ENVIRONMENTAL ASSESSMENT (DRAFT)
LIVESTOCK GRAZING AUTHORIZATION

EA Number CA 170-07-12

Allotment Number and Name(s)

6015 Sawmill Creek
6019 West Crater Mountain
6021 Shannon Canyon/Baker Creek
6023 Black Mine
6033 Tinemaha
6042 Ash Creek
6046 Alabama Hills
6047 Red Mountain
6048 West Santa Rita
6049 Aberdeen
6050 Poverty Hills
6079 East Crater Mountain
6082 George Creek

BLM Bishop Field Office
Prepared
May 2007

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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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 thirteen allotments analyzed in this EA are located in the Owens Lake and Owens Valley Management Areas of the BLM Bishop Field Office. Their elevation range is between 3,700 and 6,500 feet. Vegetation communities for these allotments are a mix of Great Basin Saltbush Scrub and Mixed Desert Scrub.

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
Sawmill Creek	Cattle	2/1	5/31	24	Perennial
West Crater Mountain	Cattle	4/1	5/31	331	Perennial
Shannon Canyon/Baker Creek	Cattle	4/1 10/1	6/30 12/31	90	Perennial
Black Mine	Cattle	10/16	6/15	47	Perennial
Tinemaha	Cattle	12/1	5/31	220	Perennial
Ash Creek	Cattle	2/1	5/31	243	Perennial
Alabama Hills	Cattle	2/1	6/30	1,770	Perennial
Red Mountain	Cattle	12/1	6/30	304	Perennial
West Santa Rita	Cattle	10/10	12/31	8	Perennial
Aberdeen	Cattle	12/1	5/31	231	Perennial
Poverty Hills	Cattle	12/1	5/31	78	Perennial
East Crater Mountain	Cattle	12/1	6/30	136	Perennial
George Creek	Cattle	4/1	6/30	183	Perennial

The approximate public, other federal (which includes Inyo National Forest, and National and Park Service), state, and private (which includes Los Angeles Department of Water and Power, and Native American Reservation) land acreages (See Map 1-3) within each allotment are:

Allotment Name	Public Land	Other Federal Land	State Land	Private Land
Sawmill Creek	2,036			1,745
West Crater Mountain	6,073			321
Shannon Canyon/Baker Creek	2,899			5,276
Black Mine	1,364			334
Tinemaha	3,924			1
Ash Creek	3,786		150	128
Alabama Hills	63,732	329	41	13,869
Red Mountain	4,551			3,981
West Santa Rita	774			
Aberdeen	3,663			
Poverty Hills	4,494			1,390
East Crater Mountain	3,999			2,233
George Creek	3,188			

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

The fully processed 10-year grazing permits for these thirteen allotments have expired. In the

interim, the grazing permit which authorizes use on the West Crater Mountain allotment was renewed under section 402 of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended (43 USC 1752). This permit will expire in 2008. In the interim, the three grazing permits which authorizes use on the Sawmill Creek, Tinemaha, and Ash Creek allotments were renewed under section 402 of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended (43 USC 1752). These three permits will expire in 2009. The four interim grazing permits authorizing use on the Shannon Canyon/Baker Creek, Black Mine, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments were issued in accordance with Section 328 of Public Law 107-67. These four 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 eight permittees who graze these thirteen 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 eight permittees who graze these thirteen 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 eight permittees

who graze these thirteen 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 May 15, 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 eight permittees and 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 or draft EA review.

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.

One hundred percent of the Sawmill Creek, Black Mine, Ash Creek, Alabama Hills, West Santa Rita, and George Creek allotments occur within the Owens Valley Federal Air Quality Non-Attainment/ Maintenance Area and conform to the applicable State Implementation Plan requirement. Sixty percent of the Red Mountain (5,112 acre), eighty-three percent of the Aberdeen (4,908 acre), and ninety five percent of the Poverty Hills (3,465 acre) allotments occur within the Owens Valley Federal Air Quality Non-Attainment/ Maintenance Area and conform to the applicable State Implementation Plan requirement. The West Crater Mountain, Shannon Canyon/Baker Creek, Tinemaha, and East Crater Mountain 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.

Six Special Status Plant Species occur within the scope of the analysis on the West Crater Mountain, Shannon Canyon/Baker Creek, Alabama Hills, Tinemaha, and West Santa Rita allotments. Refer to Section N for a listing of these species, their associated trend, and Environmental Impact analyses. No other Special Status Plant Species populations are present on the Sawmill Creek, Black Mine, Ash Creek, Red Mountain, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 13 allotments contain no designated Wild and Scenic Rivers. However, the Alabama Hills and George Creek allotments do contain approximately six miles of creeks determined to be eligible for wild and scenic rivers study within the Bishop RMP (1993). These creeks are Independence and George Creeks; both creeks are classified as recreational.

Wilderness

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.

Wilderness values are described in the 1979 Final Wilderness Intensive Inventory Report while the WSA's existing range and other improvements are identified in the 1990 California Statewide Wilderness Study Report (WSR). The Interim Management Policy for Lands Under Wilderness Review (IMP) provides direction for grazing management in WSAs until the WSA is designated wilderness or released from the wilderness review process.

The Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments do not occur within any congressionally designated Wilderness Area. However, approximately 65% (4,583 acres) of the Crater Mountain WSA (CA-170-010-062) occurs within the West Crater Mountain allotment, and the remaining 35 % (2,463 acres) of the WSA occurs within the East Crater Mountain allotment. 100 % (8,352 acres) of the Symmes Creek WSA (CA170-010-064) and 86 % (5,579 acres) of the Independence Creek WSA (CA-170-010-057) occur within the Alabama Hills allotment. The remaining 14% (910 acres) of the Independence Creek WSA (CA170-010-057) occurs within the George Creek allotment.

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:

Sawmill Creek	April 1999
West Crater Mountain	June 1999
Shannon Canyon/Baker Creek	June 1999
Black Mine	April 1999
Tinemaha	May 1999
Ash Creek	April 1999
Alabama Hills	April 2001
Red Mountain	April 2000
West Santa Rita	April 1999
Aberdeen	April 2000
Poverty Hills	April 2001
East Crater Mountain	April 2002
George Creek	April 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments.

Areas of the 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.)
Sawmill Creek	X - Upland	X - Riparian	No	Upward trend
West Crater Mountain	X	X - Big Pine Creek only	No	Sediment from fire
Shannon Canyon/Baker Creek	X			
Black Mine	X			
Tinemaha	X			
Ash Creek	X	X – Braley and Cottonwood Creek	No	Road crossing and aqueduct diversion
Alabama Hills	X	X - Riparian	No	Roads, floods, and sediment from fire
Red Mountain	X			
West Santa Rita	X			
Aberdeen	X			
Poverty Hills	X			
East Crater Mountain	X			
George Creek	X	X – Hogback Creek only	No	Decomposing Granite

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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 thirteen 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
Sawmill Creek	24	Cattle	2/1	5/31	25	24
West Crater Mountain	165	Cattle	4/1	5/31	100	331
Shannon Canyon/Baker Creek	18 15	Cattle	3/1 10/1	5/15 12/31	100	90
Black Mine	6	Cattle	10/16	6/15	100	47
Tinemaha	37	Cattle	12/1	5/31	100	220
Ash Creek	123	Cattle	2/1	5/31	50	243
Alabama Hills	359	Cattle	2/1	6/30	100	1,770
Red Mountain	91	Cattle	12/1	6/30	48	304
West Santa Rita	3	Cattle	10/10	12/31	100	8
Aberdeen	39	Cattle	12/1	5/31	100	231
Poverty Hills	13	Cattle	12/1	5/31	100	78
East Crater Mountain	20	Cattle	12/1	6/30	100	136
George Creek	161	Cattle	4/1	6/30	100	183

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.

Sawmill Creek (6015), Red Mountain (6047), and George Creek (6082) Allotments

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

West Crater Mountain (6019), Shannon Canyon/Baker Creek (6021), Tinemaha (6033), Ash Creek (6042), Alabama Hills (6046), Allotments

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

West Santa Rita (6048), and Poverty Hills (6050) Allotments

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

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, and Semi-desert Grass and Shrubland: *Sawmill Creek (6015), West Crater Mountain (6019), Shannon Canyon/Baker Creek (6021), Black Mine (6023), Tinemaha (6033), Ash Creek (6042), Red Mountain (6047), West Santa Rita (6048), Aberdeen (6049), Poverty Hills (6050), East Crater Mountain (6079), and George Creek (6082) Allotments*

Sagebrush Grassland, Semi-desert Grass and Shrubland, and Pinyon Juniper Woodland Rangeland: *Alabama Hills (6046) Allotment*

Livestock grazing operations would be conducted so 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. Utilization monitoring would be conducted by a BLM employee, permittee, and/or trained range consultant. Then, all key area allotment data would be averaged and verified by a BLM employee to determine if the terms and conditions are being 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 would consult with the permittee to address the situation, potentially implementing 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, management action would be taken to remedy the problem in the area of the allotment that key upland area represents.

Riparian Areas & Wetlands: *Sawmill Creek (6015), West Crater Mountain (6019), Shannon Canyon/Baker Creek (6021), Ash Creek (6042), Alabama Hills (6046), Red Mountain (6047), and George Creek (6082) Allotments*

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: *Sawmill Creek (6015), West Crater Mountain (6019), Shannon Canyon/Baker Creek (6021), Ash Creek (6042), Alabama Hills (6046), Red Mountain (6047), and George Creek (6082) Allotments*

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.

Sawmill Creek (6015) – Additional

Manage livestock to reduce grazing use along Sawmill Creek.

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 thirteen 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 Sawmill Creek, Shannon Canyon/Baker Creek, Tinemaha, Ash Creek, West Santa Rita, Aberdeen, and George Creek allotments are designated as Category C allotments and the West Crater Mountain, Black Mine, Alabama Hills, Red Mountain, Poverty Hills, and East Crater Mountain 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 thirteen 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments do not have established long-term trend plots. There is no plan at this time to establish long-term trend plots in these thirteen allotments given current management priorities.

Compliance Assurance

Allotment compliance would be conducted on the Sawmill Creek, West Crater Mountain,

Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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.

Sawmill Creek (6015) Addition

1. Manage cattle to reduce grazing use along Sawmill Creek. 2. Maximum utilization limits for riparian vegetation are 45% for herbs, 20% for shrubs, and 20% for trees. 4"-6" stubble height of grasses along the creek should remain.

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 permit on the Sawmill Creek allotment, the permit on the West Crater Mountain allotment, the permit on the Shannon Canyon/Baker Creek, Black Mine, Red Mountain, and East Crater Mountain allotments, the permit on the Tinemaha allotment, the permit on the Ash Creek allotment, the permit on the Alabama Hills, and George Creek allotments, the permit on the West Santa Rita allotment, and the permit on the Aberdeen, and Poverty Hills 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments are located in the Owens Lake Management Area, and the Ash Creek allotment is located in the Owens Valley Management Area as defined in the Bishop Resource Management Plan (RMP) (See Map 1-6).

Livestock kind, permitted season of use, allocated animal unit months (AUMs), and use type as prescribed in the Bishop RMP (BLM 1993) for allotments located on the east side of the Owens Valley which extend onto the alluvial fans of the White Mountains are:

Allotment	Kind	Class	From	To	AUMs
Black Mine	Cattle	Cow-calf	10/16	6/15	47
Tinemaha	Cattle	Cow-calf	12/1	5/31	220
West Santa Rita	Cattle	Cow-calf	10/10	12/31	8
Aberdeen	Cattle	Cow-calf	12/1	5/31	231

There are four different permittees that use these four allotments in conjunction with the permittees' Los Angeles Department of Water and Power (LADWP) leases. These four allotments are separated by allotment boundary fences that include both BLM and LADWP lands. BLM land is unfenced from the permittees' adjacent LADWP land, allowing unimpeded livestock drift across each agency's land. All perennial water sources for these four allotments are located on LADWP lands.

There is one permitte for the Black Mine allotment and grazing occurs in the winter to spring months. Use generally occurs from 10/16 to 5/15, depending on forage condition, with seven head of cattle. There is one permittee for the Tinemaha allotment. Grazing generally occurs from 12/1 to 5/31, depending on forage condition, with thirty-seven head of cattle. There is one permittee for the Aberdeen allotment. Livestock grazing is permitted from December 1st to May 31st, although, the allotment is used from the 15th of March to approximately May 31st, depending on forage condition with generally 50 head of cattle. For all three allotments, livestock distribution is maximized during the winter and early spring months because temperatures are cooler and their need for water is much less, allowing cattle to drift further from water. The livestock permittees incorporate concurrent grazing use operations on contiguous LADWP lands which are leased to them annually. LADWP owns most of the land on the valley floor 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. 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. Livestock drift is more prevalent on public lands when forage on the alluvial fans is productive. This drift may occur as early as March 1st or as late as April 15th. The three permittees 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.

There is one permittee for the West Santa Rita allotment and grazing most often occurs in the fall and winter. Grazing generally occurs from 10/10 to 12/31, depending on forage condition, with three head of cattle. Livestock may drift onto public land to graze the residual dormant plants from previous spring/summer growth. Livestock distribution is maximized during the winter months because temperatures are cooler and their need for water is much less, allowing cattle to drift further from water. The permittee incorporates concurrent grazing use operations on contiguous LADWP lands which are leased annually. LADWP owns most of the land on the valley floor 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 permittee may adjust the 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.

Livestock kind, permitted season of use, allocated animal unit months (AUMs), and use type as prescribed in the Bishop RMP (BLM 1993) for allotments located on the west side of the Owens Valley which extend onto the alluvial fans of the Sierra Nevada mountains are:

Allotment	Kind	Class	From	To	AUMs
Sawmill Creek	Cattle	Cow-calf	2/1	5/31	24
West Crater Mountain	Cattle	Cow-calf	4/1	5/31	331
Shannon Canyon/Baker Creek	Cattle	Cow-calf	4/1 10/1	6/30 12/31	90
Ash Creek	Cattle	Cow-calf	2/1	5/31	243
Alabama Hills	Cattle	Cow-calf	2/1	6/30	1,770
Red Mountain	Cattle	Cow-calf	12/1	6/30	304
Poverty Hills	Cattle	Cow-calf	12/1	5/31	78
East Crater Mountain	Cattle	Cow-calf	12/1	6/30	136
George Creek	Cattle	Cow-calf	4/1	6/30	183

There is one permittee that uses the Sawmill Creek allotment in conjunction with the permittees' LADWP lease. BLM land is unfenced from the permittees' adjacent LADWP land, allowing unimpeded livestock drift across each agency's land. Livestock grazing is permitted from February 1st to May 31st, although, the allotment is most often used from the 1st of March to approximately May 10th, depending on forage condition with generally 30 head of cattle. Livestock water at Sawmill Creek. 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.

There is one permittee that uses the West Crater Mountain allotment. Livestock grazing is permitted from April 1st to May 31st. The operator has livestock begin grazing in the southeast portion of the allotment where they are able to drift up the alluvial fans depending on annual green-up. One trough is located in the south central portion of the allotment and a second trough is located in the northern portion of the allotment. Livestock infrequently use the course volcanic terrain that makes up Crater Mountain and the majority of the Crater Mountain ACEC. The permittee eventually moves livestock onto their adjacent Forest Service permitted land located to the west, in and around McMurry Meadows. This movement of livestock may occur before May 31st depending on forage condition on their private meadows. 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.

There is one permittee that uses the Shannon Canyon/Baker Creek, Red Mountain, and East Crater Mountain allotments. This operator is the same permittee for the Black Mine allotment addressed in this section above. The Shannon Canyon/Baker Creek allotment is used in conjunction with the permittees' LADWP leased land located mainly to the east and Inyo Forest Service permitted land to the west. The allotment is separated by allotment boundary fences that include BLM, Forest Service, and LADWP lands. BLM land is unfenced from the permittees' adjacent Forest Service and LADWP land, allowing unimpeded livestock drift across each agency's land. The majority of perennial water sources are located on LADWP lands. However, a portion of Baker Creek does flow across public land in the southern part of the allotment. Livestock will occasionally water at the creek. The Red Mountain and East Crater Mountain allotments are used in conjunction with the permittees' LADWP lease. Cattle can drift between the Red Mountain and East Crater Mountain allotments. BLM land is unfenced from the permittees' adjacent LADWP land, allowing unimpeded livestock drift across each agency's land. For this reason, the permittee will often take full active use even if livestock may never graze public land in a year. The Red Mountain allotment contains lava flows from Red

Mountain which the livestock infrequently use due to the rough volcanic terrain. The East Crater Mountain allotment contains much of the Crater Mountain lava flows which the livestock infrequently use due to the course volcanic terrain. Furthermore, most of the allotment is ungrazed, including the Crater Mountain ACEC, due to the distance from water. All perennial water sources for the East Crater Mountain and Red Mountain allotments are located on LADWP lands. 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 Ash Creek allotment has one livestock operator. The allotment is unfenced from the permittee's adjacent LADWP leased lands and Inyo National Forest allotment which makes up the western border. The Ash Creek allotment is an on/off allotment with the operators' adjacent Inyo National Forest allotment. Livestock grazing is permitted between February 1st to May 31st, although, the allotment is most often used from March 15th to approximately April 30th, depending on forage condition. The operator will generally run from 300 to 430 head of cattle depending on forage condition and will scatter livestock throughout the allotment. Livestock can water at Braley Creek, Ash Creek, and Cottonwood Creek that flow from the Inyo National Forest, however, the creeks either are put into pipes which empty in the Los Angeles Aqueduct or disappear into the decomposed granite soils. The south end of the allotment has a pipeline and trough located on the Inyo National Forest land. There is a pipeline and trough which draws from Cottonwood Creek and is located on LADWP land. From the Cottonwood Power House runs a pipeline and trough which is located on LADWP land. There is a water trough located on LADWP land along the aqueduct which the operator pumps water out of the aqueduct. Finally, there is a pipeline and trough at the north end of the allotment which comes from Slide Canyon and is located on the Inyo National Forest and private land. 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. For example, in the 2007 grazing season, the permittee took non-use on the Ash Creek allotment due to the inadequate spring annual forage production. These operational changes require prior approval by the BLM.

The Alabama Hills and George Creek allotments have one livestock operator. The Alabama Hills allotment is unfenced from the permittee's adjacent LADWP leased lands and portions of the Inyo National Forest which makes up the western border. Livestock grazing is permitted on the Alabama Hills allotment from February 1st to June 30th, although, the allotment is most often used from March 1st to approximately May 31st, depending on forage condition. The operator will generally run 359 head of cattle, scattering them throughout the allotment. The operator customarily uses the northern portion of the allotment from Independence Creek to Thibaut Creek. However, the operator will occasionally graze the southern portion of the allotment, and at any time, livestock have the capability to drift throughout the entire allotment. Livestock can

water at major perennial creeks that flow from the Inyo National Forest, however, many of the creeks either are put into pipes which empty in the Los Angeles Aqueduct or disappear into the decomposed granite soils. The George Creek allotment is an on/off allotment with the operator's adjacent Inyo National Forest allotment. Livestock grazing is permitted on the George Creek allotment from April 1st to June 30th with 61 head of cattle. Livestock can water on George Creek which flows from the Inyo National Forest. Livestock are herder throughout the allotments to distribute grazing use and to relieve pressure of the creeks and riparian areas. 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 the grazing plan depending on the amount of precipitation received and/or annual forage production attained in the Owens Valley. These strategies may include 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 Poverty Hills allotment has one livestock operator. This operator is the same permittee for the Aberdeen allotment addressed in this section above. BLM land is unfenced from the permittees' adjacent LADWP land, allowing unimpeded livestock drift across each agency's land. Livestock grazing is permitted from December 1st to May 31st. Although, if the allotment is used, grazing will most often occur from the 15th of March to approximately May 31st, depending on forage condition, with generally 30 head of cattle. The operator only uses the Poverty Hills allotment when annual plants are abundant which is approximately 1 year out of 4-5. 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. There is no water on the allotment and the water sources for livestock are located on LADWP lands. The permittee may adjust the grazing plan depending on the amount of precipitation received in the Owens Valley. These strategies may include adjusting on/off dates around annual forage growth, decreasing numbers to adjust for drought conditions, or taking non-use when annual forage is inadequate. For example, in the 2007 grazing season, the permittee took non-use on the Poverty Hills allotment due to the inadequate spring annual forage production. These operational changes require prior approval by the BLM.

2. Environmental Consequences

a. Impacts of Proposed Action

Authorizing grazing 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 above. 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.

c. Impacts of No Grazing

The cancellation of grazing on these thirteen 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 cattle. 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 – 6)

B. AIR QUALITY

1. Affected Environment

One hundred percent of the Sawmill Creek, Black Mine, Ash Creek, Alabama Hills, West Santa Rita, and George Creek allotments occur within the Owens Valley Federal Air Quality Non-Attainment/ Maintenance Area and conform to the applicable State Implementation Plan requirement. Sixty percent of the Red Mountain (5,112 acre), eighty-three percent of the Aberdeen (4,908 acre), and ninety five percent of the Poverty Hills (3,465 acre) allotments occur within the Owens Valley Federal Air Quality Non-Attainment/ Maintenance Area and conform to the applicable State Implementation Plan requirement. The West Crater Mountain, Shannon Canyon/Baker Creek, Tinemaha, and East Crater Mountain allotments occur outside of any Federal Air Quality Non-Attainment/Maintenance Area.

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. Fugitive dust emissions could occur due to the soil disturbance as a result from the trampling action of the livestock when soil moisture levels are low. Ruminant animals emit methane gas which is a precursor emission for ozone. The support vehicles emit various precursor emissions for ozone. Actual emissions amounts from this grazing activity are negligible. For allotments within the Federal Air Quality Non-Attainment/ Maintenance Area, support vehicle use on the access roads will generate small amounts of PM_{10} emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment PM emissions.

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.

c. Impacts of No Grazing

The no grazing alternative would have little to no impact on soils since few impacts currently occur. There would be no fugitive dust emissions from livestock trampling or precursor emissions for ozone.

C. AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

1. Affected Environment

The ACEC is located within the West and East Crater Mountain allotments. One permit is issued for grazing in the East Crater Mountain allotment and one permit is issued for the West Crater Mountain allotment. Livestock consist of cattle. Approximately 2,580 acres (44%) of the ACEC lies in the East Crater allotment while 3,248 acres (56%) lies in the West Crater allotment.

The ACEC was designated in 1993 through the Bishop RMP process. It totals 5,828 acres and was designated for its unique assemblage of resource values. The RMP states its goals are to

protect scenic values, enhance recreation opportunities, and provide for interpretation of geologic features.

No endangered species or wetlands occur in the ACEC that could be affected by the proposed action. Although, cultural sites exist throughout the ACEC, current impacts are considered to be largely nonexistent because of low livestock use. No ACEC plan exists for the area at the current time.

Little to no grazing use occurs in the ACEC because the rocky and cobbley volcanic terrain impedes cattle movement. The ACEC boundary circumscribes the Crater Mountain, most of the cinder cone, but contains only one small suitable grazing area of about 10 acres along the ACEC's west edge. A livestock water trough is located here where cattle trampling and soil compaction occur a few hundred feet around the trough site. Water is piped from the Inyo National Forest land to the trough from outside the ACEC. Otherwise, there is no available water in the ACEC.

2. Environmental Consequences

a. Impacts of Proposed Action

Reissuing the two grazing permits with revised, allotment specific terms and conditions for the East and West Crater Mountain allotments would maintain existing physical impacts to the ACEC at the same level identified in the Affected Environment, i.e. nonexistent except for the isolated 10 acre area located outside the cinder cone but just inside the ACEC's southwest boundary. This small area would continue to receive concentrated cattle activity around the trough site. Reissuing of the grazing permits would not create any new impacts.

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.

c. Impacts of No Grazing

The no grazing alternative would have little to no impact on the ACEC's resource values since few impacts currently occur. The ten acre site along the ACEC's west edge would incur plant reestablishment after the pipeline and water trough is removed and all grazing operations are curtailed.

3. Maps:

Overview of Allotment (Map 5)

4. References

Bishop Resource Management Plan Record of Decision, April 1993.

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 (m^2) in the Benton Planning Unit to 4 sites/m^2 in the Owens Valley Planning Unit, with an average of 9.54 sites/m^2 in the Bodie/Coleville Planning units.

To evaluate each allotment for cultural resource values a Class I records search was conducted and a GIS database 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 cattle and for the occurrence of significant cultural resources were field evaluated. These allotments were field checked to determine if congregation areas occur within sites. 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 modify grazing permits to protect or mitigate impacts to cultural resources. If significant cultural resources are identified mitigation measures will be devised to reflect the presence and protection of significant cultural resources. Mitigation measures might include relocation or removal of troughs and fencing to protect cultural values.

The table below shows the results of the cultural resource analyses. In general, the 13 allotments serve as fringe allotments to LADWP and Forest Service allotments. Field evaluations indicate that use is low to moderate and grazing impacts are minimal.

Allotment	Previously Surveyed (% of allotment)	Previously Recorded Sites	Newly Surveyed	Newly Recorded Sites
Sawmill Creek	170 acres (8%)	1	62 acres	0
West Crater Mountain	230 acres (2%)	8	75 acres	6
Shannon Canyon/Baker Creek	85 acres (3%)	0	50 acres	0
Black Mine	0	2	21 acres	0
Tinemaha	97 acres (3%)	0	20 acres	0
Ash Creek	212 acres (6%)	1	64 acres	4
Alabama Hills	3,680 acres (6%)		cursory	
Red Mountain	252 acres (5%)	2	cursory	0
West Santa Rita	0	0	cursory	0
Aberdeen	198 acres (5%)	0	cursory	0
Poverty Hills	513 acres (11%)	20	cursory	0
East Crater Mountain	350 acres (10%)	23	cursory	0
George Creek	320 acres (10%)	0	cursory	0

2. Environmental Consequences

a. Impacts of Proposed Action

Impacts to cultural properties are predicted to be minimal as a result of the proposed action for the following reasons. The allotments serve as fringe allotments to Los Angeles Department of Water and Power and Forest Service leases where more desirable water and suitable vegetation occur. As a result, cattle use on the BLM allotments is generally highly dispersed with light use. However, following the research design (Halford 1999), troughs and perennial stream corridors have been assessed.

Six new sites were identified during field evaluations on the West Crater allotment along or near the stream terrace of Birch Creek. Cattle use in the area is low due to difficult access to the creek and site impacts are minimal. One trough on the West Crater allotment was decommissioned due to its location in a newly recorded prehistoric site. The Red Mountain allotment is to the south of Birch Creek and stream access is similar to West Crater, thus impacts to sites on the southern stream terrace are predicted to be low. The Fish Springs obsidian source occurs within the Red Mountain allotment, but is located on private lands.

The Blackmine allotment is located on the fringe of LADWP lands where two sites (CA-INY-5064 and INY-5057/H) occur that cross onto BLM. These two sites were recorded and determined eligible during the Manzanar Land Exchange. While congregation and impacts on these sites is low on BLM, congregation areas and moderate impacts are occurring on the adjacent LADWP. These sites should be monitored and recommendations made to LADWP for their protection. Four new sites were recorded on the Ask Creek allotment. One is protected by

a riparian fence and the other three are not being impacted due to low use.

While all allotments were visited, a few were subjected to cursory survey only due to the lack of viable forage, no noted congregation areas, and very low cattle use. These allotments include the Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, East Crater Mountain, and George Creek. While two intermittent/perennial creeks (flow is diverted by LADWP) and one unsurveyed trough occur on the George Creek allotment, the allotment only received cursory evaluation due to the rocky alluvial substrate and lack of feed on the allotment and very low cattle use. Three hundred and twenty acres of the allotment (>10%) were previously surveyed and no sites recorded. The East Crater allotment, while containing a high number of archaeological sites, does not receive high use and visits to sites showed that use and impacts were 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.

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.

4. References

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E. ENVIRONMENTAL JUSTICE

1. Affected Environment

There are no low-income or minority populations living on the Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments.

There are 11 Native American communities who reside in close proximity to these thirteen 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 thirteen 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.

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 on the Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments.

I. INVASIVE, NON-NATIVE SPECIES

1. Affected Environment

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

Allotment	**Invasive Species**	**Estimated % Cover** **(Rangeland Health Assessments 1999-2000)**
Alabama Hills	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	10-15%
Aberdeen	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	10-20%
Ash Creek	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	10-20%
Black Mine	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	2-5%
East Crater Mountain	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	10-20%
George Creek	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	10-15%
Poverty Hills	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	5-10%
Red Mountain	*Bromus madritensis* ssp. *rubens* *Schismus arabicus*	10-20%
Shannon Canyon/Baker Creek	*Bromus madritensis* ssp. *rubens*, *Schismus arabicus*	5-10%
Tinemaha	*Bromus madritensis* ssp. *rubens* (red brome)	5%
West Crater Mountain	*Bromus tectorum* (cheat grass)	15-20%
West Santa Rita	*Bromus madritensis* ssp. *rubens* (red brome)	5%

Rangeland Health Assessments documented low to moderate cover of invasive annual weed species. However, since these assessments, an increase in cover of these species has occurred. Several factors have precipitated this increase and are non-grazing related. Key contributing factors are successive years of high winter and early spring precipitation, recent fires (Aberdeen Allotment), and likely increases in atmospheric nitrogen deposition (Dukes and Mooney, 1999).

Although, the density of invasive, non-native plant species appears to be low on the Tinemaha and West Santa Rita allotments, it should be noted that during our annual Rangeland Health Assessments in 1999 these weed densities were found to exceed the cover of the native perennial bunch grass component. Higher weed densities are associated with the West Crater Allotment due to the volcanic substrates that comprise the area. Previous studies in the region by Woodward and Ustin (1988) demonstrated the relationship between higher weed densities and volcanic soils that are higher in phosphorus, potassium, calcium, and magnesium. The West Crater Allotment is at highest risk of weeds affecting overall ecological function including reductions in native species composition, increased fire frequency, and reductions in mychorrhizal densities (Bethlenfalvay and Dakessian 1984).

Current increases of these target weed species in general except for the above mentioned allotments are still not affecting native species composition or vigor on the allotment, but may cause an increase in fire frequency. Periodic monitoring (1-3 years) of the allotments will facilitate documenting changes in site composition and density of these non-native species.

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.

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. 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.

Under the no grazing alternative, impacts from invasive weed species on native plant communities may initially be slightly greater than the proposed action. There would no longer be herbivory of invasive weed species prior to seed dissemination which could potentially increase seed bank densities. However, the no grazing alternative would reduce the chances that residual weed seed from sites such as watering and mineral block areas be spread to new areas.

3. References

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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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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.

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

Recreation activities and facilities in 12 of the 13 allotments are generally limited, the exception being the southern portion of the Alabama Hills allotment which contains the Alabama Hills Special Recreation Management Area (SRMA), designated in the early 1980's. The SRMA encompasses 30,000 acres, is entirely within the Alabama Hills allotment, and is managed to enhance semi-primitive nonmotorized and roaded natural opportunities. It receives a high amount of dispersed recreation activity consisting primarily of camping, motor touring,

photography, climbing, walking, hiking, horseback riding, and shooting. Livestock are rarely encountered in the Alabama Hills main use corridor along Movie Flat Road, as they are free to roam where feed is more abundant and where fewer people or vehicles exist. The permittee also make a concerted effort to keep the stock out of the high use portion of the SRMA.

Tuttle Creek Campground, a developed facility with 85 sites is also within the allotment and the SRMA. Cows frequent the open range in early spring (March) for a few weeks and are sometimes in the campground with the campers. There has been no problem with conflicts to date. Livestock are typically moved to the northern portions of the Alabama Hills allotment in early April, so the overlap with the prime camping season is short.

For the remaining 12 allotments, access is approximately 100 miles of primitive 4 wheel drive routes, single track motorized vehicle routes, and trails expanding a huge geographic area. This access precludes intensive recreation activity. Activities that take place consist of motorized touring, single track motorcycle riding, horseback riding, and low levels of walking, hiking, hunting, climbing, and dispersed camping. Encounters with livestock occur very infrequently.

2. Impacts of Alternatives

The proposed action, no action, and no grazing alternatives would have no effect on recreation because throughout all of the allotments, there are few encounters with livestock, even in the more highly concentrated use areas of Tuttle Creek campground and the Alabama Hills SRMA. There are no proposed additional facilities or management practices that could potentially alter existing recreation uses or use patterns, in any of the 13 allotments. In the Alabama Hills SRMA, the permittee manages the livestock to keep them out of the core recreation areas. Recreationists would continue to encounter livestock infrequently under the proposed action and no action alternative.

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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments have eight different 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 are 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.

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 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.

c. No Grazing

If grazing were terminated on these thirteen allotments, there would be adverse impacts to the operators. The grazing capacity of their other federal permits or LADWP 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 LADWP and permitted Forest Service 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 has been mapped in detail by the Natural Resource Conservation Service (NRCS). Three main soil associations exist among the thirteen allotments, which are soils of Lava Flows, soils of the Mountainous Regions, and soils of the Stony Alluvial Fans. Allotments that contain soil of Lava Flows include West Crater Mountain, Red Mountain, Aberdeen, and East Crater Mountain. Soils of Lava Flows are cinder loamy sands and sandy loams on basaltic lava flows and cinder cones. These soils are very deep and well to somewhat excessively drained. Available water capacity is low and the hazard of water erosion is moderate. Wind erosion hazard is slight. Allotments that contain soil of Mountainous Regions include Shannon Canyon/Baker Creek, Alabama Hills, and Poverty Hills. Soils of the Mountainous Regions are primarily sandy loam, which are generally shallow to deep and well drained. Available water capacity is low to moderate. The hazard of erosion is slight to moderate for water and moderate to severe for wind. Because of the rapid intake and deep percolation of moisture, loss from runoff is negligible. This permits deep rooted plants to grow vigorously under arid conditions. These soils are highly susceptible to wind erosion if vegetation cover is removed. Allotments that contain soils of Stony Alluvial Fans include Sawmill Creek, Black Mine, Tinemaha, Ash Creek, West Sannta Rita, and George Creek. Soils of the Stony Alluvial Fans are primarily gravelly loam, which are generally very deep and well drained. Alluvial fans are comprised of either shadscale gravelly loam or gravelly loams. These soils are mostly shallow, well drained, with gravelly to cobbly surfaces and subsurface textures. These soils tend to limit the establishment of seeds and seedling development. Valley floor soils may also have inclusions of calcareous loam along remnant river terraces that exhibit duripans that inhibit water infiltration and restrict shrub rooting depths.

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. The erosion potential on the alluvial fans is low due to the gravelly surface texture and low occurrence of cattle use compared with the valley floor. There are no identified erosion problems on the allotments.

BLM assessed these allotments between 1999 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.

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 the Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West

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

The sagebrush/bitterbrush communities contain sagebrush (*Artemisia tridentata* ssp. *tridentata),* and bitterbrush (*Purshia tridentata* var. *glandulosa*and scattered ceanothus (*Ceanothus greggii).* Understory grasses such as desert needlegrass (*Achnatherum speciosum*), and Indian rice grass (*Achnatherum hymenoides)* can make up 15% of the cover at the higher elevations of the alluvial fans. At the upper elevations of the alluvial fans of the Sierra Nevada and where the Inyo National Forest and BLM boundary exist, pinyon pine has migrated into the upland sagebrush/bitterbrush communities.

The majority (80-90%) of the upland plant communities within the Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments have not been significantly impacted by livestock grazing because of the infrequent use and low number of animals that make use of these allotments as well as the general topography and rough terrain which reduces livestock access. Generally, utilization of key forage species, e.g. desert needlegrass, hopsage, winterfat, budsage, and bitterbrush is slight to moderate and occurs in spring (March-early May). Forage capacity on these allotments is low and the plant communities are incapable of sustaining large numbers and frequent livestock use which has been shown to be detrimental to the various attributes of ecological function including plant vigor, seedling recruitment, and recovery (Clary and Holmgren 1987; Hughes 1982).

2. Environmental Consequences

a. Impacts of the 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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.

c. Impacts of No Grazing

Under this alternative, livestock grazing on the Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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 (not included in EA).

4. References

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BLM 1998 2. 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.

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

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

Implications of Livestock Grazing in the West. Edited by M. Vavra, W. Laycock and R. Pieper. Society for Range Management. Denver, CO.

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

Threatened and Endangered Plant Species

The proposed action, no action, and no grazing alternatives would have no effect on threatened or endangered plant species because no federally listed threatened or endangered species are present on the Sawmill, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek 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
Alabama Hills	Owens Valley checkerbloom (*Sidalcea covillei*), Inyo County Mariposa lily (*Calochortus excavatus*) Inyo Phacelia (*Phacelia inyoenis*)	Perennial species - static to decreasing Perennial species – static Annual species – Variable - based on precip. levels. Populations are free of non-native annual grass species.
Ash Creek	Pygmy poppy (*Canbya candida)* – CNPS List 4	Annual species - Unknown
Shannon Canyon/Baker Creek	Owens Valley checkerbloom (*Sidalcea covillei*) Inyo County Mariposa lily (*Calochortus excavatus*)	Perennial species – static Perennial species - static
Poverty Hills	Sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*) (CNPS List 2)	Annual species – Variable - based on precip. levels, but sites number hundreds of plants are free of invasive annual grass species.
Tinemaha	Mojave fish hook cactus *Scelerocactus polyancistrus* (CNPS List 4*) Nevada ocyctes *(Oryctes nevadensis)*	Perennial species – static Annual species – Population occurs on Dept. of Water and Power – allotment is unfenced. Trend unknown
West Crater	*Calochortus excavatus* (Inyo Mariposa lily)	Perennial species - static
West Santa Rita	Mojave fish-hook cactus *(Scelerocactus polyancistrus*)	Perennial species – static to increasing

List 2* - Plants rare, threatened, or endangered in California, but more common elsewhere
List 4* - Plants of limited distribution – Watch List

Grazing impacts to these Special Status Plant populations have been minimized by avoidance of these sites during key reproductive periods. The majority of the populations on BLM are

geographically isolated and are not currently being impacted by cattle grazing. In addition, trend within the annual plant populations is tied primarily to climatic fluctuations. Annual species trend could be negatively impacted by invasive annual brome invasions. However, both *Phacelia inyoensis* and *Loeflingia squarrosa* var. *artemisiarum* populations are free of invasive species and on wet years are robust in number often exceeding 500 individuals.

2. Environmental Consequences

a. Impacts of Proposed Action

Impacts of the proposed action would likely not change the status of these populations because few if any livestock graze these populations due to the relative isolation of these sites and livestock preference of upland vegetation on the alluvial fans. 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. The implementation of such grazing timing stipulations would reduce the spread of these invasive species.

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.

c. No Grazing

Impacts of the no grazing alternative would not be different from the proposed action due to the highly infrequent movement of livestock in the vicinity of the population.

3. Maps

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

4. References

California Native Plant Society. 2001. Inventory of Rare and Endangered Plants of California. Sixth Edition.Sacramento, CA

California Department of Fish and Game. 2007. California Natural Diversity Data Base.

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.

N. WASTE, HAZARDOUS OR SOLID

The proposed action, no action, and no grazing alternatives would not generate hazardous or solid waste on the Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments.

O. WATER QUALITY, DRINKING-GROUND

1. Affected Environment

Perennial surface water occurs in 9 of the 13 grazing allotments as streams and natural springs. The Black Mine, Aberdeen, Poverty Hills and West Santa Rita allotments are devoid of any surface water sources on public land. Water quality for those allotments (Ash Creek, Alabama Hills, George Creek, Sawmill Creek, Red Mountain and East and West Crater Mountain) with perennially flowing streams, based on one time water sampling, meet standards for aquatic life and primary drinking water standards for the following constituents: turbidity, dissolved oxygen, alkalinity (as $CaCO_3$), pH, CO_2 and total dissolved solids. Other constituents included in a comprehensive analysis for drinking water standards were not sampled.

Big Pine Creek on the north boundary of the East and West Crater Mountain allotments was the one sampled stream that significantly exceeded the standard for turbidity for aquatic life by a magnitude of 4 times the established level. The elevated turbidity is likely due to the locally large areas of vertical banks with little vegetative cover where sand is constantly entering the stream. Also, the standard minimum concentration for alkalinity in Big Pine Creek was below the 100mg/L level for aquatic life. This is not a problem since alkalinity serves to buffer the effects of sudden changes in pH which might cause death to fish or other aquatic life. Magnitude changes in pH are not likely for eastern Sierra streams.

Another indicator of water quality condition is the presence and diversity of certain aquatic invertebrate insect species found in the larval life form stage. In particular, species of aquatic insects occurring in streams within the Ephemeroptera, Plecoptera and Trichoptera orders are generally indicative of good water quality. Except for Braley Creek in the Ash Creek allotment which has not been inventoried, the same perennial streams have been sampled for their aquatic larval form of insect species. The general high level of aquatic species diversity in the streams indicates good water quality. This is characteristic of other streams emanating on the eastern side of the Sierra Nevada Mountains.

The available evidence indicates that water quality in the perennial streams is good.

The Shannon Canyon/Baker Creek allotment contains water only in the form of a few springs that have very little seasonal surface discharge and are located near Warren Bench that is typically not used by livestock. Water quality at spring 9-4-1C in the Shannon Canyon/Baker Creek allotment, the only source with perennial surface discharge, has never been determined.

Mule Spring in the Tinemaha allotment is the only water source located in that allotment. Mule Spring is dependable in its discharge of approximately 17 gpm. Water quality of Mule Spring has been defined by electrical conductivity (= 800 umhos), pH (= 7.3) and temperature (= 22^{o}C or 72^{o}F, average). Water quality is further defined by the presence of a gastropod (*Pyrgulopsis owensensis*) that is intolerant of a poor water quality environment.

2. Environmental Consequences

a. Impacts of Proposed Action

Water quality as determined in the various streams and springs in all allotments should be maintained, at a minimum, with implementation of the proposed action. Although Braley Creek in the Ash Creek allotment has not been sampled for its water quality parameters, the stream receives little to no use from cattle grazing and the physical structure of riparian vegetation along the entire stream segment and the rocky stream banks ensure that future livestock use would not contribute to a diminution of current water quality.

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.

c. No Grazing

Under this alternative livestock grazing on all allotments would cease. All potential for livestock induced affects on water quality in all streams and springs would be eliminated.

3. Maps

Allotment Assessment Maps (not included in EA).

4. References

Bishop Field Office Stream Inventory Files, 1978

P. WETLANDS/RIPARIAN ZONES

1. Affected Environment

Streams

As examples for most perennial streams within the allotments of concern, riparian vegetation along Ash Creek (Ash Creek allotment), Baker Creek (Shannon Canyon/Baker Creek allotment), George Creek (George Creek allotment) and Oak Creek (Alabama Hills allotment) is dominated by primary woody species such as willows: *(Salix lutea, S. lasiolepis, S. exigua, S. goodingii, S. lucida),* western water birch (*Betula occidentalis*), and wild roses *(Rosa woodsii* var. *ultramontana).* Herbaceous species are primarily comprised of sedges *(Scirpus* and *Carex spp.)* and rushes *(Juncus spp.).* Black oak (*Quercus* kellogii) and canyon live oak (*Quercus chrysolepis)* stands that occur along Ash, George, and Oak Creeks are anomalous components of eastern Sierra riparian vegetation. They are either remnant patches of the former Pliocene forests of the interior or the result of the west-to-east acorn trade among native people of the Sierra (Taylor 1982).

Species composition for riparian vegetation along Big Pine Creek (East and West Crater Mountain allotment) is primarily composed of Jeffrey pine (*Pinus jeffreyi*), willow (*Salix sp*.), wild rose (*Rosa woodsii*) and buckthorn (*Rhamnus sp*.). Big Pine Creek's unstable bank soils and varied, seasonal flows have a large influence on the channel's stability. There are locally large areas where the banks are vertical, lack riparian vegetation and sand is regularly entering the stream. The general sparse riparian vegetation does little to increase the bank stability. The general bank instability is a natural condition. Riparian vegetation composition along Birch Creek is dominated by water birch (*Betula occidentalis*), cottonwood (*Populus sp*.), willow (*Salix sp*.) and wild rose (*Rosa woodsii*). Riparian conditions along Birch Creek (approximately 3.3 miles of public land) are substantially more robust and capable of withstanding natural flooding without losing channel integrity and bank stabilizing vegetation. Birch Creek is deeply incised into the surrounding alluvial fan along with having a very dense cover of larger, woody riparian vegetation along the banks and for those reasons has remained generally immune to the effects of livestock grazing.

The streams within all allotments are characterized by relatively narrow riparian widths which are primarily driven by the geomorphology of alluvial fan dynamic processes. Despite the confined nature of these streams the condition of the riparian vegetation is generally good with regard to plant cover, physical structure and composition. Along the majority of the stream miles vegetation is dense enough to discourage livestock access and where riparian vegetation is sparse along short stream reaches, like Shepherd Creek in the Alabama Hills allotment, the boulder and large rock composition of the stream banks prevent livestock access.

The kind, proportion and amount (cover or density) of riparian vegetation found along streams is a primary factor affecting the extent of eroded banks and the riparian community's ability to with stand over bank (flood) flows and drought. Very few streams, like Birch Creek, George Creek and Independence Creek, have the combination of soil, vegetation and hydrology conditions effectively interacting to meet Proper Functioning Condition (PFC) criteria (BLM 1993, 1998). The majority of streams within the allotments at the time of their assessment, like Big Pine Creek, Goodale Creek and Symmes Creek were deficient in some of their attributes defining the streams functional status related to the hydrologic, soil, and vegetation properties and were determined to be Functioning at Risk (using the PFC criteria) (BLM 1993, 1998) with an upward or no apparent trend. No PFC rating has been determined for Baker and Oak Creeks. Although the majority of streams fall within the F-at-R category, the biological value and importance of the riparian habitat along those streams, however, are responsible for the presence of a high diversity of plant and animal species across the total landscape (see additional discussion under Wildlife, below).

Springs

As described under the Water Quality section, there are very few springs that provide any measurable flow within the allotments. Spring 9-4-1C on the north side of Warren Bench in the Shannon Canyon/Baker Creek allotment has a perennial discharge with relatively poor riparian vegetation conditions due to camping and vehicle travel impacts at the source location. Surface discharge at other spring locations in this allotment are typically sufficient to provide wet soil with no actual flow. Riparian vegetation is restricted at these sources to an area of approximately 0.02 acres and generally in excellent condition. There are a few isolated small patches of riparian vegetation in the Alabama Hills allotment. Due to the lack of surface flow, these sites typically have poor riparian vegetation composition and quality. These sites are not influenced by livestock grazing due primarily to their physical location.

Mule Spring, in the Tinemaha allotment, has riparian vegetation located on a somewhat steep slope, at one time was severely degraded due to mining activity and undergoes a continually evolving improvement in vegetation quality and overall biomass. Due to construction of a pond well below the spring source in 1990 (see Wildlife section) and a redirection of pond outflow along a natural drainage pattern, the riparian vegetation in this area has substantially improved in its attractiveness to all manner of wildlife species and in its structural complexity. A second pond was constructed further down slope in 2006 with the outflow directed to an area that will increase riparian vegetation beyond that developed from the initial project. A 2-track dirt/gravel road bisects the lower ¼ of the developing riparian zone. This accounts for a minor loss of riparian vegetation but does not compromise the functioning of the riparian community. Due to the slope of the site and the availability of water along the Owens River, livestock do not affect the riparian vegetation.

2. Environmental Consequences

a. Impacts of Proposed Action

Implementation of the proposed action should maintain or slightly improve riparian vegetation conditions on the streams by positively influencing plant vigor, cover, and physical structure. In addition, ensuring the availability of a 4 to 6 inch residual herbaceous vegetation stubble height at the end of the growing season will aid in maintaining long term stream bank integrity, dissipating energy of high flows and entrapping sediment for floodplain development. The functional rating for those streams currently assessed in the functioning-at-risk category will largely be determined by factors related to the natural dynamics of the stream channel and unrelated to livestock use.

The riparian vegetation located at the few natural spring sites found in the Tinemaha, Shannon Canyon/Baker Creek, and Alabama Hills allotments will continue to be affected solely by natural processes unrelated to livestock grazing.

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.

c. No Grazing

Under this alternative livestock grazing on all allotments would cease. All potential for livestock related affects on riparian vegetation along the streams and at the few natural springs would be eliminated. Conditions on the other streams would unlikely change from their current status due to little or no livestock use currently occurring on those channels.

3. References

Bishop Field Office, 1978 Stream Inventory, files.

Bishop Field Office, 1986 Water Supply Inventory, files.

Bishop Field Office, 1993 Assessment of Functional Condition on Streams, files.

Taylor, D.W. 1982. Eastern Sierra riparian vegetation: ecological effects of stream diversions. Mono Basin Research Group Contribution No. 6. Lee Vining, CA

USDI Bureau of Land Management. 1993. Process for Assessing Proper Functioning Condition. Technical Reference 1739-9. 42pp.

USDI Bureau of Land Management. 1998. A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas. Technical Reference 1737-15. 126pp.

Q. WILD AND SCENIC RIVERS

1. Affected Environment

There are no designated wild and scenic rivers on the Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments. However, the Alabama Hills and George Creek allotments do contain approximately six miles of creeks 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). These creeks are Independence Creek and George Creeks; both creeks are classified as recreational. The proposed impacts to recreational values are identified elsewhere in this document.

Two and a half miles of Independence Creek flows on BLM land and an 800 acre corridor along the waterway is designated as eligible. Three and three-quarter miles of George Creek flows on BLM land and a 1200 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 George Creek and Independence Creek river segments.

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.

c. No Grazing

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

R. WILDERNESS

1. Affected Environment

The Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain and George Creek allotments do not occur within any congressionally designated Wilderness Area. However, approximately 65% (4,583 acres) of the Crater Mountain WSA (CA-170-010-062) occurs within the West Crater Mountain allotment, and the remaining 35 % (2,463 acres) of the WSA occurs within the East Crater Mountain allotment. 100 % (8,352 acres) of the Symmes Creek WSA (CA170-010-064) and 86 % (5,579 acres) of the Independence Creek WSA (CA-170-010-057) occur within the Alabama Hills allotment. The remaining 14% (910 acres) of the Independence Creek WSA (CA170-010-057) occurs within the George Creek Allotment.

Wilderness values are described in the 1979 Final Wilderness Intensive Inventory Report while the WSA's existing range and other improvements are identified in the 1990 California Statewide Wilderness Study Report (WSR). The Interim Management Policy for Lands Under Wilderness Review (IMP) provides direction for grazing management in WSAs until they are designated wilderness or released from the wilderness review process. In general, BLM is required to maintain the wilderness characteristics of each WSA until Congress decides whether it should either be designated as wilderness or released for other purposes. The general standard for interim management is that lands under wilderness review must be managed so as not to impair their suitability for preservation as wilderness, also referred to as the non impairment standard.

Grazing existed on the West Crater Mountain allotment, the Alabama Hills allotment, and the George Creek allotment at the time the three WSAs were designated by BLM in the 1980's and is a use grandfathered by Section 603(c) of FLPMA. Grazing may continue to the same manner and degree as took place in 1976. The IMP provides specific guidance for implementation of grazing systems.

Livestock infrequently use the course volcanic terrain that makes up the majority of Crater Mountain WSA. Grazing occurs primarily on adjacent DWP lands next to the West Crater Mountain allotment. One livestock water trough is located along the western edge of the allotment, in the WSA, where cattle trampling and soil compaction occur a few hundred feet around the trough site. Water is piped from the Forest Service land to the trough from outside

the WSA. The portion of the WSA that lies in the East Crater Mountain allotment contains much of the Crater Mountain lava flows which the livestock infrequently use due to the course volcanic terrain and lack of water.

Livestock grazing in the Symmes Creek WSA and Independence Creek WSA is very low, as cattle are primarily in the northern portion of the Alabama Hills allotment and are well scattered north of Independence Creek. Cattle occasionally graze the southern portion of the allotment, and at any time, livestock have the capability to drift throughout the entire allotment, including the two WSAs. Livestock can water at major perennial creeks that flow from the Inyo National Forest, however, many of the creeks either are put into pipes which empty in the Los Angeles Aqueduct or disappear into the decomposed granite soils.

Livestock are herderd throughout the George Creek allotment, which distributes the grazing use throughout the small portion of Independence Creek WSA that lies within the allotment.

2. Environmental Consequences

a. Impacts of Proposed Action

Overall, habitat quality of the allotment would be maintained or may slightly improve as implementation of the proposed terms and conditions occur because they are designed to protect and sustain rangeland health.

Slight ecological improvements in vegetative cover and wildlife habitat with proper grazing timing and intensity may occur with implementation of the proposed action, potentially enhancing the three WSA's naturalness, but overall the area has not been significantly impacted by grazing. Wilderness values of outstanding opportunities for solitude and a primitive or unconfined type of recreation would remain unaffected. For additional information regarding special features such as cultural values, wildlife, plants, etc., refer to specific narratives addressing these values in other sections of this document.

Continuance of proposed grazing in the Crater Mountain WSA (West and East Crater Mountain allotments) and in the Symmes Creek and Independence WSAs (Alabama Hills and George Creek allotments) would conform with the BLM IMP and would not impair Congress's ability to designate these WSAs as Wilderness should they choose to do so. The small 10 acre area with the livestock trough would continue to receive concentrated cattle activity around the site. Reissuing of the grazing permits would not create any new impacts. Additionally, since grazing was occurring at the time the WSAs were inventoried, and those impacts did not disqualify the areas or any portion of the areas from being designated as a WSA, they would not do so now.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action. 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.

c. Impacts of No Grazing

Slight ecological improvements in plant and wildlife habitat may occur due to lack of grazing impacts on various resources allowing natural processes to dominate. Wilderness values of naturalness, outstanding opportunities for solitude, and primitive or unconfined types of recreation would remain. The removal of the livestock trough at the western edge of the Crater Mountain WSA would allow roughly 10 acres of land to naturally revegetate, enhancing wilderness character and naturalness.

S. WILDLIFE/THREATENED AND ENDANGERED

1. Affected Environment

Upland

Plant communities comprising the upland (non-riparian) areas are identified as mixed desert scrub, shadscale scrub, and sagebrush/bitterbrush. A 1978 wildlife inventory that employed a stratified random sampling scheme within these vegetation communities documented common small mammals, reptiles, and passerine songbirds that would typically be found in these habitat types. Of the three upland plant communities inventoried for their non-game wildlife species, the sagebrush/bitterbrush type contained the highest number of individual species (34) recorded as resident in the habitat. An additional 24 species are considered to utilize the habitat but were not physically recorded likely due to the one-season inventory effort. The high species diversity is due mainly to the multi-tiered and structurally complex environment which offers greater opportunity for habitat partitioning. This is in contrast to the much less complex physical structure and typically greater distance between individual plants of the mixed desert scrub and shadscale scrub habitat types. Some overlap of species presence occurs among all three habitats.

Some of the small mammals documented in an ocular, live trapping and snap-trapping effort included black-tailed hare (*Lepus californicus),* Audubon cottontail rabbit (*Sylvilagus audubonii),* white-tailed antelope ground squirrel *(Ammospermophilus leucurus),* Panamint kangaroo rat (*Dipodomys panamintinus),* long tail pocket mouse (*Perognathus formosus),* canyon mouse *(Peromyscus crinitus),* pinyon mouse (*Peromyscus truei),* western harvest mouse *(Reithrodontomys megalotis),* and desert wood rat *(Neotoma lepida).* Coyote *(Canis latrans)* and gray fox *(Urocyon cinereoargenteuws)* are common mammalian predators in these habitats.

Reptiles recorded from these habitat types include sagebrush lizard *(Sceloporus graciosus),* side-blotched lizard *(Uta stansburiana),* desert horned lizard (*Phrynosoma platyrhinos),* western whiptail *(Cnemidophorus tigris),* western fence lizard *(Sceloporus occidentalis),* gopher snake

(Pituophis melanoleucus), speckled rattlesnake *(Crotalus mitchelli),* Mojave rattlesnake *(Crotalus scutulatus),* and sidewinder *(Crotalus cerastes).*

Birds likely to breed in these vegetation communities include black-throated sparrow (*Amphispiza bilineata),* Brewer's sparrow *(Spizella breweri),* sage sparrow *(Amphispiza belli),* rock wren *(Salpinctes obsoletus),* blue-gray gnatcatcher *(Polioptila caerulea),* spotted towhee *(Pipilo maculatus),* chipping sparrow *(Spizella passerine),* Say's phoebe *(Sayornia saya),* Bewick's wren *(Thryomanes bewickii),* and house finch *(Carpodacus mexicanus).* The three sparrows are species of interest because they are considered sagebrush obligates and may be declining range-wide as a result of loss of sagebrush habitat, although in this area they are known to breed in other desert shrub communities. Upland game birds like chukar *(Alectoris chukar, a non-native species),* California quail *(Callipepla californica),* and mourning dove *(Zenaida macroura)* may reside and breed near water sources in most of the allotments.

The area is used by winter resident raptors including Cooper's hawk *(Accipiter cooperii)* and rough-legged hawk *(Buteo lagopus),* and breeding summer resident species including northern harrier *(Circus cyaneus),* red-tailed hawk *(Buteo jamaicensis),* golden eagle *(Aquila chrysaetos),* prairie falcon *(Falco mexicanus),* barn owl *(Tyto alba),* and great horned owl *(Bubo virginianus).*

Mule deer *(Odocoileus hemionus)* primarily use portions of the Alabama Hills, Ash Creek, George Creek, Red Mountain, Sawmill Creek, Shannon Canyon/Baker Creek and West Crater Mountain allotments for winter range. The sagebrush/bitterbrush sites within these allotments provide critically important forage and cover for mule deer. Water sources, mainly in the form of perennial streams, are readily available across the allotments. Occasionally, deep snow conditions forces mule deer to move lower on the alluvial fans for these Owens Valley allotments and utilize other vegetation communities, however, this is a rare event. Ensuring sufficient annual production (leader growth) is maintained on bitterbrush (an essential winter forage species) after grazing by livestock is fundamental to survival for mule deer in the Monache and Goodale deer herds. This is especially true for the Alabama Hills and George Creek allotments. Within these two allotments, livestock will commonly graze the upper elevation portion of the alluvial fans containing bitterbrush. There is no available evidence to indicate livestock are exceeding the average annual utilization standard for bitterbrush. The East Crater Mountain and Poverty Hills allotments are used infrequently in winter due to a general lack of bitterbrush. The remaining allotments along the east side of the Owens Valley are of lesser importance to resident mule deer due primarily to the mixed desert scrub habitat type and an absence of available water sources in those areas, except for Mule Spring in the Tinemaha allotment.

Although not as numerous as mule deer, the Tule elk *(Cervus elaphus)* regularly utilize the Alabama Hills and George Creek allotments for most, if not all, of their seasonal habitat requirements. The Poverty Hills allotment, particularly the lava flow area immediately south of the Poverty Hills, is an elk calving area (occurring in the spring season). While elk may briefly use parts of some other allotments, like Aberdeen, Red Mountain, and East and West Crater Mountain, they are not dependent on those areas to meet nutritional or reproductive

requirements. If available, elk prefer to consume herbaceous plant species (forbs and grasses), but they opportunistically forage on an array of grass, forb and shrub species the majority of the time (McCullough 1969). Elk food habits (which were intensively analyzed in the 1972-1973 period) clearly show that the diversity of plant species they will utilize allows them to meet nutritional needs on almost any part of the allotments. For that reason, elk have been very successful in adapting to the habitat and human induced conditions in the Owens Valley.

Due to the seasonal and dispersed nature of livestock grazing within the allotments, there is little to no discernible evidence of their affect on the quality of the upland vegetation communities or a resultant direct influence on wildlife species diversity and abundance.

Riparian

The stream and spring riparian environments in the allotments vary, representing elevational, climatic, geomorphological, and vegetative diversity (Taylor 1982). They are typically represented by very narrow corridors of vegetation with significantly less acreage than other habitat types. Eastern Sierra riparian vegetation provides habitat for up to 75% of local wildlife species (Kondolf et al. 1987) including many species that carryout their reproduction in non-riparian areas. Numerous songbird species are dependent on riparian vegetation communities for breeding, foraging or during migration. As an example, using the 1978 breeding bird survey information from the Bairs Creek riparian transect, songbirds associated with the west side Owens Valley streams include, but are not limited to, western wood pewee *(Contopus sordidulus)*, black-headed grosbeak *(Pheucticus melanocephalus)*, Lazuli bunting *(Passerina amoena)*, Costa's hummingbird *(Calypte costae)*, black-chinned hummingbird *(Archilochus alexandri)*, bushtit *(Psaltriparus minimus)* and warbling vireo *(Vireo gilvus)*. Due to the near absence of riparian sites on the east side of the Owens Valley, these and other riparian associated species are mostly absent except for the riparian vegetation community at Mule Spring which does provide habitat for migrant songbirds.

In a more recent effort that characterizes the importance of riparian habitat within the greater desert environment of the Owens Valley, an extensive songbird monitoring program was conducted along 12 of 19 streams found in west side Owens Valley allotments (Heath et.al. 2001). Throughout the spring and summer from 1998 to 2000, abundance, richness, diversity and breeding status of songbirds was determined at permanent monitoring locations. Mean species diversity, species richness, and total individuals were lowest among the Owens Valley alluvial fan monitoring sites when compared to other riparian communities at substantially higher elevations. However, these sites did offer a variety of valuable riparian habitats as evidenced by the presence of several California Partners in Flight focal species, and dense nesting populations of three hummingbird species. These alluvial fan riparian habitats were found to be especially important to songbirds during spring and fall migration, and were also much used during the breeding season by some species such as sage and black-throated sparrows which nest in the upland nearby. An influx of predominantly higher-elevation nesting birds during heavy snow pack years and of juvenile birds of species nesting at lower elevations demonstrates the use of these areas as dispersal corridors or spillover habitat for other adjacent habitats (Heath et al. 2001).

As described earlier, the geomorphology of the alluvial fans along the west side of the Owens Valley is a primary determinant for the type of stream channel, the ability of the channel to develop a floodplain and the resultant extent of riparian vegetation along the stream channel. Most streams are characterized by a somewhat incised channel, a dense and robust riparian vegetation community with large boulders and rocks intermixed which have largely protected the stream corridors from substantive negative affects from livestock grazing. Where livestock have historically caused portions of streams to be degraded from overuse, like Ash Creek, exclusion fencing along the affected stream area has resolved the problem. There are no known degraded riparian sites or deleterious effects to wildlife species populations along the perennial streams that are attributable to livestock use.

Threatened or Endangered Species:

No federally listed threatened or endangered species are known to occupy habitat within these allotments.

2. Environmental Consequences

a. Impacts of Proposed Action

The vegetation quality (vigor) in the upland areas of the allotments should be maintained or slightly improved from their current conditions with implementation of the proposed action. Species guilds like rodents and songbirds should reap the most immediate benefit from improvement in the availability of food resources and cover. For larger species like mule deer, habitat quality may be slightly improved in those areas where livestock regularly utilize bitterbrush associated with deer winter range along the higher elevation parts of the alluvial fans. It is unlikely that any measurable improvements will occur in the riparian habitats. Landform conditions (e.g. the deeply incised character of the Birch Creek channel) along with the natural "armoring" of stream banks by large boulders/cobble and dense riparian vegetation have prevented prolonged or persistent livestock grazing in the riparian corridors.

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.

c. No Grazing

Under this alternative livestock grazing on all allotments would cease. Wildlife habitat conditions would be improved, particularly in the immediate effects for species guilds like rodents and songbirds. As an example, granivorous rodents would benefit, over time, by an increased biomass of seed producing plant species. A likely consequence would be a somewhat increased rodent population benefiting predatory species groups like canids and raptors. Within the bitterbrush community, mule deer would have the complete annual production of bitterbrush available to them as winter forage. For the reasons stated above, there would unlikely be a measurable benefit to the stream riparian vegetation or a corresponding influence on wildlife species using riparian areas for some part of their life cycle.

3. References

Bishop Field Office, 1978 and1979. Owens Valley Unit Resource Analysis, Step II and III.

Bishop Field Office, 1978 Stream Inventory, files.

CDFG (California Department of Fish and Game). 1986. Owens Valley Tule Elk Habitat Management Plan. 84pp.

Heath, S.K., G. Ballard and C. McCreedy. 2001. Eastern Sierra Riparian Songbird Conservation 1998-2000 Final Report. Point Reyes Bird Observatory, Contribution No.1002. Stinson Beach, California, USA.

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McCullough, D.R. 1969. The Tule elk: its history, behavior, and ecology. University of California Publications in Zoology. Volume 88. 209pp.

Taylor, D.W. 1982. Eastern Sierra riparian vegetation: ecological effects of stream diversions. Mono Basin Research Group, Contribution No. 6. Lee Vining, California, USA.

T. 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments.

U. 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 Olancha 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 Sawmill Creek, West Crater Mountain, Shannon Canyon/Baker Creek, Black Mine, Tinemaha, Ash Creek, Alabama Hills, Red Mountain, West Santa Rita, Aberdeen, Poverty Hills, East Crater Mountain, and George Creek allotments in this assessment, grazing issues and impacts have been minimal due to low livestock use, few facilities to attract and concentrate livestock, and livestock preference for forage in the lower reaches of the allotments adjoining LADWP land. The low occurrence of sensitive resources such as threatened and endangered plant/animal species, cultural resources, riparian areas, etc., reduces the likelihood of future adverse impacts as well.

The physical structure and ecological function of plant communities on all thirteen 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.

Since the BLM allotments serve as fringe allotments to LADWP and Forest Service land, and livestock use is generally highly dispersed with light use, no major cumulative effects to cultural resources are predicted to occur from the proposed action.

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 two permittees that graze these five 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 two permittees who graze these five 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 two permittees who graze these five allotments which explained the rangeland health allotment assessment requirements.

On December 11, 2000, the Bishop Field Manager sent a letter to the two permittees who graze these five 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.

Noland, Tom. 2007. Livestock Operator. BLM and Tom discussed livestock grazing on the Ash Creek allotment. Tom explained the livestock management for the allotment.

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.

Stewart, Murt. 2007. Livestock Operator. BLM and Murt discussed livestock grazing on the West Crater Mountain allotment. Murt explained the livestock management for the allotment.

Tatum, Todd. 2007. Livestock Operator. BLM and Todd discussed livestock grazing on the Aberdeen and Poverty Hills allotments. Todd explained the livestock management for the allotments.

Area of Critical Environmental Concern (ACEC)

Previous consultation with the following agencies, which annually review the implementation and monitoring components of the ACEC plan included:

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

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.

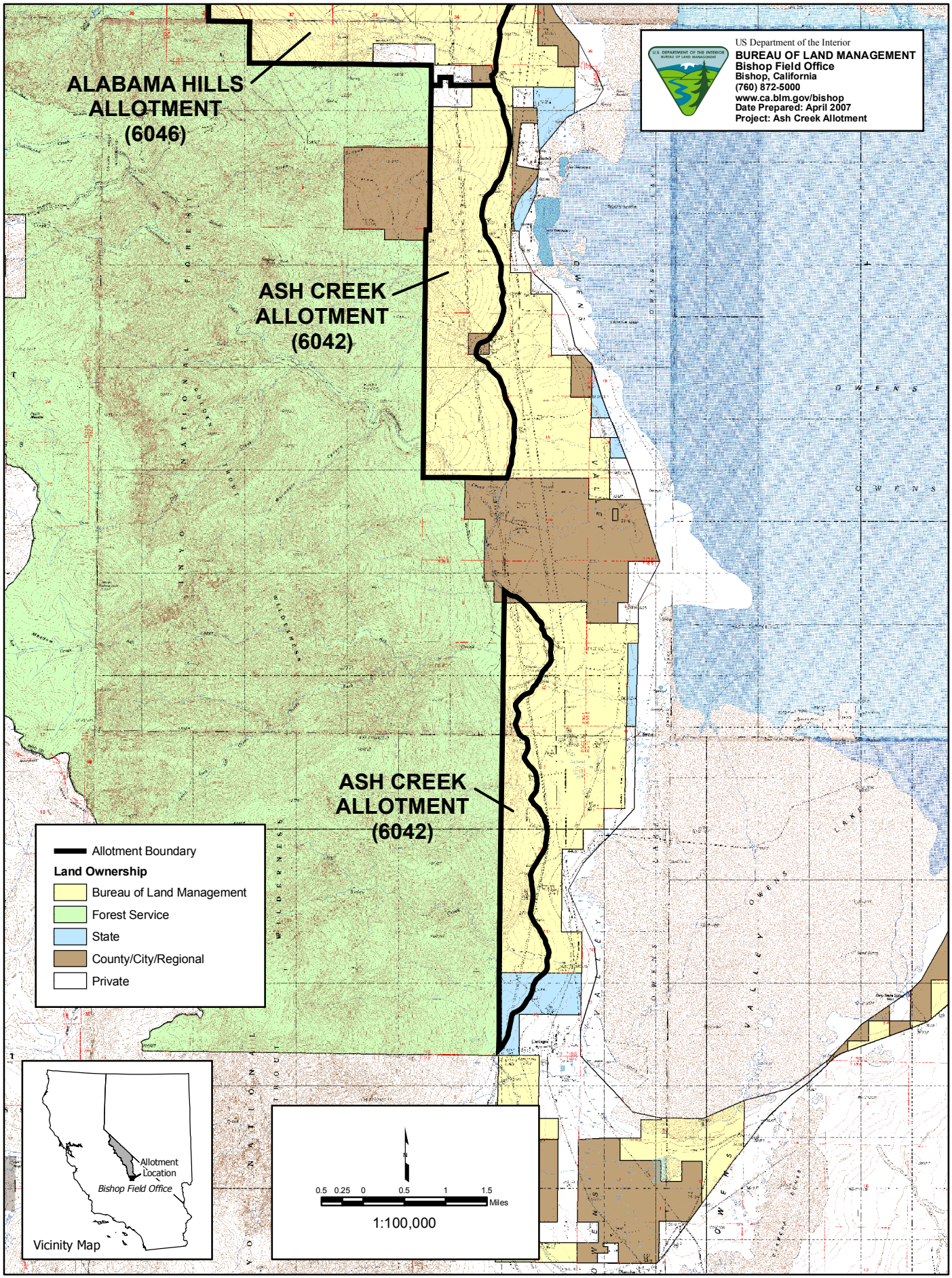
During the initialization of the allotment assessment process in FY 1999, seven Native American communities residing within the area administered by the Bishop Field Office– Bridgeport, Mono Lake, Benton, Bishop, Big Pine, Ft. Independence, and Lone Pine – were contacted by letter (January 11, 1999), 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)

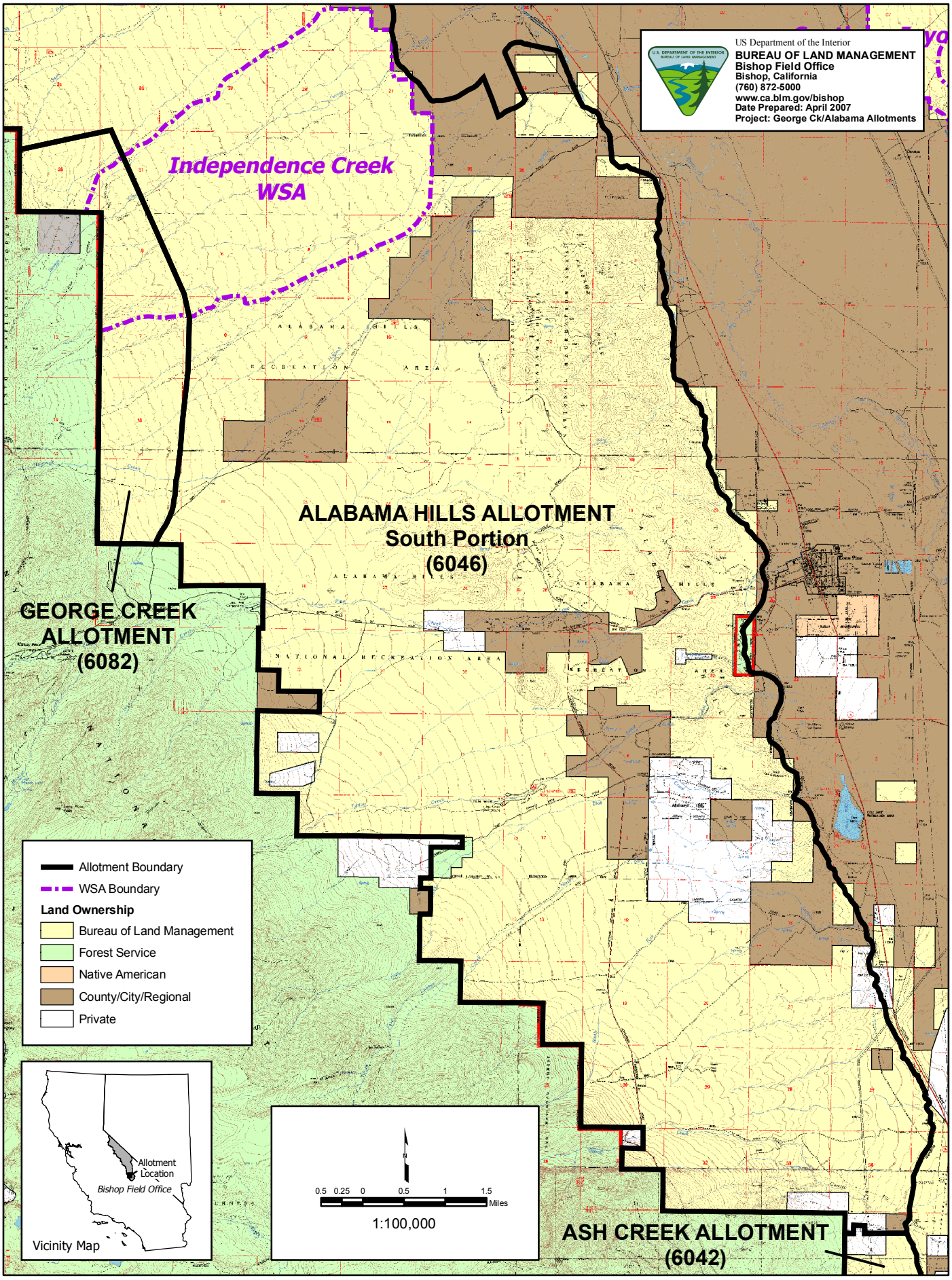
Environmental Assessment Preparers

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

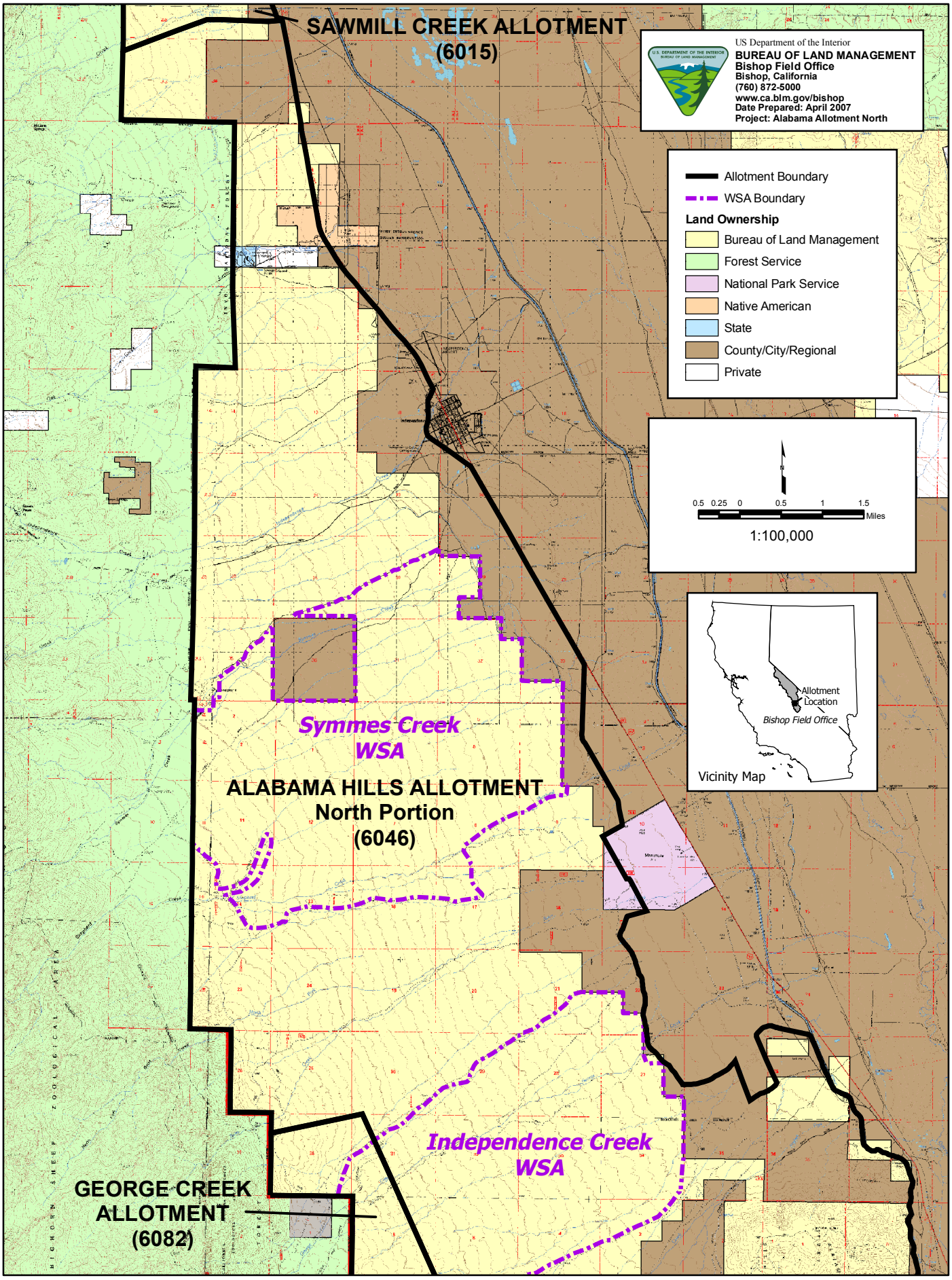
Chapter 5:
APPENDICES



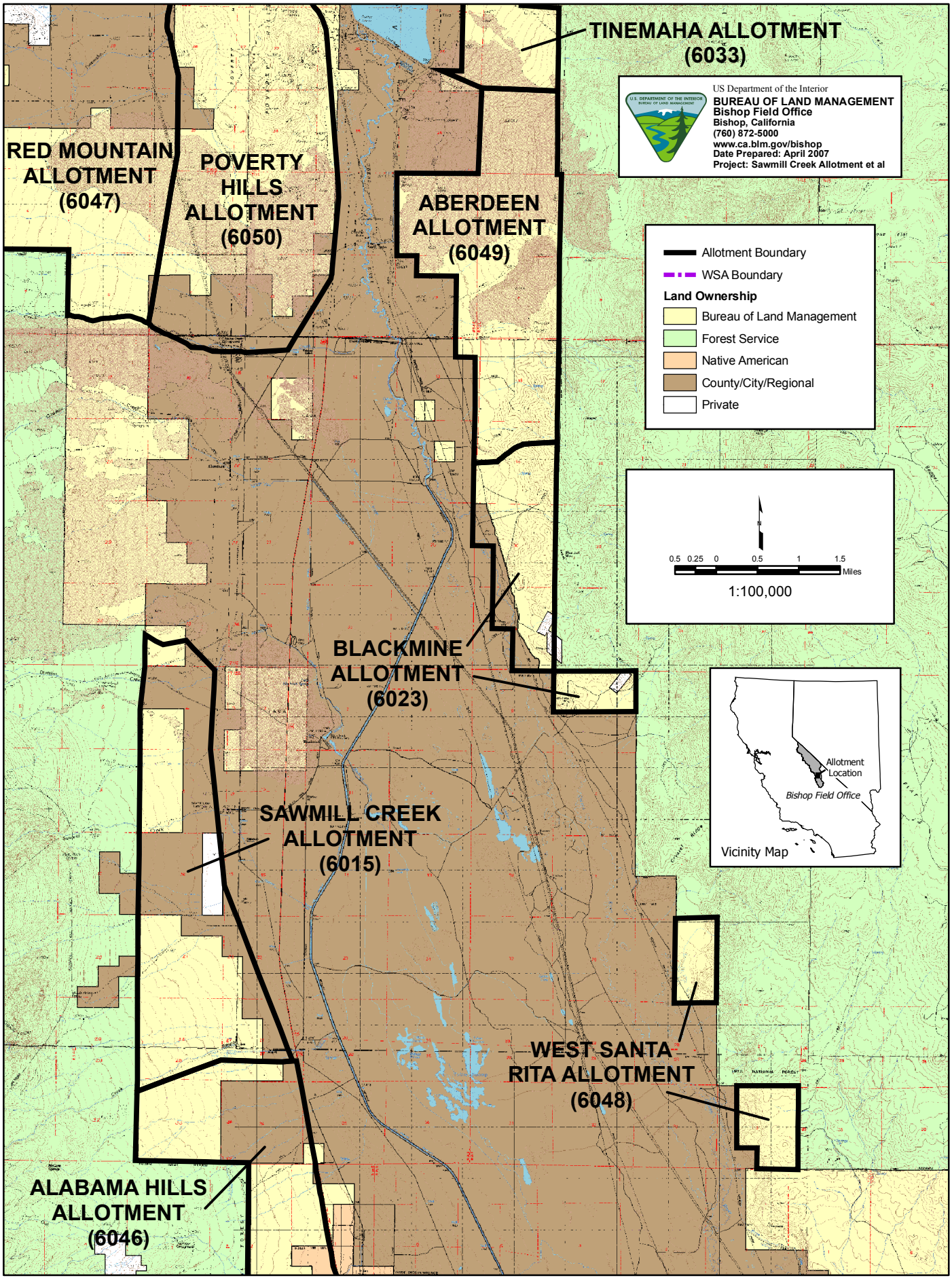
Map 1. Overview of the Ash Creek Allotment, Inyo County, California.
Bureau of Land Management, Bishop Field Office, Owens Lake Management Area.



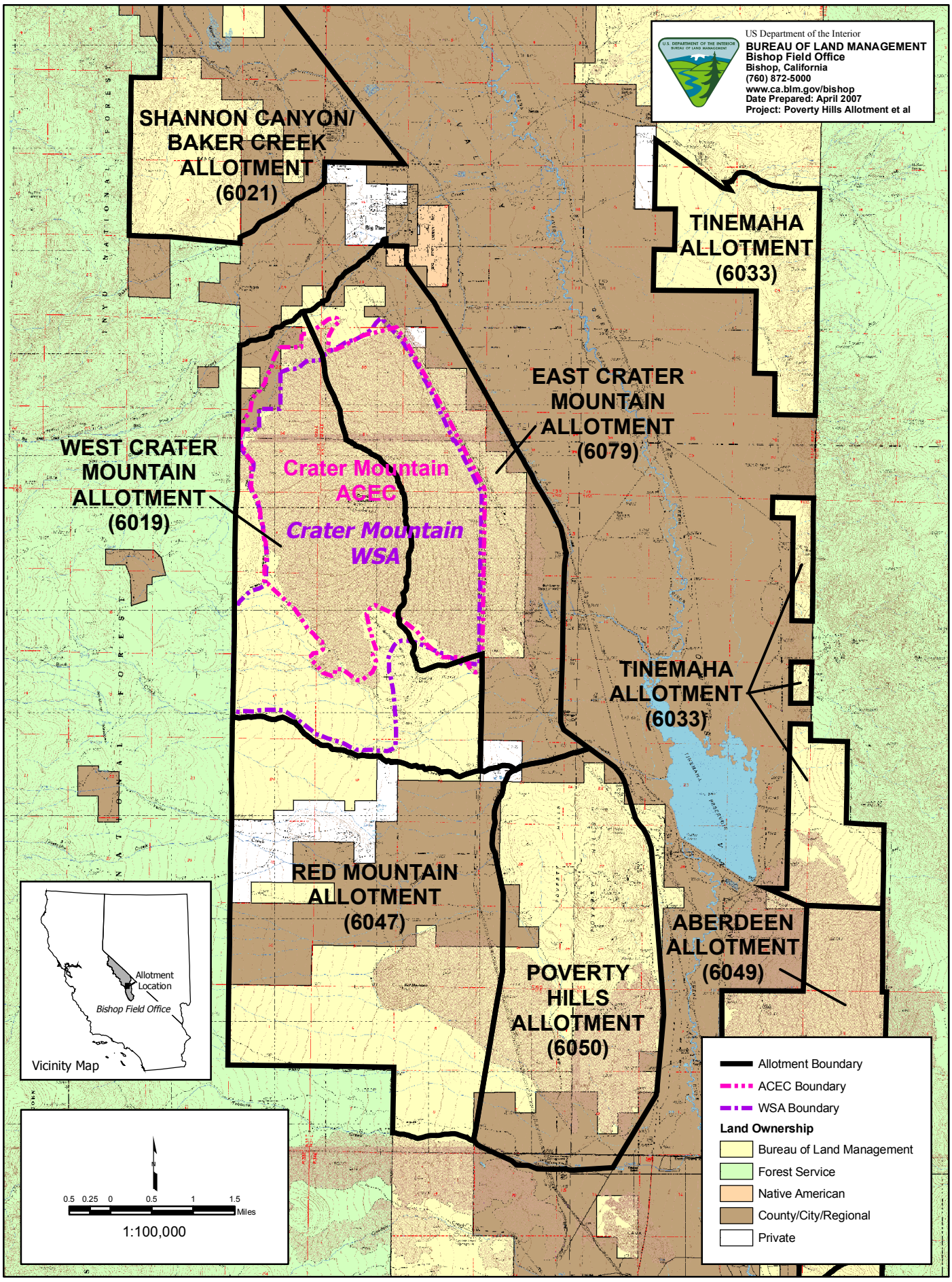
Map 2. Overview of the George Creek Allotment and the South Portion of the Alabama Hills Allotment, Inyo County, California. Bureau of Land Management, Bishop Field Office, Owens Valley Management Area.



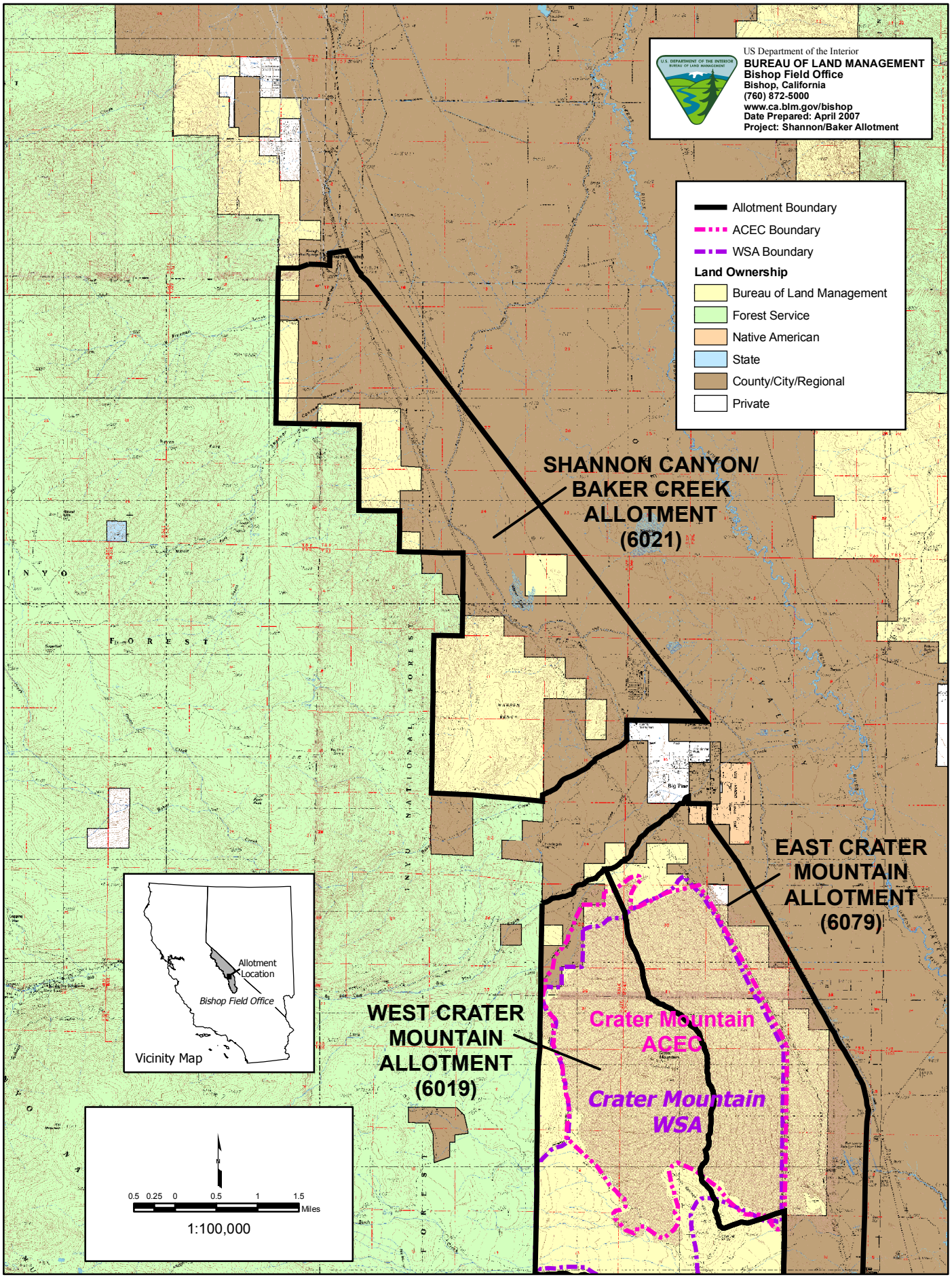
Map 3. Overview of the North Portion of the Alabama Hills Allotment, Inyo County, California. Bureau of Land Management, Bishop Field Office, Owens Valley Management Area.



Map 4. Overview of the Sawmill Creek, West Santa Rita, Blackmine and Aberdeen Allotments, Inyo County, California. Bureau of Land Management, Bishop Field Office, Owens Valley Management Area.



Map 5. Overview of the Poverty Hills, Red Mountain, East and West Crater Mountain and Tinemaha Allotments, Inyo County, California. Bureau of Land Management, Bishop Field Office, Owens Valley Management Area.



Map 6. Overview of the Shannon Canyon/Baker Creek Allotment, Inyo County, California. Bureau of Land Management, Bishop Field Office, Owens Valley Management Area.