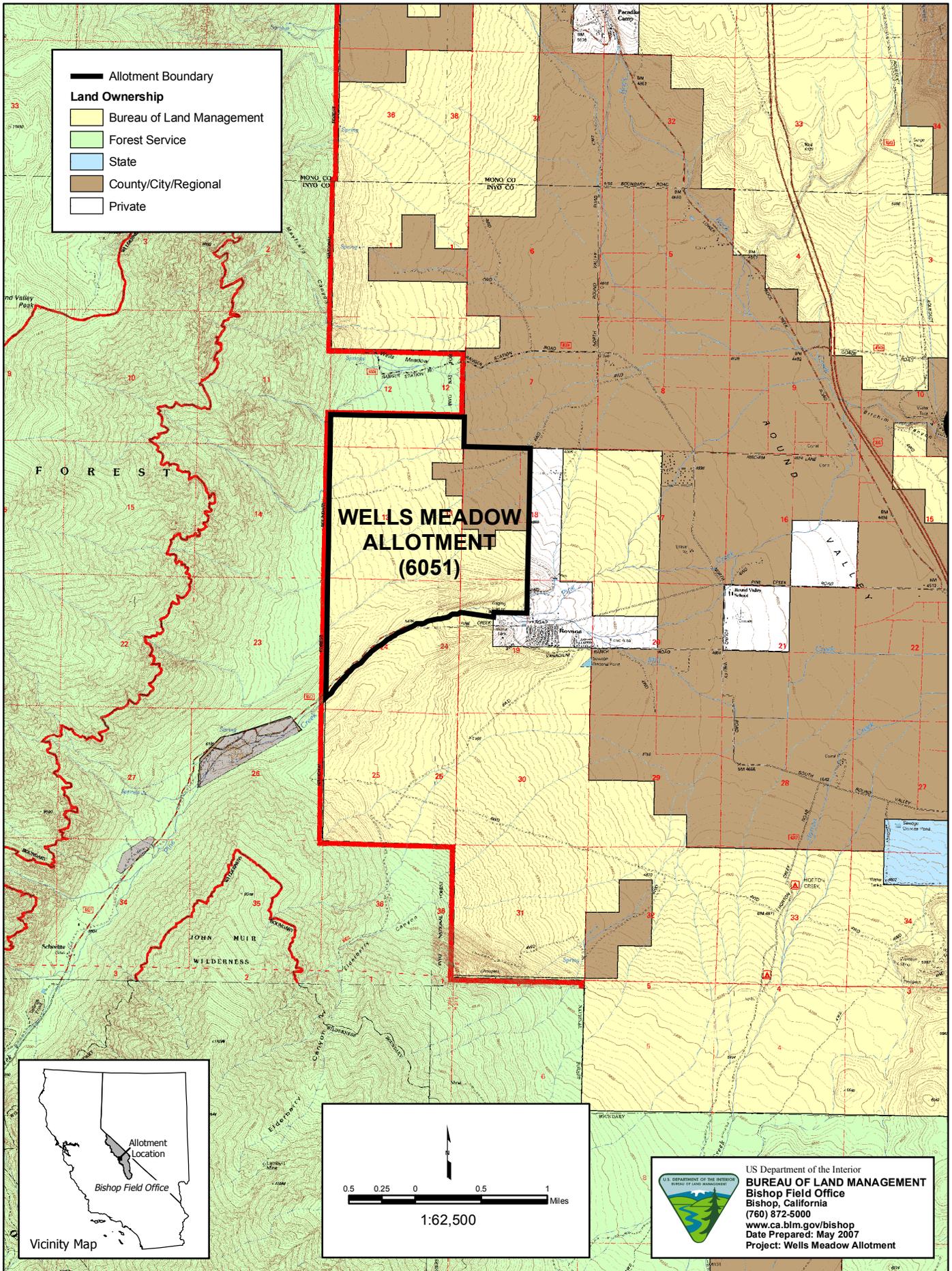
Mono Lake, Benton, Bishop, Big Pine, Ft. Independence, and Lone Pine – were contacted by letter (January 11, 1999), with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. 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 FY 1999)

Each of the local 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. Various individuals stated some general concerns which are addressed in Chapter 3, Native American Cultural Values; 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)

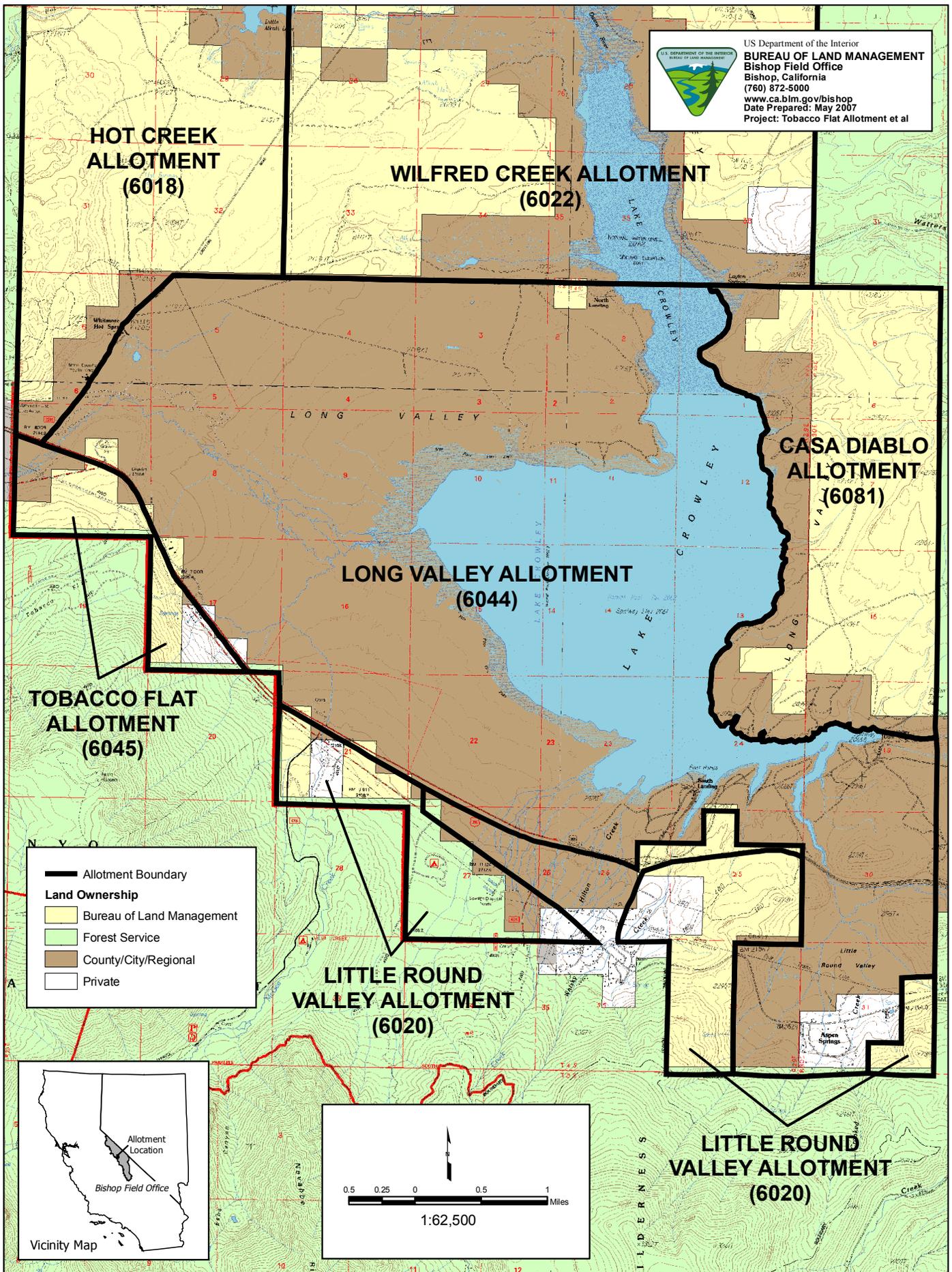
Environmental Assessment Preparers

Jeff Starosta	Rangeland Management Specialist
Anne Halford	Botanist
Steve Nelson	Wildlife Biologist/GIS Coordinator
Diana Pietrasanta	Recreation/Wilderness
Kirk Halford	Archeologist
Terry Russi	Supervisory Wildlife Specialist
Joe Pollini	Assistant Field Manager

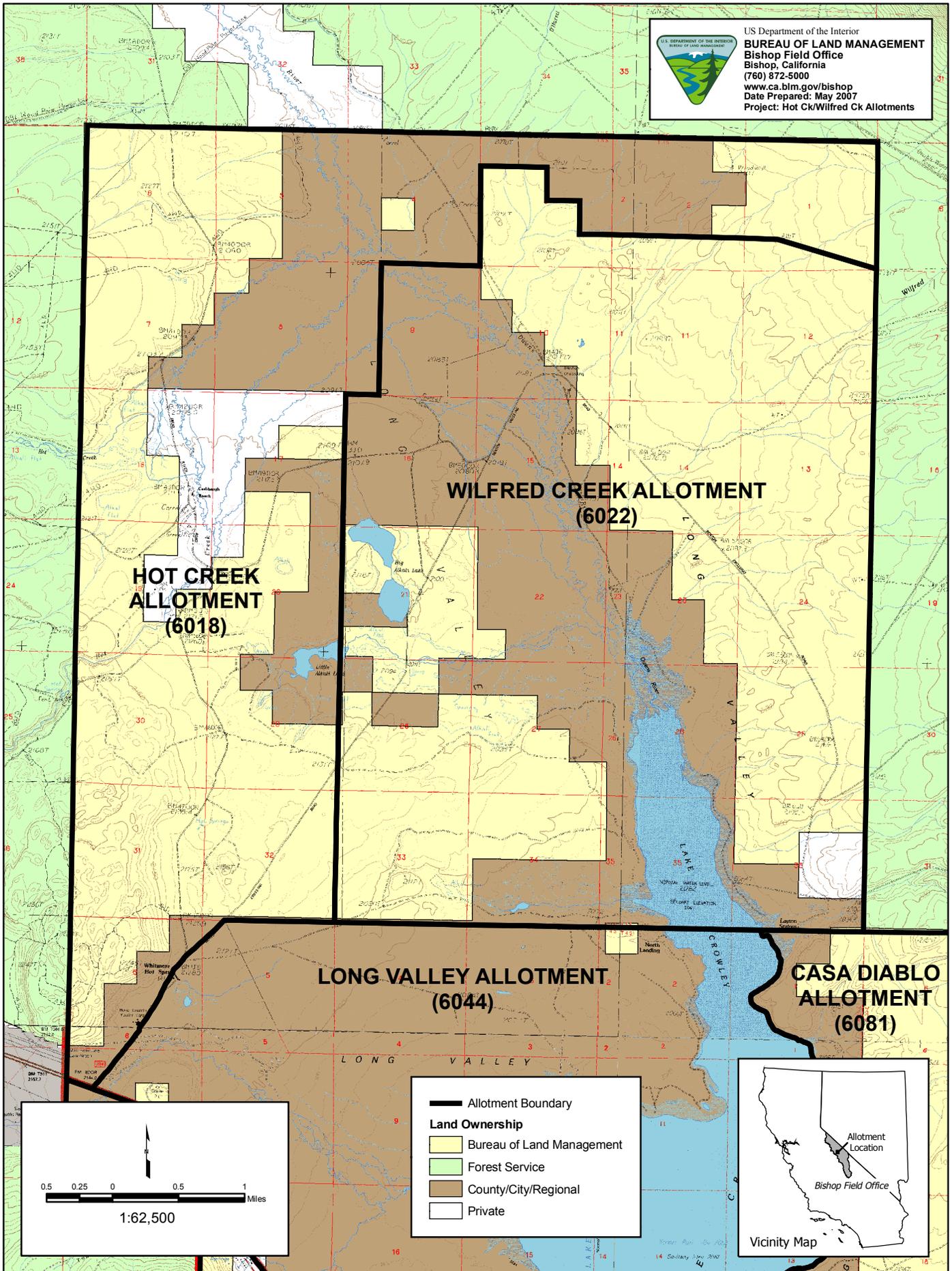
**Chapter 5:
APPENDICES**



Map 1. Overview of the Wells Meadow Allotment, Mono County, California. Bureau of Land Management, Bishop Field Office, Owens Valley Management Area.



Map 2. Overview of the Tobacco Flat, Long Valley and Casa Diablo Allotments, Mono County, California. Bureau of Land Management, Bishop Field Office, Long Valley Management Area.



Map 3. Overview of the Hot Creek and Wilfred Creek Allotments, Mono County, California. Bureau of Land Management, Bishop Field Office, Long Valley Management Area.