

**ENVIRONMENTAL ASSESSMENT  
LIVESTOCK GRAZING AUTHORIZATION**

**EA Number      CA 170-08-18**

**Allotment Number and Name(s)**

**6071   Bodie Mountain**

**6072   Mono Sand Flat**

**6073   Potato Peak**

**6083   Aurora Canyon**

**BLM Bishop Field Office  
Prepared  
July 2008**

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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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 Mono Sand Flat allotment analyzed in this EA is located in the Granite Mountain Management Area of the BLM Bishop Field Office. The elevation range is between 6,400 along the eastern boundary of the Mono Lake Scenic Area and 7,700 feet near the southern boundary of the Bodie Mountain allotment. Vegetation communities for the allotment are a mix of sagebrush and bitterbrush, interspersed with pinyon-juniper woodlands in the higher elevations.

The Bodie Mountain, Potato Peak, and Aurora Canyon allotments analyzed in this EA are located in the Bodie Hills Management Area of the BLM Bishop Field Office. Their elevation range is between 6,800 along the southern boundary of the Bodie Mountain allotment to 10,236 feet at the summit of Potato Peak. Vegetation communities for these allotments are dominated by a mix of sagebrush/bitterbrush and mountain shrub communities interspersed with pinyon-juniper woodlands.

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
Bodie Mountain	Cattle	6/1	10/15	5,647	Perennial
Mono Sand Flat	Cattle	12/1	5/31	2,360	Perennial
Potato Peak	Cattle	6/1	10/31	1,086	Perennial
Aurora Canyon	Cattle	6/15	9/30	1,736	Perennial

\* Amount of forage a 1,000 lb cow with calf will eat in a month

Approximate public, state, and private land acreages (See Maps 1-3) within each allotment are:

Allotment Name	Public Land	State Land	Private Land
Bodie Mountain	46,549	1,621*	8,253
Mono Sand Flat	55,222	1,756	6,099
Potato Peak	13,898	0	772
Aurora Canyon	17,595	0	2,494

\* includes combined Bodie State Park and state lands

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

The 10-year grazing permits for these four allotments have expired. In the interim, the grazing permits which authorize use on these allotments were issued in accordance with Section 325 of Public Law 108-108. These interim permits will expire in 2018. Renewing permits under the appropriations act 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 two permittees who graze these four 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 23, 2007, the Bishop Field Manager sent a second letter to the two permittees who

graze these four 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 and permit completion.

On December 17, 2007, a Notice of Proposed Action (NOPA) was sent to the two permittees who graze these four 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/st/en/fo/bishop.html>. The NOPA provided a 30 day comment period on the proposed action and alternatives.

On May 1, 2008, BLM and interested public had a Bodie Coordinated Resource Management Plan (CRMP) meeting in Bridgeport, California. The purpose of the meeting was to give a brief review of the CRMP, discuss the environmental assessment process, give an update on area issues, and provide the public with an opportunity to share personal issues or concerns for the Bodie Hills.

On July 10, 2008, a draft EA was posted for two weeks on the BLM internet site for public review at <http://www.blm.gov/ca/st/en/fo/bishop.html>. The two permittees, Center for Biological Diversity, and Western Watersheds Project were notified that the EA had been posted on the BLM internet site.

### *Issues and Alternatives*

One letter was received from the Natural Resource Conservation Service (NRCS) on December 21, 2007 which commented on one portion of the “Proposed Terms and Conditions” from the Notice of Proposed Action signed on December 17, 2007. The NRCS letter stated, “Under item 2, Riparian Areas and Wetlands, one of the reasons given for maintaining sufficient residual stubble or regrowth at the end of the growing season is sediment entrapment.” The NRCS letter explained and documented the extensive research that has been conducted over the years on stubble height. Research has demonstrated that stubble height had no significant difference in sediment trapping. The NRCS letter summarized the findings and stated, “Minimum Stubble Heights help to maintain plant vigor, provide maintenance of sufficient biomass to reduce late-season browsing of willows, and are an easily communicated management criteria, but do not entrap sediment for streambank building unless there is inundated flow (overtops vegetation)...” To address the NRCS letter, BLM Bishop Field Office will modify the language associated with Riparian Areas and Wetlands within the proposed terms and conditions to state, “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, and bank protection.”

On March 15, 2008, a protest letter was filed on behalf of the Center for Biological Diversity (CBD) and Western Watersheds Project (WWP). CBD and WWP protested a proposed grazing

decision to issue a ten year grazing permit on two other allotments which are administered by the Bishop Field Office. From the protest, two issues were raised which have relevance and have been addressed within this environmental assessment. The two issues are habitat for greater sage-grouse and global climate change following the Department of Interior Order No. 3226.

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.

The Potato Peak and Aurora Canyon allotments occur outside of any Federal Air Quality Non-Attainment/Maintenance Area. However, the Bodie Mountain and Mono Sand Flat allotments occur within the Mono Basin Federal Air Quality Non-Attainment/Maintenance Area and conform to the applicable State Implementation Plan requirement.

## ***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***

BLM 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.

The following table represents Special Status Plant Species that occur in the identified allotments:

<b>Grazing Allotments</b>	<b>Special Status Plant Species</b>	<b>Trend</b>
Bodie Mountain	1) Bodie Hills draba ( <i>Cusickiella quadricostata</i> ), 2) Long Valley milk vetch ( <i>Astragalus johannis-howellii</i> ), 3) Mono ( <i>Phacelia monoensis</i> ), 4) Bodie Hills rock cress ( <i>Arabis bodiensis</i> ), 5) William's combleaf ( <i>Polyctenium williamsae</i> ).	1. Stable 2. Stable to increasing 3. Stable 4. Stable 5. Stable
Mono Sand Flat	1) Mono milk-vetch ( <i>Astragalus monoensis</i> ), 2) Duran's lupine ( <i>lupinus duranii</i> ).	1. Stable/declining 2. Stable/declining
Potato Peak	1) Bodie Hills draba ( <i>Cusickiella quadricostata</i> ), 2) <i>Phacelia monoensis</i>	1. Stable 2. Increasing
Aurora Canyon	1) Bodie Hills draba ( <i>Cusickiella quadricostata</i> ), 2) Mono ( <i>Phacelia monoensis</i> ), 3) Masonic Mtn. jewel flower ( <i>Streptanthus oliganthus</i> )	1) Stable 2) Stable 3) Stable

### ***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. In 2007, one of the six listed species, the Bald Eagle, was delisted.

No threatened or endangered species are present based on historical records, field monitoring, and/or habitat suitability in the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments. Sierra Nevada bighorn sheep (*Ovis canadensis californiana*), a federally listed endangered species, inhabit parts of the Sierra Nevada range several miles to the west; however, there is no suitable habitat on or adjacent to these allotments. There is potential reintroduction habitat for one federally listed threatened species, Lahontan cutthroat trout. See the Wildlife section under Environmental Analysis in Chapter 3 below.

### ***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, 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 Mono Sand Flat, Potato Peak, and Aurora Canyon allotments contain no designated or eligible study segments of Wild and Scenic Rivers. However, the Bodie Mountain allotment contains two eligible wild and scenic river study segments identified for future consideration as wild and scenic river designations. These segments include Rough Creek (2.1 miles on public land) and Atastra Creek (1.75 miles on public land).

## ***Wilderness Study Areas***

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

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. (See Appendix A)

The entire Bodie WSA (CA-010-100) occurs within the Bodie Mountain allotment. The entire Excelsior WSA (CA-010-088), 20 % of the Granite Mountain WSA (CA-010-090) and 96 % of the Walford Springs WSA (CA-010-092) occurs within the Mono Sand Flat allotment. Approximately 39% of the Bodie Mountains WSA (CA-010-099) occurs within the Potato Peak allotment. Finally, approximately 96% of the Masonic Mountain WSA (CA-010-102) and 23% of the Bodie Mountains WSA (CA-010-099) occurs within the Aurora Canyon 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 decisions 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 (BLM2000) 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:

Bodie Mountain	June 19 & 26, and July 3 & 11, 2003
Mono Sand Flat	June 25, 2003
Potato Peak	July 30, 2003
Aurora Canyon	June 5 & 12, 2001

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” was the criterion used to determine 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

Areas of an 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 the causal factor for not meeting Yes or No	Remarks (locations, etc.)
Bodie Mountain	X	X (Riparian)	Yes and No	*see notes below
Mono Sand Flat	X			
Potato Peak	X	X (Riparian)	Yes	*see notes below
Aurora Canyon	X	X (Aurora Canyon and Clark Canyon riparian conditions only)		*see notes below

Notes:

### Bodie Mountain

*Bodie Creek* - Historic channel manipulations including earthen dam construction associated with gold mining activity and current proximity of the creek to a road predispose this stream to lags in restoration potential.

*Rough Creek Tributary 1* - Lower portions of the Tributary 1 channel are gullied due to historic (early 1900's) high intensity grazing and proximity to an historic road.

*Rough Creek Tributary 2* - This spring fed channel exhibits a low discharge and moderate bank erosion due to patchy cover of riparian vegetation.

*Rough Creek Tributary 3* - This tributary has intermittent flows and historic gullies along portions of the stream.

*Rough Creek Tributary 4* - Banks exhibit sparsely distributed riparian vegetation cover with moderate bank sloughing.

*Atastra Creek* - Some sections have historic gullies that are becoming partially stabilized. Energy dissipation capability of channel has been reduced.

*East Fork Atastra Creek* - Channel exhibits historic gullies and reduced cover of riparian vegetation is maintaining static versus an upward trend in bank conditions.

### Potato Peak

*Clearwater Creek* - This spring fed stream rarely experiences over bank flow. The riparian zone is narrow and deeply incised which increases the risk of bank sloughing. The lower reaches of the stream is armored by dense stands of coyote and yellow willow and sparse aspen.

### Aurora Canyon

*Aurora Canyon creek* – This creek is influenced by a county road (sediment loading and poor sinuosity) and lacks stabilizing vegetation in some reaches.

*Clark Canyon* – The riparian bottom has deep vertical banks in the lower mile reach which are heavily armored by willow species. The upper reaches are still stable, but lack riparian vegetation cover along some reach sections.

## **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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 seven 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
Bodie Mountain	1791	cattle	6/1	10/15	70	5647
Mono Sand Flat	505	cattle	12/1	5/31	78	2370
Potato Peak	235	cattle	6/1	10/31	92	1088
Aurora Canyon	526	cattle	6/15	9/30	93	1737

**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.

*Bodie Mountain (6071), Potato Peak (6073), Aurora Canyon (6083) Allotments*

No salt or other nutrient supplement is allowed within 1/4 mile of creeks, aspen groves, meadows, sage grouse strutting grounds, special status plant populations, and identified archeological or petroglyph sites.

*Mono Sand Flat (6072) Allotment*

No salt or other nutrient supplement is allowed within special status plant populations, and identified archeological or petroglyph sites.

**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 Pinyon-Juniper Woodland Rangelands:**

Livestock grazing operations will be conducted so that forage utilization on key perennial

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

#### Critical Mule Deer Habitat:

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.

Riparian Areas & Wetlands: *Bodie Mountain (6071), Potato Peak (6073), Aurora Canyon (6083) 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, and bank protection.

#### 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.

*Bodie Mountain (6071) Additional*

Graze the Bodie Mountain allotment in accordance with the Coordinate Resource Management Plan.

*Mono Sand Flat (6072) Additional*

Graze the Mono Sand Flat allotment in accordance with the Allotment Management Plan.

*Potato Peak (6073) Additional*

Graze the Potato Peak allotment in accordance with the Coordinate Resource Management Plan. Livestock are to enter into the Cinnabar Canyon and/or Warm Springs area via herd management. Livestock that have drifted into Big Alkali will be herded back to Warm Springs until moving to the mid-elevation range (about 7/1 – 7/22). Livestock are not to use Big Alkali after 7/1 until the end of the grazing season, when the area will be used as a gathering site. At that time, livestock are not to linger more than 3-4 days prior to come off. If livestock are trailed thru Cinnabar Canyon, avoid “peat bog” by trailing on the road. Avoid trailing thru “draba” habitats on the ridge between Big Alkali and Warm Springs. On upper elevation range, a majority of the livestock will be driven to the east branch of the pipeline and water will be in both the east and west troughs.

*Aurora Canyon (6083) Additional*

Graze the Aurora Canyon allotment in accordance with the Coordinate Resource Management Plan. Move livestock out of aspen groves onto upland ranges, “at least once a week” during the grazing season. No livestock grazing inside the fenced meadow of Clark Canyon.

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 four 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments are designated as Category I allotments in the Bishop Resource Management Plan (Appendix 4, pages A4-5 through A4-7). Consistent with BLM policy, monitoring on the Category I allotments will be conducted annually.

### *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. Key areas would be selected and utilization on key species would be estimated in accordance with the current BLM technical reference. Utilization monitoring would consist of documenting utilization levels to compare estimated utilization data to the utilization guidelines. This would assure compliance with permit terms and conditions for the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

### *Long-Term Trend Monitoring*

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

The Bodie Mountain allotment has 11 permanent photo point and trend plots established in September 1969 on BLM managed public lands that were re-read in September 1979, August 1980, October 1982, September 1983, September 1987, July 1991, July 2001, and August 2006. In a comparison from 2001 to 2006, there was an upward trend for all plots except for two. The long-term trend, 1969 to 2006, for the allotment as a whole is upward. The Mono Sand Flat allotment has 5 permanent photo point and trend plots, three were established in September 1969 and two in September 1970 on BLM managed public lands. Trend plots in Mono Sand Flat were re-read in November/December 1977, October 1979, September 1982, September 1983, September 1987, June 1992, and August 2006. In a comparison from 2004 to 2006, there was an upward trend in two plots and a downward trend in three plots; even though, the Mono Sand Flat allotment has been rested from 2003 to present. The long-term trend, 1969 to 1992, for the allotment as a whole was upward. The Potato Peak allotment has 4 permanent photo point and trend plots established in July 1973 on BLM managed public lands that were re-read August 1976, October 1979, August 1980, October 1982, September 1983, September 1987, July 1991, July 2004, and August 2006. In comparison of 2004 to 2006, there was an upward trend for all

plots. The long-term trend, 1973 to 2006, on the allotment as a whole is static. The Aurora Canyon allotment has 4 permanent photo point and trend plots established in July 1973 on BLM managed public lands that were re-read August 1976, October 1979, August 1980, October 1982, September 1983, September 1987, July 1991, July 1994, and August 2006. In a comparison from 2004 to 2006 for the whole allotment, there was a static trend for all plots. The long-term trend, 1973 to 2006, on the allotment as a whole is static.

### *Compliance Assurance*

Allotment compliance would be conducted on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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.

### *Joint Cooperative Monitoring Plan*

A Joint Cooperative Monitoring Plan policy was instituted under the authority of the Memorandum of Understanding (MOU) between the U.S. Department of the Interior, Bureau of Land Management (BLM) and the Public Lands Council dated January 30, 2004. Furthermore, an MOU was established between the BLM Bishop Field Office and F.M. Fulstone, and between the BLM Bishop Field Office and Flying M Ranch on May 1, 2008. BLM and the two permittees believe that cooperative rangeland monitoring is an important tool in the management of livestock grazing, and maintaining desired range conditions on public lands. The BLM and permittees entered into a Joint Cooperative Monitoring Plan with the intent to strengthen their partnership in monitoring and management of the Bodie Mountain, Mono Sand Flat, Potato Peak and Aurora Canyon allotments. Monitoring on these four allotments will follow BLM policy, the MOU, and Joint Cooperative Monitoring Plans.

## **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.

### **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**

### *All Allotments*

Grazing use is not to exceed 60% on key forage species or 30% on meadows or bitterbrush.

No salting or sheep bedding within 1/4 mile of creeks, aspen groves, meadows, sage grouse strutting grounds, or special status plant habitat.

No supplemental feeding or trailing through a neighboring allotment without BLM's authorization.

### C. Other Terms and Conditions

#### *Bodie Mountain (6071) and Mono Sand Flat (6072) Additional*

Operator is running under a co-op agreement between the BLM and the Forest Service in the Mono Sand Flat allotment. Graze the Mono Sand Flat allotment according to the Allotment Management Plan for allotment 6071.

Graze the Bodie Mountain allotment according to the CRM Plan.

The permittee will "ride the range" to keep cattle on the uplands and out of riparian zones and aspen groves. Cattle found there will be moved to other upland ranges or to fenced private property. Management of cattle numbers and movement at the appropriate time will be based upon use levels reached. Increased herding will be used in attempt to use uplands and to not exceed use limits.

#### *Potato Peak (6073) and Aurora Canyon (6083) Additional*

For Potato Peak: Graze according to the CRM Plan and agreement resulting from the allotment evaluation. Cattle are to come off into the Cinnabar and Warm Springs area. Cattle that have drifted into Big Alkali will be herded back to Warm Springs until time to go to the mid-elevation range (about 7/1 – 7/22). Livestock are not to use Big Alkali after 7/1, until end of grazing season, when the area will be used as a gathering site. At that time cattle are not to linger more than 3-4 days prior to come off. If cattle are trailed thru Cinnabar Canyon, avoid "peat bog" by trailing on road. Avoid trailing thru "draba" habitats on the ridge between Big Alkali and Warm Springs. Permittee will "beef-up" drift fences in warm springs drainage and install "locked gate" in Sec. 28 drift fence. On upper elevation range, a majority of the cattle will be driven to the east branch of the pipeline and water will be in both the east and west troughs.

For Aurora Canyon: Graze according to the revised CRM Plan. Move cattle out of aspen groves, in SE part of allotment, onto upland ranges, "at least once a week" during the grazing season. Keep gate at upper cattle guard in Aurora Canyon closed and "locked" to prevent drift into the riparian area. No cattle grazing inside the fenced meadow of Clark Canyon.

### 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 for the Bodie Mountain and Mono Sand Flat allotments, and the permit for the Potato Peak and Aurora Canyon 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.

DRAFT

## **Chapter 3: ENVIRONMENTAL ANALYSIS**

### **A. LIVESTOCK MANAGEMENT**

#### **1. Affected Environment**

##### *Past and Present Grazing*

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.

After the enactment of the Taylor Grazing Act in the 1934, government began taking an active role in managing public lands in the Owens Valley, creating allotment boundaries and developing grazing management systems. In 1946 the General Land Office and Grazing Service merged to create the Bureau of Land Management.

Over the last forty years, grazing on public and private lands in the eastern Sierra region has generally consisted of optimizing stocking rates when forage production was adequate to support livestock, generally throughout various habitat types. Grazing permits on public lands have incorporated numerous federal laws, regulations, policies, and management guidelines to protect and improve various resource values including rangeland and vegetative/wildlife habitat conditions. Monitoring has also been incorporated into grazing management to ensure compliance with permit stipulations. These grazing management practices have generally lead to improving trend in rangeland health and habitat conditions within the region.

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.

##### *Allotment Specific*

The Mono Sand Flat allotment is located within the Granite Mountain Management Area as defined in the Bishop Resource Management Plan (RMP) (See Map 1). The allotment is located south of the Bodie Mountain allotment, east of Mono Lake Scenic Area, and the eastern boundary is roughly the California/Nevada state line.

Livestock number, livestock kind, permitted season of use, percent public land, and allocated animal unit months (AUMs) for the Mono Sand Flat allotment are:

Allotment	Number	Kind	From	To	% P.L.	AUMs
Mono Sand Flat	505	cattle	12/1	5/31	78	2357

There is one permittee for the Mono Sand Flat allotment and the allotment is billed on actual use. The allotment is used in conjunction with the permittees unfenced and intermingled private land and adjacent federal allotments, including the Bodie Mountain allotment. Livestock grazing is permitted from December 1<sup>st</sup> to May 31<sup>st</sup>. The allotment was last used in 2002. The allotment contains three fenced pastures with two of them located south of Highway 167, and one located north of the highway. When the allotment is used, the permittee starts grazing livestock in one of the two pastures located south of the highway. These two pastures are alternated depending on the year. Both pastures are largely dormant season use so plants are seldom used during the growing season. If the plants are used, it is only every other year at the most with rest on alternate years. In the spring, livestock are moved to the pasture north of the highway. From there, livestock are allowed to drift or are actively herded eventually into the adjacent Bodie Mountain allotment.

The Bodie Mountain allotment is located within the Bodie Hills Management Area as defined in the Bishop RMP (See Map 2). The eastern boundary of the allotment is the California/Nevada state line. The allotment extends south to border the Mono Sand Flat allotment, includes Bodie Mountain peak in the west, and abuts the Toiyabe National Forest on the north. Livestock number, livestock kind, permitted season of use, percent public land, and allocated animal unit months (AUMs) for the Bodie Mountain allotment are:

Allotment	Number	Kind	From	To	% P.L.	AUMs
Bodie Mountain	1791	cattle	6/1	10/15	70	5647

There is one permittee for the Bodie Mountain allotment and the allotment is billed on actual use. The allotment is used in conjunction with the permittees unfenced and intermingled private land and adjacent federal allotments, including the Mono Sand Flat allotment. Livestock grazing is permitted from June 1<sup>st</sup> to October 15<sup>th</sup>. However, the on-date fluctuates in a given year often determined by precipitation amounts and plant phenology. The permittee either starts grazing livestock in the northern portion of the allotment (Big Flat pasture), or the south end (Mexican or Bodie pastures) to offset use patterns. This allows vegetation to complete different growth phases among years before being used or to potentially be rested. In general, the permittee starts in the Big Flat pasture in wetter years, and starts in the Mexican or Bodie pastures in drier years. In either case, livestock are herded to the middle portion of the allotment (Rough Creek pasture), by mid-July to mid-August. This grazing system provides for deferment every year in the Rough Creek pasture which assures for strong root reserve storage. On the years pastures are used, the permittee removes livestock early enough to assure for vegetative regrowth of riparian and wetland vegetation, and moderate regrowth on upland vegetation depending on the amount of summer precipitation. Livestock use perennial and intermittent water sources located on both

public and private lands throughout the grazing season. Water can be a limiting factor for livestock forcing the permittee to adjust the grazing system. Livestock begin leaving and drifting off of the allotment for home by mid-September. The permittee usually has cleaned the allotment of straggler livestock by approximately October 1<sup>st</sup>.

The Flying M Ranch Management Plan included the Bodie Mountain and Mono Sand Flat allotment was written and approved in 1968. The Management Plan addressed objectives of management, grazing management systems, range studies, and needed range improvements. Since that time, changes were made to the management plan. The Bodie Mountain Coordinated Resource Management Plan (CRMP) approved May 1992 addressed goals, resource objectives, action plan, action plan implementation, inventory needs, and monitoring.

The operator may adjust the grazing plan for the Bodie Mountain and Mono Sand Flat allotment depending on the amount of precipitation received and/or annual forage production attained in the Bodie Hills and Mono Basin. These strategies may include adjusting on/off dates around annual forage growth, a slight increase in livestock numbers in wetter years, or a decrease in numbers to adjust for drought conditions. These operational changes require advance BLM approval.

The Potato Peak allotment is located within the Bodie Hills Management Area as defined in the Bishop Resource Management Plan (RMP) (See Map 3). The allotment is bordered by the Bodie Mountain allotment to the east, the Aurora Canyon allotment to the north, the Travertine allotment to the west. The Bodie Road (CA 270) defines the southern boundary. Livestock number, livestock kind, permitted season of use, percent public land, and allocated animal unit months (AUMs) for the Potato Peak allotment are:

Allotment	Number	Kind	From	To	% P.L.	AUMs
Potato Peak	235	cattle	6/1	10/31	92	1088

The Potato Peak Allotment Management Plan was approved in December 1972 and addressed objectives of management, grazing management systems, range studies, and needed range improvements. Since that time, changes were made to the management plan. The Potato Peak Coordinated Resource Management Plan (CRMP) adopted March 1987 addressed planning objectives and actions.

There is one permittee for the Potato Peak allotment and the allotment is billed on actual use. The allotment is used in conjunction with the permittees unfenced and intermingled private land, and adjacent Aurora Canyon allotment. Livestock grazing is permitted from June 1<sup>st</sup> to October 31<sup>st</sup>, although the allotment is not usually grazed later than September 30<sup>th</sup>. Livestock start grazing approximately 6/1 in the lower elevations which includes the Alkali Flat/Warm Spring pastures. The herd is moved to the Potato Peak pasture by mid-summer at boot stage of grass growth and/or when utilization standards are met in the first pasture. This grazing system provides for annual deferment until boot stage which assures strong root reserve storage on the Potato Peak pasture. This grazing strategy also provides for leaving the Alkali Flat/Warm Spring pastures early enough for strong regrowth on the riparian and wetland vegetation, and moderate

regrowth on the upland vegetation depending on the amount of summer precipitation. Livestock use perennial and intermittent water sources located on both public and private lands throughout the grazing season. Water can be a limiting factor for livestock forcing the permittee to adjust the grazing system. The permittee begins gathering the livestock when utilization standards are met or generally by the first of September. The permittee usually has cleaned the allotment of straggler livestock by mid-September.

The Aurora Canyon allotment is located within the Bodie Hills Management Area as defined in the Bishop Resource Management Plan (RMP) (See Map 3). The allotment is bordered by the Travertine allotment and highway 182 to the west, the Bodie Mountain allotment to the east, the Potato Peak allotment to the south. The northern boundary abuts the Toiyabe National Forest. Livestock number, livestock kind, permitted season of use, percent public land, and allocated animal unit months (AUMs) for the Aurora canyon allotment are:

Allotment	Number	Kind	From	To	% P.L.	AUMs
Aurora Canyon	526	cattle	6/15	9/30	93	1737

The Aurora Canyon Coordinated Resource Management Plan (CRMP) prepared in 1984 addressed five primary management objectives relating to wildlife habitat, watershed enhancement, and improved cattle distribution. The Aurora Canyon CRMP was adopted in January 1985, and outlines management objectives and actions. An Aurora Canyon CRMP Amendment was signed in October of 1996 which provided review and actions necessary for plan conformance.

There is one permittee for the Aurora Canyon allotment and the allotment is billed on actual use. The allotment is used in conjunction with the permittees unfenced and intermingled private land, and the adjacent Potato Peak allotment. The livestock start grazing approximately 6/15 with roughly two-thirds of the herd going to the Masonic/Rock Spring pasture, and one-third going to the Lower Clark/Telegraph pasture. Both herds are moved into the Aurora Canyon allotment in mid-summer at boot stage of grass growth and/or when utilization standards are met in the first pastures. This grazing system provides for annual deferment until boot stage which will assure strong root reserve storage in the Aurora Canyon allotment. This grazing system also provides for leaving the first pastures early enough for strong regrowth on riparian and wetland vegetation and moderate regrowth on the upland vegetation depending on the amount of summer precipitation. Livestock use perennial and intermittent water sources located on both public and private lands throughout the grazing season. Water can be a limiting factor for livestock forcing the permittee to adjust the grazing system. The permittee begins gathering the livestock when utilization standards are met or generally around September 1<sup>st</sup>. The permittee usually has cleaned the allotment of straggler livestock by mid-September.

The operator may adjust the grazing plan for the Potato Peak and Aurora Canyon allotments depending on the amount of precipitation received and/or annual forage production attained in the Bodie Hills. These strategies may include adjusting on/off dates around annual forage growth, a slight increase in livestock numbers in wetter years, or a decrease in numbers to adjust for drought conditions. These operational changes require advance BLM approval.

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

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

### **b. Impacts of No Action**

The no action alternative would not create negative impacts to current livestock operations. The no action alternative and current terms and conditions would be in conformance with the Bishop Resource Management Plan (RMP) approved on March 23, 1993. However, the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (Central California S&Gs) approved on July, 13, 2000 amended the RMP. Terms and conditions would still need to be developed to reflect changes from the Central California S&Gs. For example under current management, grazing use defined within the terms and conditions is not to exceed 60 percent on key forage species. Under the Central California S&Gs, forage utilization on key perennial species is not to exceed 40 percent on the average which was determined to help maintain, protect, or improve rangeland health.

### **c. Impacts of No Grazing**

The cancellation of grazing on the Bodie Mountain, Mono Sand Flat, Potato Peak and Aurora Canyon allotments would require the operators to look for alternative forage and would increase the cost of their ranching operations. For these operators, that have private and/or other leased lands, the grazing capacity of those lands may not accommodate the increased use or meet management requirements of those lands. The permittees may be forced to operate with fewer livestock or sell the entire livestock business. If the business is sold, private lands associated with these ranches have the potential to be sold and developed. Ranches build connections between public and private lands, and between rural and urban communities. "Private lands are disproportionately important to the maintenance of our region's natural heritage because they are disproportionately more productive" (Knight 2007). Private lands, especially in the eastern Sierra and on these allotments, contain numerous springs, riparian, rich soils, and/or critical habitat that wildlife depends on. A few of the consequences from the development of the private lands would be landscape level fragmentation, decrease in biodiversity, and loss of critical species habitat.

### **3. Maps**

Overview of Allotments (Maps 1 – 3)

### **4. References**

Knight, R.L. 2007. Ranchers as a Keystone Species in a West That Works. *Rangelands* 29:4-9.

Talbert, C.B., R.L. Knight, and J.F. Mitchell. 2007. Private Ranchlands and Public-Land Grazing in the Southern Rocky Mountains. *Rangelands* 29:5-8.

## **B. AIR QUALITY**

### **1. Affected Environment**

The Potato Peak and Aurora Canyon allotments are not within any federal non-attainment/maintenance area under jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD). Federal actions are not subject to conformity determinations under 40 CFR 93. However, the Bodie Mountain and Mono Sand Flat allotments occur within the Mono Basin Federal Air Quality Non-Attainment/Maintenance Area and conform to the applicable State Implementation Plan requirement. The Mono Basin Federal Air Quality Non-Attainment/Maintenance Area is under jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD), federal actions are subject to conformity determinations under 40 CFR 93.

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

For the Bodie Mountain and Mono Sand Flat allotments, support vehicle use on the access roads will generate small amounts of PM<sub>10</sub> emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment of PM emissions. The proposed action would not measurably change PM<sub>10</sub> emissions within the Mono Basin Federal Air Quality Non-Attainment/Maintenance Area.

b. Impacts of No Action

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

For the Bodie Mountain and Mono Sand Flat allotments, support vehicle use on the access roads will generate small amounts of PM<sub>10</sub> emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment of PM emissions. The no action alternative would not measurably change PM<sub>10</sub> emissions within the Mono Basin Federal Air Quality Non-Attainment/Maintenance Area.

c. Impacts of No Grazing

The no grazing alternative would have little to no impact on air quality 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 Bodie Bowl ACEC totals 7,280 acres and includes public land, Bodie State Historic Park, and private lands. The ACEC occupies portions of the Bodie Mountain and Potato Peak allotments. No other ACECs exist within these allotments.

The following table identifies the ACEC acreage by allotment which includes a small portion of the ACEC in the Mt. Biedeman allotment. The Mt. Biedeman allotment falls outside the geographic scope of this environmental assessment but is partially addressed to maintain consistent analysis in this document as well as the future environmental assessment for permit renewal on that allotment. The upcoming environmental assessment for the Mt. Biedeman allotment is scheduled for 2008-2009. The ACEC acreage is identified in the table below for comparative purposes and will be similarly identified in the 2008-2009 environmental assessment.

Bodie Bowl ACEC Acres by Allotment

Allotment	Acreage	Percentage of ACEC in Allotment
Bodie Mountain	6,844	94%
Potato Peak	256	3.5%
Mt. Biedeman	180	2.5%

The Bodie Bowl ACEC Management Plan (1995) directs the BLM and signatory agencies to

manage the area for its physical and ambient historic values, preserving “the Bodie experience” for existing and future visitors to enjoy. The plan identifies that “grazing on federal land within the ACEC will be guided by the Bishop Resource Management Plan and the Coordinated Resource Management Plans. The Bodie Mountain and Potato Peak allotments are authorized for cattle grazing while the Mt. Biedeman allotment is authorized for sheep use.

Cattle grazing in the two allotments that overlap with the ACEC and is compatible with maintaining the area’s historic values as directed in the plan, causing no negative impact to those features the plan was designed to protect.

The small 180 acre ACEC portion in the Mt. Biedeman allotment is generally not used by sheep due to lack of water and difficult access. As a result, grazing in this small section of the ACEC has no impact to the area’s historic features and will be identified as such in the forthcoming EA.

A portion of the ACEC is also part of the Bodie National Historic Landmark as designated by the National Park Service. No known impacts are occurring as a result of existing grazing operations.

## **2. Environmental Consequences**

The proposed action, no action, and no grazing alternatives would have no effect on the Bodie Bowl ACEC because livestock grazing or its absence has no material effect on those features the ACEC was designed to protect. Each alternative is compatible with maintaining the area’s historic values as directed in the ACEC plan.

## **3. References**

Bureau of Land Management. Bishop Field Office. 1995. The Bodie Bowl Area of Critical Environmental Concern Management Plan.

## **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 Geographical Information System (GIS) data collection was utilized to determine previously surveyed acres and sites recorded on each allotment. Range improvements where cattle congregate (troughs, salt blocks, 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 cultural resources eligible for listing on the National Register of Historic Places (NRHP) were field evaluated. Inventory was focused on known or suspected areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas, and salt block stations. The results of the analyses are used to protect or mitigate impacts to cultural resources. If NRHP eligible cultural resources are identified, the stipulations of the grazing permit may be modified to reflect the presence and protection of these resources.

The following table shows the results of the cultural resource analyses:

<b>Allotment</b>	<b>Previously Surveyed (% of allotment)</b>	<b>Newly Surveyed</b>	<b>Previously Recorded Sites</b>	<b>Newly Recorded Sites</b>
Bodie Mountain	6.4%	0	278	0
Mono Sand Flat	4.6%	40 acres	84	0
Potato Peak	18%	15 acres	56	0
Aurora Canyon	11.5%	45 acres	161	3

Of the four allotments addressed, Mono Sand Flat occurs within the Granite Mountain Management Area. Less than 5% (4.6%) of the allotment has been subjected to formal cultural resource inventories. Eighty four sites have been recorded within the allotment. Generally, livestock use is limited due to marginal forage availability and is highly dispersed. Only two windmill/trough developments occur on BLM lands within the allotment and both are out of commission at this time. Based on the existing cultural resource, range improvement data and field investigations it is predicted that impacts to cultural resources as a result of the proposed undertaking will be low within the Mono Sand Flat allotment.

The three other allotments addressed occur within the Bodie Hills Management Area, including Aurora Canyon, Bodie Mountain, and Potato Peak. Public lands acres total 77,907 within the three allotments. A high percentage of survey (7,536 acres) has been completed within the three allotments with a range of 6.4% (Bodie Mountain) to 18% (Potato Peak) and an average of 12.8%. Four hundred and ninety five sites have been recorded within the three allotments as a result of previous studies for an average of .065 sites per acre or 42 sites per square mile (16.2 sites per  $km^2$ ). This is significantly higher than that predicted by Busby et al. (1979: see above), but is more in-line with site densities found in studies by Halford (1998a, b). The Bodie Hills have one of the highest site concentrations in the western Great Basin and this is supported by

the average site density data shown here.

Numerous springs and range improvements occur within the Bodie Hills allotments, including reservoirs, troughs and spring developments. The reservoirs are seldom functional and only contain water briefly in high water yield snow pack years. Springs and water courses have a high probability of having NRHP eligible cultural resources associated with them. Many of the springs and perennial water courses on BLM have been protected by wildlife exclosures and as a result the cultural sites near them have been, by proxy, also protected. Impact levels are higher on private lands where, in many cases, no inventories or protective measures have been completed. For these cattle allotments, various projects have been undertaken to disperse cattle use away from riparian areas into the uplands and have been effective in reducing impacts to cultural sites.

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

Cattle use on the subject allotments is generally dispersed though congregation does occur near springs and other water sources where NRHP eligible cultural resources are known to occur. Three prehistoric sites were recorded on the Aurora Canyon allotment during field evaluations of reservoir and trough locations. Two of the sites (CA-170-99-04-6083-S1 and CA-170-99-04-6083-S3) have been determined eligible for listing on the NRHP.

Site CA-170-99-04-6083-S1 is located adjacent to a spring and trough. Impacts include wallowing and trailing through the site causing horizontal and vertical artifact displacement and damage. Cattle impacts to the site are proposed to be mitigated through movement of the trough location down canyon away from the spring where the site occurs. Fencing of the spring locale would also reduce impacts to the site.

Site CA-170-99-04-6083-S3 occurs adjacent to a reservoir that is intermittently viable due to its reliance of high snow melt runoff. The main impacts to the site are trailing through the site causing horizontal displacement of artifacts and artifact damage. The site is eligible for the NRHP due to its scientific value; therefore it could be mitigated through a data recovery program at the site. Other mitigation measures could include decommissioning of the reservoir or piping the water from the reservoir to a trough downstream and fencing the reservoir, thus reducing if not eliminating impacts to the site.

BLM will continue to work with the permittees to identify, reduce and mitigate impacts to cultural resources through trough, salt block placement, reservoir decommissioning, and strategic range improvements and practices which disperse cattle from culturally sensitive areas. Due to the high number of cultural sites within the Bodie Hills, impacts to cultural properties are predicted to be moderate to high in heavy congregation areas near springs, troughs, and perennial watercourses and low to moderate within the uplands as a result of the proposed action.

## Mitigation Measures:

- 1) BLM will require permittees to provide a map of proposed salt block locations on public lands. These locations will be assessed for cultural resources prior to salt block placement. Salt blocks will be located to avoid impacts to cultural properties.
- 2) Reservoirs impacting NRHP eligible cultural sites will be decommissioned, or water re-conveyed from the reservoir to a trough removed from the site location.
- 3) Troughs and other water improvements impacting NRHP eligible cultural sites will be moved or decommissioned.

### b. Impacts of No Action

Under current management, for example 60% utilization levels, there would be less dispersion and potentially more congregation of livestock which may have increased cultural impacts.

### 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**

There are no low-income or minority populations living on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

There are 11 Native American communities who reside in close proximity to these four 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**

The proposed action for livestock grazing on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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**

Continued livestock grazing on the four allotments under the no action alternative would have no new effects 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 would not be a disproportionate impact, either negative or positive, to any low-income minority.

#### **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 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.

## **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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

## **I. GLOBAL CLIMATE CHANGE**

### **1. Affected Environment**

United States Department of Interior, Order Number 3226, signed January 19, 2001, Evaluating Climate Change Impacts in Management Planning, is an order to ensure that climate change impacts are taken into account in connection with planning and decision making. Climate change refers to any significant change in measures of climate (e.g. temperature or precipitation) lasting for an extended period of time (decades or longer). Climate change may result from: natural processes, such as changes in the sun's intensity; natural processes within the climate system (e.g. changes in ocean circulation); human activities that change the atmosphere's composition (e.g. burning fossil fuels) and the land surface (e.g. urbanization) (IPCC, 2007).

Rising greenhouse gas (GHG) levels are likely contributing to global climate change. In the Bishop Field Office area, climate change is typically expected to result in warmer, drier conditions, and potentially more extreme weather events. Natural processes such as volcanic eruptions contribute to the increasing levels of GHGs in the atmosphere (IPCC, 2007). Livestock grazing related to the proposed action and no action alternatives, also contribute GHGs in the form of methane (USEPA #430-R-08-005, April 2008).

## 2. Environmental Consequences

The assessment of GHG emissions and climate change remains in its formative phase. The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts of climate change on resources within the Bishop Field Office. In addition, while the proposed action and no action alternatives may involve some future contribution of GHGs, these contributions would not have a noticeable or measurable effect, independently or cumulatively, on a phenomenon occurring at the global scale believed to be due to more than a century of human activities. Neither the proposed action nor the no action alternative would authorize an increase in activities that would increase GHG emissions. The no grazing alternative may reduce locally produced GHG emissions; however, this level of reduction may be minute or perhaps unmeasurable at both the local and global scales.

## 3. References

Intergovernmental Panel on Climate Change. IPCC Fourth Assessment Report: Climate Change 2007. Available at: <<http://www.ipcc.ch/ipccreports/assessments-reports.htm>>

U.S. Environmental Protection Agency. April 2008. U.S. Greenhouse Gas Inventory Reports Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006. USEPA #430-R-08-005.

## J. INVASIVE, NON-NATIVE SPECIES

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

Allotment	Invasive Species	Estimated % Cover
Bodie Mountain	Cheat grass ( <i>Bromus tectorum</i> )	15-20%
Mono Sand Flat	Cheat grass ( <i>Bromus tectorum</i> )	5-10%
Potato Peak	Cheat grass ( <i>Bromus tectorum</i> )	15-20%
Aurora Canyon	Cheat grass ( <i>Bromus tectorum</i> )	15-20%

Most of the cheat grass stands are associated with lower elevation, southern exposure slopes, and alongside main roads in the Bodie Hills. Mono Sand Flat has low cheat grass densities due to pumice derived soil types. There is an increasing risk for riparian areas in the Bodie Hills, especially lower Bodie Creek to become infested by perennial pepperweed (*Lepidium latifolium*) due to the existence of large populations of this invasive weed on adjoining private land and Forest Service administered lands in proximity to the Bodie Hills, e.g Ninemile Ranch and Rosache Ranch, respectively. Because cattle can disperse weed seed and plant fragments of this species, stream reaches such as lower Bodie Creek are susceptible to invasion as livestock trail up the canyon.

Arid ecosystems have been predicted to be one of the most responsive ecosystem types to elevated atmospheric CO<sub>2</sub> and associated global climate change (Strain and Bazzar 1983, Melillo 1993, Smith, Monson and Anderson 1997). Net increases in above-ground non-native annual grass production and seed rain increases at elevated CO<sub>2</sub> levels have been demonstrated (Smith, et. al 2000) which could lead to increased risk of species composition in favor of exotic annual grasses and commensurate declines in biodiversity and ecosystem function in the arid regions of North America.

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

The proposed action would benefit site conditions and native vegetation in the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments because the proposed terms and conditions are designed to help reduce the spread of weeds, and to maintain or improve rangeland health. Early season grazing, normally before seed set, of these annual grasses may help reduce weed invasion (Olson 1999, Mosley and Roselle, 2006, and Taylor 2006) by reducing inputs into the seed bank of particular sites. Provisions for grazing before seed set of these species has been included in allotment grazing stipulations. Potential long-term and landscape impacts of increased weed densities will be more of a function of increased CO<sub>2</sub> levels than the effects of the proposed action. Currently, the cover values for weed species is low and continued implementation of grazing timing stipulations may reduce weed spread. Implementation of the Rangeland Health Standards and Guidelines that identify the need to keep non-native species at “acceptable” levels will require frequent monitoring since weed densities are likely to increase given their life histories and affects of global climate change.

### **b. Impacts of No Action**

Under current management with the mandatory terms and conditions, there would not be any additive effect to existing weed densities separate from the effects of increased CO<sub>2</sub> levels.

### **c. No Grazing**

Under the no grazing alternative, impacts from invasive weed species on native plant communities may increase and be 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 weed seed from roadsides, and other disturbed locations are spread to new areas. Even this alternative is unlikely to off-set the effects of increased CO<sub>2</sub> on spread and production of non-native annual grass species.

### **3. References**

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## **K. 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 are 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

The no action alternative is not expected to have any new impacts to Native American concerns described above. The rangeland health assessment showed these allotments currently meet rangeland health standards. Monitoring would continue and any impacts that affect Native American sites from high congregation and concentration of livestock use would be corrected.

### 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.

## **L. RECREATION**

### **1. Affected Environment**

Recreation activities in the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments are many. Activities that take place consist of motorized touring, motorcycle riding, horseback riding, hiking, hunting, and dispersed camping. Access consists of approximately 300 miles of primitive 4 wheel drive and other motorized vehicle routes and trails throughout these four allotments. Access is spread over a very large geographic area, with no developed

recreational facilities except for the Bodie State Historic Park which lies in the center of the Bodie Bowl ACEC. The lack of development currently sustains recreation at low levels of use. The Bodie Bowl ACEC has experienced about 125,000 visitors per year over the last 3-4 years. The ACEC provides concentrated recreation use opportunities in the form of historic sightseeing while the remainder of the allotments experience predominantly dispersed recreation use activities such as touring, camping, hunting, etc. Encounters with livestock occur infrequently due to the dispersed nature of the grazing that is occurring.

The Bodie Bowl ACEC is also designated as a Special Recreation Management Area (SRMA) recognizing its recreation values. The SRMA guidance and direction is primarily embodied in the ACEC Plan and the RMP.

## **2. Impacts of Alternatives**

The proposed action, no action, and no grazing alternatives would have no effect on recreation because proposed facilities or management practices that could potentially alter existing recreation uses or use patterns do not exist in these allotments. Recreationists would continue to encounter livestock infrequently under the proposed action and no action alternative.

## **3. References**

Bureau of Land Management, Bishop Field Office. 2005, 2006, & 2007. Recreation Management Information Systems Database.

## **M. SOCIAL AND ECONOMIC VALUES**

### **1. Affected Environment**

Regionally, livestock operations involve use of BLM, Forest Service (USFS), and/or private lands. The Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments have two 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. Having other permits or lease land available does not in itself lead to increased flexibility.

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 Mono County for 2006, agriculture was the second largest industry and is an integral part of the county's economy. Beef and alfalfa production is the primary production crops. Of a 100% total in agricultural values, livestock production accounted for 60% in Mono County. This amounted to \$17,497,050 or 60% of the total \$29,336,050 agricultural production.

Additionally, the allotments lie in a broad region 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 Bodie Hills situated along 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 Mono County 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 and the county. The social value of retaining a rural, agricultural lifestyle would be preserved and would keep with the public's perception of the eastern Sierra western culture. The proposed action would not adversely impact the social and economic stability of these ranching operations.

### **b. Impacts of No Action**

Same as the proposed action.

### **c. No Grazing**

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

## **3. References**

Annual Crop and Livestock Report. 2006. Inyo- Mono Counties (prepared June 14, 2007).

## **N. SOILS**

### **1. Affected Environment**

The soil information for the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments was gathered by the Order 3 Soil Survey of the Bodie-Coleville Planning Units. These soils were grouped into three major areas. The first soil type is dominantly nearly level to gently sloping cool soils in closed basins that are undrained to well-drained; some are saline-alkali. The second type is dominantly moderately sloping to steeply sloping, well-drained cool

and cold soils of the Bodie Hills; many are strong cobbly. Finally, the third type is dominantly nearly level to steeply sloping cool soils on high terraces of Mono Lake and low foothill slopes or alluvial fans of the Bodie Hills; mostly sandy or very gravelly.

Soils that are sandy, strong cobbly, and/or very gravelly may tend to limit the establishment of seeds and seedling development. Furthermore, the very shallow soils may restrict water infiltration and plant rooting. These soils primarily occur on slopes and ridges.

There is potential water erosion mainly along stream banks, in stream channel bottoms, in meadows, and at springs. Potential wind erosion problems would more likely exist in the Mono Basin in soils with high content of fine sand as a surface texture and with limited vegetation and a loose surface. However, there are no identified active erosion problems for these four allotments. BLM assessed these allotments in 2003 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**

The no action alternative would result in no new impacts. There is potential under these higher utilization standards (e.g. 60% on key species) that interactions between physical, chemical, and biological properties of soils can be affected compared to the proposed action. For example, with more intense livestock grazing there will be less standing plant biomass and therefore, there will be less plant litter which provides surface cover protecting soils from wind and water erosion.

### **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

Benton-Owens Valley Planning Unit, Draft Environmental Impact Statement, January 1981

## **O. VEGETATION/THREATENED AND ENDANGERED**

### *Plant Communities*

#### **1. Affected Environment**

##### Uplands

A baseline range inventory for these allotments was completed in 1984 using the BLM Site Inventory Method (SVIM). The allotments occur in the Great Basin Floristic Province. The dominant plant communities are sagebrush/bitterbrush and pinyon woodland.

Sagebrush/bitterbrush communities are dominated by sagebrush (*Artemisia arbuscula*, *A. tridentata* ssp. *vaseyana*, *A. tridentata* ssp. *tridentata*, *A. tridentata* ssp. *wyomingensis* and *A. tridentata* ssp. *parishii*), and bitterbrush (*Purshia tridentata* var. *tridentata*). Understory grasses such as Indian rice grass (*Achnatherum hymenoides*), needle and thread (*Hespirostipa comota*), western needlegrass (*Achnatherum occidentale*), Thurber's needlegrass (*Achnatherum thurberianum*) and squirreltail grass (*Elymus elymoides*) can make up to 15-20% of the cover at the higher elevations of the allotments (Barbour and Major 1977). Additional species include, but are not limited to: oceanspray (*Holodiscus discolor*), snowberry (*Symphoricarpus rotundifolius*), currant and gooseberry species; (*Ribes cereum*, *R. inerme*, *R. velutinum*), service berry (*Amelanchier utahensis*), bittercherry (*Prunus emarginata*), spiny hop sage (*Grayia spinosa*), horsebrush (*Tetradymia canescens*), Nevada and green ephedra (*Ephedra nevadensis* and *E. viridis*), and yellow and curly-leaved rabbitbrush (*Chrysothamnus nauseosus* and *C. viscidiflorus*). During years of high precipitation, annual forbs are abundant and include, but are not limited to, species from the following genera: *Astragalus*, *Arabis*, *Cryptantha*, *Eriogonum*, *Gilia*, *Lupinus*, *Onagraceae*, *Phacelia*, *Phlox* as well as genera in the Asteraceae Family.

The early pinyon woodland communities are dominated by an overstory (15-20% cover) of singleleaf pinyon pine (*Pinus monophylla*) with a sagebrush/bitterbrush understory. Perennial forbs include species from the following genera: *Astragalus*, *Crepis*, *Cryptantha*, *Eriogonum*, and *Phlox*. Within later seral pinyon communities, cover of associate understory species is significantly reduced. Pinyon pines are increasingly occupying sagebrush communities where deeper, more productive soils exist. These sites are at risk of losing integral structural and compositional components important for sagebrush community function due to increases in fire frequency (Chambers et. al 2005).

Other conifer species that occur in the target allotments include; western juniper (*Juniperus*

*occidentalis* var. *australis*), Utah juniper (*Juniperus osteosperma*), and isolated stands of lodgepole pine (*Pinus contorta*) and limber pine (*Pinus flexilis*) within the Bodie Mountain, Aurora Canyon, and Potato Peak Allotments.

Generally, utilization of key forage species, e.g. needlegrass species and bitterbrush is slight to moderate and occurs between summer and early fall. Forage capacity on these allotments is moderate to high depending on annual precipitation.

#### *Lower Montane Meadows*

The two dominant ecological meadow types within the allotments are mesic graminoid and dry graminoid (Weixelman, Zamudio 1999). Mesic graminoid meadows are wet to moist well into the growing season. Depth to saturation averages 34 cm. The most common soil taxa is Typic Cryaquoll with a peat or muck rich surface layer. This type is most common on drainage ways, but can also be found on floodplains. Dominant species in the mesic graminoid meadow include, but are not limited to: Nebraska sedge (*Carex Nebrascensis*), *Carex simulata*, *Carex lanuginosa*, *Carex utriculata*, *Deschampsia cespitosa*, *Hordeum brachyantherum*, *Muhlenbergia filiformis*, *Epilobium ciliatum*, *Stellaria longipes* var *longipes* and *Aster occidentalis*. Willow stands can border these communities and include such species as, *Salix geyeriana*, *S. lemmonii*, *S. lutea* and *Salix exigua*.

Dry graminoid meadows are most commonly found on trough drainage ways and stream terraces. Soils lack saturation and the most common soils are Haplocryolls indicated by dark, mollic surface horizons. Dominant species in the dry graminoid meadow include, but are not limited to: *Poa secunda* ssp. *juncifolia*, *Muhlenbergia richardsonis*, *Carex praegracilis*, thin-stemmed wheatgrass (*Elymus trachycaulus*), *Carex filifolia*, Baltic rush (*Juncus balticus*), *Penstemon rydbergii*, *Gayophytum diffusum*, *Trifolium monanthum*, and yarrow (*Achillea millefolium*).

Plant community shifts within both these meadow types are driven by changes in site hydrology and soil compaction. Key compositional shifts that indicate degradation to these site characteristics include the increased dominance of more impact resistant species such as *Juncus balticus*, *Iris missouriensis*, *Taraxacum officinale* (dandelion), as well as the encroachment of shrubs such as sagebrush (*Artemisia tridentata* ssp. *tridentata*, *Artemisia cana*) and rabbitbrush (*Chrysothamnus nauseosus*) into the meadow (Weixelman, Zamudio 1999). These compositional shifts reduce the overall plant diversity of these meadow sites and may indicate that an ecological threshold has been exceeded.

#### *Aspen Grove Communities*

Aspen groves are a unique and important plant community type within the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. They range in size from small, scattered stands to large, >5 acre complexes. Age-class distributions in these complexes are generally even-aged with moderate to low juveniles (sucker recruitment). Understory vegetation is dominated by California brome (*Bromus carinatus*), *Hordeum jubatum*, hawksbeard (*Crepis* spp.), *Descurania*

*sophia*, currant (*Ribes velutinum*) and occasional snowberry (*Symphoricarpos rotundifolius*).

### Current and On-Going Vegetation Mapping Efforts

In 2007, a cooperative effort between the BLM Bishop Field Office and The Nature Conservancy (TNC) – California and Nevada Chapters was initiated to refine existing vegetation information to incorporate successional stage mapping related to vegetation structure and density characteristics. The results of the mapping effort will be used to compare current vegetative conditions (type, structure and density) to known historic conditions and provide another baseline to assess ecological condition. Private lands were also cooperatively mapped and landowners have expressed a strong willingness to provide management solutions that would compliment efforts on Public Land. These data show that the majority of the upland communities are dominated by later seral stages.

## **2. Environmental Consequences**

### a. Impacts of Proposed Action

The proposed action would benefit site conditions and native vegetation on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments because the proposed terms and conditions are designed to help reduce the spread of weeds, and to maintain or improve rangeland health. Current stocking rates are moderate and do not impair the large-scale ecological function of these plant communities (BLM Rangeland Health Assessments, 2001, 2003) except during drought years. Topography is varied and livestock on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments are actively herded throughout the allotments to avoid over-use of key areas. The Mono Sand Flat allotment is used infrequently and has a low number of livestock due to lower forage capacity.

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 the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments and be associated with mineral blocks and/or livestock watering facilities. 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 and ensure that invasive weed species, especially perennial pepperweed does not invade riparian systems. Increased weed densities exacerbated by increases in CO<sub>2</sub> could affect larger-scale upland ecological function (Smith et. al 2000).

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 annual maintenance of 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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

Under current management with terms and conditions, the no action alternative would not result in any new impacts. The no action alternative and current terms and conditions would be in conformance with the Bishop Resource Management Plan (RMP) approved on March 23, 1993. However, the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (Central California S&Gs) approved on July, 13, 2000 amended the RMP. Terms and conditions would still need to be developed to reflect changes from the Central California S&Gs. For example under current management, grazing use defined within the terms and conditions is not to exceed 60 percent on key forage species. Under the Central California S&Gs, forage utilization on key perennial species is not to exceed 40 percent on the average which was determined to help maintain, protect, or improve rangeland health. Grazing at the 60% level could decrease the long-term productivity of perennial bunchgrass species, especially during drought years. At use levels prescribed under the proposed action, several floristic and ecological attributes would be sustained to include, but not be limited to, increased plant cover, root distribution, species recruitment, and diversity.

c. No Grazing

Under this alternative, livestock grazing on these 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 environmental perturbations associated with fire (Chambers et. al 2000), insect damage, and global climate change effects.

### 3. Maps

California Natural Diversity Database GIS coverage (not included in EA).

#### 4. References

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Smith, Stanley D., Huxman, Travis E., Ziter, Stephen F., Charlet, Therese N., Housman, David G., Coleman, Lynn K. Fenstermaker, Seemann, Jeffrey R., and Nowak, Robert S. 2000. Elevated CO<sub>2</sub> increase productivity and invasive species success in an arid ecosystem. Nature Vol. 408. Pages 79-81.

***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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments based on historical records, field monitoring, and/or habitat suitability.

***Special Status Plant Species***

**1. Affected Environment**

A summary of California Native Plant Society (CNPS) List 1B species occurring within the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments is provided below:

<b>Grazing Allotments</b>	<b>Special Status Plant Species</b>	<b>Trend</b>
Bodie Mountain	1) Bodie Hills draba ( <i>Cusickiella quadricostata</i> ), 2) Long Valley milk vetch ( <i>Astragalus johannis-howellii</i> ), 3) Mono ( <i>Phacelia monoensis</i> ), 4) Bodie Hills rock cress ( <i>Arabis bodiensis</i> ), 5) William’s combleaf ( <i>Polyctenium williamsae</i> ).	1) Stable 2) Stable to increasing 3) Stable 4) Stable 5) Stable
Mono Sand Flat	Tonopah milk-vetch <i>Astragalus pseudiodanthus</i>	Stable
Potato Peak	Bodie Hills draba ( <i>Cusickiella quadricostata</i> )	Stable
Aurora Canyon	1) Bodie Hills draba ( <i>Cusickiella quadricostata</i> ), 2) Mono ( <i>Phacelia monoensis</i> ), 3) Masonic Mtn. jewel flower ( <i>Streptanthus oliganthus</i> ).	1) Stable 2) Stable 3) Stable

General Discussion of Special Status Plant Habitat and Trend for Select Allotments

The Long Valley milk-vetch occurs on Ashy Loam Ecological Sites (NRCS 1995) that are comprised of volcanic and mixed alluvium soils with sandy and loamy sand surface textures. The Tonopah milk vetch occurs in dunes associated with historic Mono Lake strand-line locations. The Bodie Hills draba, Mono Phacelia, Bodie Hills rock cress, and Masonic rock cress occur in both the Mountain Ridge and Upland Stony Loam ecological sites. The Upland Stony Loam site is similar to the Mountain Ridge site but is comprised of deeper, well-drained, loamy soils that support mountain big sage (*Artemisia tridentata* ssp. *vaseyana*) and bitterbrush (*Purshia tridentata* ssp. *tridentata*) versus low sagebrush (*Artemisia arbuscula*). In addition, the

Mono Phacelia is most commonly found in friable and uncompacted andesitic clay soils. The crowded combleaf is located in a very limited area that is confined to the alkaline soils of the Dry Lakes Plateau lakeshores and Larkin Lake.

*Arabis bodiensis* – Bodie Hills rock cress.

This species is confined to rocky, steep slopes and mountain summits and ridgelines such as Beauty Peak. It is sparsely distributed in the Bodie Hills and extends into the Granite Mountains. Little to no sign of livestock use currently occurs within the habitat of this species within the Bodie Mountain, Mono Sand Flat, Potato Peak, or Aurora Canyon Allotments.

*Astragalus johannis-howellii* - Long Valley milk-vetch

This species occurs in the Bodie Hills on the Dry Lakes Plateau area of the Bodie Mountain allotment. Distinct populations of this species are difficult to define because of their wide distribution within the Dry Lakes Plateau area, but plant numbers exceed 3,000 individuals within the confines of the suitable habitat and a range of age-classes are represented.

*Astragalus pseudodanthus* – Tonopah milk-vetch

This species is confined to the sand dunes associated with historic Mono Lake shorelines. Populations are scattered along the edges of U.S. Hwy 168 and in the vicinity of Cedar Hill (Paulus 2004). Livestock associated with the Mono Sand Flat allotment avoid the habitat of this species and move through the habitat within approximately a two day period on their way to the upper elevations of the Bodie Hills

*Cusickiella quadricostata* - Bodie Hills draba

This species occurs on rocky low sage sites throughout the Bodie Hills, Conway Summit area, and Sweetwater Mountains. Populations that occur in the Bodie Mountain, Potato Peak, and Aurora Canyon allotments are numerous and generally exhibit a range of age-classes, although approximately >65% constitute "older", larger sized (10 cm or > in diameter) individuals. The low sage sites where the Draba occurs are not highly frequented by livestock and if they do trail through them, it usually occurs on a habitually used path. Little (0-5%) impact to these populations from livestock trailing or grazing has been observed.

*Polyctenium williamsae* – William's combleaf

Only two populations of this species occur in California (Larkin Lake and in the Dry Lakes Plateau area of the Bodie Mountain allotment). Williams combleaf occurs on the margins of Pleistocene lake shores within a narrow habitat buffer. Population trend of the Dry Lakes Plateau population is static. No actual uprooting of plants has been

documented but other long-term impacts may include changes in plant community composition that favors more "weedy", early seral non-native annual forb species that may out compete the combleaf.

### *Phacelia monoensis*

This annual species occurs in isolated portions of the Bodie Hills within all the allotments except Mono Sand Flat. All sites occur on friable rhyolitic clay sites that are susceptible to frequent frost heaving and other natural as well as anthropogenic disturbances, e.g. activities associated with roadsides. The plant does not occur on rhyolitic soils that are compacted. Population numbers fluctuate due this species annual lifeform and are most commonly related to fluctuating precipitation levels and disturbance frequency (Morefield 1994). Since 1998, twenty-one new populations have been documented on the Potato Peak and Mt. Biedeman allotments. Three sub-populations of PHMO occur alongside a dirt road just north of Gregory Meadow in the Bodie Hills allotment. A portion (approximately 10 m linear area) of one small sub-population showed declines between 1993 and 1998, which is not unusual given the climatic fluctuations that occur year to year. No quantitative monitoring of this particular sub-population has occurred since 1998. However, cursory checks at this site and the other sub-populations, has documented continued presence and recruitment of PHMO. This lower site also contains two non-native annual weed species; (*Polygonum arenastrum* - common knotweed and *Chenopodium album* - lambsquarters) which may limit PHMO recruitment within a restricted (10 x 2 m) area within the population.

These weeds are not uncommon in the Bodie Hills and were documented in as early as 1984 prior to the 1990 Wilderness Study Area Report. Since 1998, trailing has been adjusted to avoid this portion of the population, but no weed management has occurred since some trial hand removal treatments in 1996 which were not statistically significant with regard to having an effect on PHMO numbers (Halford 1998).

## **2. Environmental Consequences**

### a. Impacts of Proposed Action

Impacts of the proposed action, specifically avoidance of populations during key reproductive periods, would improve key habitat characteristics important for the long-term viability of Special Status plant species. These improvements would consist of reducing stress on surrounding native vegetation with lower use levels, and commensurate benefits to pollinator habitat. Since 1998, trailing has been adjusted to avoid the *Phacelia monoensis* sub-populations that occur along the Gregory Meadow road. The proposed action would not negatively affect the overall long-term population viability of the species due to active recruitment occurring within all the sub-populations that occur along the Gregory Meadow road as well as the number, distribution and vigor of the twenty-one additional PHMO populations that occur throughout the Bodie Hills Management Area. Periodic, managed disturbance and weed removal may need to be introduced to enhance portions of the lower Gregory Meadow sub-population.

b. Impacts of No Action

Under current management with the terms and conditions, the no action alternative would not result in any new impacts on Special Status Plant species populations. The no action alternative and current terms and conditions would be in conformance with the Bishop Resource Management Plan (RMP) approved on March 23, 1993. However, the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (Central California S&Gs) approved on July, 13, 2000 amended the RMP. Terms and conditions would still need to be developed to reflect changes from the Central California S&Gs. For example under current management, grazing use defined within the terms and conditions is not to exceed 60 percent on key forage species. Under the Central California S&Gs, forage utilization on key perennial species is not to exceed 40 percent on the average which was determined to help maintain, protect, or improve rangeland health. Grazing at the 60% level could decrease the long-term productivity of perennial bunchgrass species, especially during drought years. At use levels prescribed under the proposed action several floristic and ecological attributes would be sustained to include, but not be limited to, increased plant cover, root distribution, species recruitment and diversity.

c. No Grazing

Under this alternative, livestock grazing on these allotments would cease. All portions of the plant communities in the vicinity of special status plants would not be grazed by livestock and trailing in the vicinity of the *Phacelia monoensis* population would cease. Non-native annuals associated with this population would persist and spread due to anticipated rises in CO<sub>2</sub> unless they are manually removed. Slight increases in annual weed densities could occur due to a reduction of early season grazing on these target species. Under the No Grazing alternative, large-scale impacts to the ecological function of these plant communities would be confined to Global Climate change effects associated with fire (Chambers et. al), insect damage, and drought.

**3. Maps**

California Natural Diversity Database and BLM Special Status Plant Species GIS coverage (not included in EA).

**4. References**

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

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## **P. WASTE, HAZARDOUS OR SOLID**

The proposed action, no action, and no grazing alternatives would not generate hazardous or solid waste on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

## **Q. WATER QUALITY, DRINKING-GROUND**

### **1. Affected Environment**

Perennial surface water is found on the Bodie Mountain, Aurora Canyon, and Potato Peak allotments in the form of numerous small springs, seeps, and streams. Many of these springs, seeps and streams are located on private lands. During the 1978-1979 resource inventory for the Bishop Field Office, water quality for the streams was observed once with limited on-site tests at all streams on these allotments; and a subset of these streams underwent laboratory testing for a limited number of constituents (Bishop Field Office 1978-1979). Several streams in these allotments were also tested for water quality three times in 1984 and twice in 1985 (Bishop FO 1986a). In 1986, the BLM conducted an inventory of water source condition and water quality on most natural springs within the allotments (Bishop Field Office 1986b).

The 1978-1979 stream survey found levels of iron and manganese that exceeded drinking water standards in streams on several allotments, likely due to basic soil chemistry rather than any management variables. Water chemistry was otherwise good for the measured constituents. High turbidity was noted in Rough Creek Tributaries 1, 2 and 3, and Aurora Canyon Creek.

In general, the 1984-1985 water quality survey found that chemical water quality was fairly good in the Bodie Hills allotments. All streams sampled had naturally high, but not harmful, pH levels. Iron exceeded drinking water standards but remained below toxic levels for Aurora Canyon Creek. Mercury and arsenic levels were high in Bodie Creek (and in samples from the Aurora Canyon mill site in 1990 and 1995), tentatively attributed to historic mining and milling practices but possibly naturally occurring. Other measured chemical parameters were at levels meeting primary or secondary safe drinking water standards.

Fecal coliform was not measured on the allotments but levels were likely higher than allowed under safe drinking water standards based on values sampled at sites west of the allotments with less livestock use. Excessive summer water temperature for cold water aquatic species and/or excessive turbidity for aquatic life were found in Rough, Bodie, Aurora Canyon, and Clark Canyon creeks. This was attributed to livestock grazing resulting in inadequate streambank vegetation and channel erosion. A 1999 aquatic habitat evaluation on upper Bodie Creek also found high temperatures and turbidity (BLM Bishop FO stream files). Riparian vegetation shades the water and acts to retard or prevent loose soil and sediment flow from entering the water during rainfall or snowmelt periods, and helps maintain strong root structures that anchor streambanks and promote deep, narrow channels with more stable water temperatures. Water quality at many spring sources has been similarly affected by livestock use. For example, within the Aurora Canyon allotment, the 1986 spring inventory found that approximately 60% of the springs had undergone some changes to physical, chemical, and hydrologic processes, principally from livestock use, which affected some component of water quality. Changes included compaction (43% of springs), erosion (14% of springs), sedimentation (57% of springs), and excess nutrients (57% of springs).

Under current management as directed in the Bishop RMP (1993), the primary determinant for ensuring water quality is not degraded by livestock is the requirement for a minimum of 4-6 inches of residual stubble height along stream banks and other mesic sites at the end of the growing season or livestock turnoff. However, livestock sometimes concentrate around certain springs and streams in these allotments, resulting in lower stubble heights; trampling and compaction; erosion, sedimentation, and fecal contamination. A few of these springs and streams have been protected by exclosure fences. In 2005, Bishop Field Office reassessed 22 springs on these allotments. At 6 of these springs, heavy livestock impacts were noted, 2 showed moderate to heavy impacts, 11 had moderate impacts, and 3 were inaccessible to cattle. Those with moderate impacts were located in areas with many springs nearby so that cattle apparently distributed themselves among them. Those with heavy impacts were generally more distant from other springs (BLM Bishop FO 2005).

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

Water quality in all sources is expected to slightly to moderately improve with implementation of the proposed action. While the 4 to 6 inch stubble height requirement for stream banks and mesic sites will not change, the lower level of utilization prescribed for key upland forage species would result in overall lower use levels on the allotments and result in better livestock distribution, so that cattle are less likely to concentrate use at any spring or stream for a long period of time. This would result in increased vegetative cover, increased stability, less turbidity, less fecal contamination, and more stable water temperatures.

### **b. Impacts of No Action**

Issuing permits with the same terms and conditions as the expiring permits would result in no measureable change in impacts. Water quality would be expected to slightly improve over the long-term when compared to historic grazing levels that resulted in the conditions described in the late 1970's and early 1980's.

### **c. No Grazing**

With implementation of a no grazing alternative, improvements in water temperature, turbidity, and nutrient loads would occur more rapidly than under the Proposed Action.

## **3. References**

Bureau of Land Management, Bishop Field Office. 1978-1979. Stream Habitat Survey. Files.

Bureau of Land Management, Bishop Field Office. 1986a. Results of water quality monitoring in the Bodie Planning Area, memorandum. Files.

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Bureau of Land Management, Bishop Field Office. 2005. Spring Inventory. Files.

## **R. WETLANDS/RIPARIAN ZONES**

### **1. Affected Environment**

#### **Overview of Dominant Vegetation and Soil Types**

The Aurora Canyon, Bodie Mountain, and Potato Peak allotments include several streams while

the Mono Sand Flat allotment contains no wetland/riparian zones. The majority of stream reaches within these allotments range from moderate to high gradient systems that are characterized by a mosaic of willow dominated and wet meadow graminoid community types (Manning 1995). A large percentage of these systems occur on private lands. Riparian areas range between 1.9-27 meter (6-88 ft.) in width. Aspen and willow are the dominate woody overstory species. Deeply rooted grasses, sedges, and rushes and diverse forb species comprise the understory.

The streambank vegetation along reaches where livestock grazing is effectively managed or controlled is structurally and compositionally varied, providing important wildlife habitat components and ecologically important reference sites. Riparian communities are represented by several seral stages. A recent evaluation of the seral conditions of riparian and wetland communities in the Bodie Hills completed by the Bishop Field Office and The Nature Conservancy (TNC) indicated that seral conditions for riparian and wetland systems in the Bodie Hills are within the range of natural variability.

Riparian soils are generally derived from alluvium from mixed rock sources and volcanic ash and are highly stratified with textures ranging from very cobbly sand to clay. Typical soil profiles range from gray loam at 0-30cm (0-12 in.) to dark gray silt loam at 139.7-152.4cm (55-60 in.). Permeability is slow to moderately rapid and available water capacity is moderate to high (12-24cm) (5.0-9.5 in.). Depth to water ranges between 0-45cm (0-17.73 in.) in March through May. Potential plant rooting depth is 152.4+cm (60+ in.) (NRCS 1996). The National Resources Conservation Service (1996) also classifies the hazard of erosion by wind and water as slight.

Proper Functioning Condition (PFC) has been assessed for riparian reaches in the Aurora Canyon and Bodie Mountain allotments (Bishop Field Office 1994). Proper Functioning Condition is a state of resiliency that allows a riparian area to hold together during high-flow events with a high degree of reliability. The reach may be functional even though it has not attained its ecological potential or optimal conditions for a given species. PFC assessments are based on hydrologic, vegetative and soil erosion criteria (BLM 1998).

Summary of stream assessments performed to determine Proper Functioning Condition (1994 BLM Information Bulletin No. SC-94-101)

<b>Creek</b>	<b>Allotment</b>	<b>Acreage</b>	<b>Proper Functioning Condition Class</b>
Aurora Canyon – Middle Fork	Aurora Canyon	0.3	Functioning at Risk
Aurora Canyon	Aurora Canyon	4.9	Functioning at Risk
Atastra Creek – Reach 2	Bodie Mountain	2.6	Functioning at Risk
Atastra Creek – Reach 1	Bodie Mountain	< 1	Functioning at Risk
Bodie Creek – Tributary 1	Bodie Mountain	1.9	Functioning at Risk
Bodie Creek	Bodie Mountain	4.7	Functioning at Risk
Cottonwood Creek	Bodie Mountain	< 1	Functioning at Risk

Rough Creek – Main Stem	Bodie Mountain	4.8	Functioning at Risk
Rough Creek – Tributary 1	Bodie Mountain	3.3	Functioning at Risk
Rough Creek – Tributary 2	Bodie Mountain	3.4	Functioning at Risk
Rough Creek – Tributary 3	Bodie Mountain	0.7	Functioning at Risk
Rough Creek – Tributary 4	Bodie Mountain	1.4	Functioning at Risk

Rangeland health assessments were conducted on the Aurora Canyon allotment in 2001 and on the Bodie Mountain and Potato Peak allotments in 2003. Some riparian areas in the allotments did not meet rangeland health standards and livestock grazing was implicated as a causal factor (see Rangeland Health section of this document).

Further information on riparian condition and trends is available from stream inventories conducted in 1978-79 to ascertain overall stream condition in terms of fish habitat (Bishop Field Office 1978-79), and extensive and intensive stream monitoring conducted originally in 1988 and repeated once or more in subsequent years for stream reaches potentially undergoing change (Bishop Field Office 1988-1994). Inventory data show that riparian condition remained relatively static between 1978 and 1998. Since that time, cursory evaluation on most stream reaches indicate that overall riparian condition trend is improving with improved vegetation expression being the primary attribute showing improvement. Measureable improvements in both vegetation cover and bank stability have occurred on stream segments where riparian pasture or enclosure fencing has been used to control cattle use.

Impacts of grazing on riparian vegetation are influenced by grazing timing, intensity, and stocking rates. Under current management the primary determinant for ensuring riparian vegetation is not excessively used is the Bishop RMP (1993) requirement for a minimum of 4-6 inches of residual stubble height along stream banks and meadows at the end of the growing season or at livestock turnoff. With this amount of stubble height, root systems should survive over winter and the above ground plant material is sufficient to capture sediments as discussed under Water Quality. Limiting use to this standard also limits bank chiseling and soil compaction by regulating the amount of time cattle spend in riparian areas.

Livestock grazing remains a factor influencing many stream reaches falling short of Proper Functioning Condition and Rangeland Health Standards. Impacts such as lack of post-grazing residual plant biomass, bank sloughing and chiseling, and soil compaction continue to occur and slow the rate of improvement. Where not actively herded or excluded by fences, livestock tend to concentrate in the riparian areas, attracted by the shade and forage. Measureable improvements in recent years have occurred most consistently along stream reaches that have been fenced to exclude livestock with some improvement also evident on other reaches due to lower stocking rates and to active herd management by the permittee.

There are no extensive wetlands on these allotments. Many small wetland areas center on springs, seeps, and ephemeral lakes. Many of these sites occur on private lands. Effects of livestock grazing are similar to those in riparian areas. See Water Quality and Wildlife sections.

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

The lower level of utilization of key upland forage species and riparian standards under the Proposed Action would result in slight to moderate improvement in riparian and wetland conditions over the long-term, if redistribution or changed timing of livestock grazing results in less concentrated use in riparian areas. Improved vegetation cover would be the primary habitat response variable. The proposed action would also help reduce soil compaction and negative changes in site hydrology although these improvements would lag behind any improvements in vegetation condition. Over time, slight improvements in the overall ecological function of these plant communities would occur that would induce changes toward Proper Functioning Condition.

### **b. Impacts of No Action**

Issuing permits with the same terms and conditions as the expiring permits would result in no change in impacts. Riparian and wetland conditions would be expected to slightly improve over the long-term when compared to historic grazing levels that resulted in the conditions described in the late 1970's and early 1980's.

### **c. No Grazing**

Under this alternative, recovery of Proper Functioning Condition and the ecological function of riparian plant communities affected by livestock use would occur more rapidly than under both the Proposed Action and the No Action alternatives.

## **3. References**

Bureau of Land Management, Bishop Field Office. 1978-79. Stream Inventory. Files.

Bureau of Land Management, Bishop Field Office. 1986. Water Supply Inventory. Files.

Bureau of Land Management, Bishop Field Office. 1988-1994. Intensive Stream Monitoring. Files.

Bureau of Land Management, Bishop Field Office. 1994. Assessment of Functional Condition on Streams. Files.

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

Manning, M.E., Padgett, W.G. 1995. Riparian Community Type Classification for the Humboldt and Toiyabe National Forests, Nevada and Eastern California. Forest Service Intermountain Region. R4-Ecol-95-01.30 pp.

United States Department of Agriculture, Natural Resources Conservation Service. 1996. In Press: Soil Inventory for the Benton-Owens Valley. University of California, Davis, CA.

## **S. WILD AND SCENIC RIVERS**

Rough Creek and Atastra Creek, identified as eligible for wild and scenic river study, are located in the Bodie Mountain allotment. The Rough Creek segment totals 2.1 miles on public land and Atastra Creek totals 1.75 miles on public land. Rough Creek is potentially classified as wild while Atastra is potentially classified as scenic/recreational. The acreage of Rough Creek and its riparian/upland corridor totals about 672 acres, while Atastra Creek totals about 560 acres.

The portions of Rough and Atastra creeks designated as eligible are the main stems of each waterway. Descriptions of the creeks and their associated outstandingly remarkable values, qualifying them for further study and consideration to designated wild and scenic rivers, are described in Appendix 3 of the final Bishop RMP and EIS dated August of 1991. The main stems of both creeks currently contain the same outstandingly remarkable biological values identified in the 1991 document. Grazing currently occurs in these drainages creating impacts such as reduced vegetation cover and bank trampling. However, impacts are the same or less than in 1991 due to more oversight of grazing in these areas and conformance to riparian prescriptions identified in the RMP.

The proposed action, no action, and no grazing alternatives would have no effect on wild and scenic rivers in the Aurora Canyon, Potato Peak, and Mono Sand Flat allotments because there are no designated wild and scenic rivers or eligible river segments exist in these areas.

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

The proposed action would maintain or improve riparian values on both eligible study river segments. The lower level of utilization of key upland forage species and riparian standards under the Proposed Action would result in slight to moderate improvement in riparian and wetland conditions over the long-term, if redistribution or changed timing of livestock grazing results in less concentrated use in riparian areas. Improved vegetation cover would be the primary habitat response variable. The proposed action would also help reduce soil compaction and negative changes in site hydrology although these improvements would lag behind any improvements in vegetation condition. Over time, slight improvements in the overall ecological function of these plant communities would occur that would induce changes toward Proper Functioning Condition.

b. Impacts of No Action

Issuing permits with the same terms and conditions as the expiring permits would result in no change in impacts. The outstandingly remarkable values for both eligible study river segments would remain the same.

c. Impacts of No Grazing

Under this alternative, the outstandingly remarkable values for both eligible study river segments would slightly to moderately improve over time. Improvements would occur more rapidly than under both the Proposed Action and the No Action alternatives

## **T. WILDERNESS**

### **1. Affected Environment**

The Bodie Mountain, Aurora Canyon, Potato Peak, and Mono Sand Flat allotments contain no designated wilderness at this time. However, the four allotments occupy portions of five WSAs located throughout the environmental assessment area of study. Approximately 96% of the Masonic Mountain WSA lies in the Aurora Canyon allotment; while the remainder of the WSA lies in the Bridgeport Valley allotment which falls outside the scope of this EA. The 25,294 acre Bodie Mountains WSA (CA-010-099) lies predominantly in the Aurora Canyon and Potato Peak allotments. Approximately 23% (5,699 acres) lies in Aurora Canyon, while 39% (9,864 acres) lies in Potato Peak. The remainder lies in the Travertine and Mormon Meadows allotments which fall outside the scope of this EA. The Bodie WSA (CA-010-100 - 56,423 acres) lies completely within the Bodie Mountain allotment. The Excelsior (CA-010-088 – 9,420 acres) and Walford Springs (CA-010-092 – 12,952 acres) WSAs both lie completely within the Mono Sand Flat allotment. Finally, approximately 10,983 acres or 20% of the Granite Mountain WSA (CA-010-090 – 54,505 acres) lies in the Mono Sand Flat allotment while the remainder occupies the Mono Mills and Mono Lake allotments which fall outside the geographic scope of this EA.

Wilderness values are described in the 1979 Final Wilderness Intensive Inventory Report while the WSAs' 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 it is 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 all allotments at the time the WSAs were designated by BLM in 1979-1980 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.

When the WSAs were designated, they were determined to meet the naturalness criteria based primarily on the landscape's general appearance of having been affected primarily by the forces of nature with the imprint of man's work being substantially unnoticeable. In other words, each WSA had to appear generally natural, and could include some minor impacts such as the range improvements identified in the original inventory assessments. During the wilderness inventory which led to WSA designation, it was determined that these activities were compatible with BLM's wilderness inventory standards. The overall native vegetation conditions met the wilderness inventory naturalness criterion to qualify the area for WSA status. Several livestock spring developments/water troughs, reservoirs, fences, and small wildlife exclosures are located within the WSAs.

Range improvements such as spring developments/water troughs and reservoirs contain cattle trampling and soil compaction impacts a few hundred feet around each site. These impacts occur primarily in Masonic Mountain, Bodie, and the Bodie Mountains WSAs. The Excelsior and Walford Springs WSAs contain mainly range related fences. The majority of range improvements within all WSAs were built before these areas were designated.

New range improvements constructed in the WSAs after designation were designed and built to meet the non-impairment standard. Site specific environmental assessments with a full public disclosure and outreach were prepared for each new improvement. These environmental assessments are located in the Bishop Field Office wilderness and range management files.

Livestock use that occurs on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments is summer and early fall grazing. Permittees graze livestock from lower elevation pastures in the early part of the season, and then herd them to higher elevation areas as summer progresses into fall. This occurs primarily in the Bodie, Bodie Mountains, and Masonic Mountain WSAs. Excelsior, Granite Mountain, and Walford Springs WSAs experience livestock use primarily in spring or very early summer depending on forage condition and was last used in year 2002.

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

The proposed action would have positive benefits to wilderness values of naturalness because overall allotment habitat quality would be maintained or slightly improved as implementation of the proposed terms and conditions occur. The proposed terms and conditions are designed to protect and sustain rangeland health with built-in safeguards to alter grazing activity based on wildfires, drought, etc. This proposed system would maintain or improve existing plant habitat and facilitate long term naturalness in the WSAs.

Expected ecological improvements in vegetation, weed control, and wildlife habitat caused by changes in grazing timing and intensity would occur with implementation of the proposed action,

enhancing the WSA's naturalness. 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 on the four allotments within the five WSAs would conform with the BLM IMP and not impair Congress's ability to designate the WSA as Wilderness should they choose to do so. The areas containing livestock troughs and spring developments/reservoirs, etc. would continue to receive concentrated livestock activity around each site. Reissuing grazing permits would create no new adverse impacts to the WSAs' wilderness values. Additionally, since grazing was occurring when 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

The No Action alternative would maintain the physical appearance of naturalness in the WSAs, although native vegetation phenological cycles would be limited by the 60% utilization standard. It is expected that under the same conditions, naturalness and other wilderness values would remain the same way.

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 although invasion of weed species during early stages of this alternative would occur. Wilderness values of naturalness, outstanding opportunities for solitude and primitive or unconfined types of recreation would remain. The removal of the livestock facilities within the WSAs would allow approximately 50 acres of land to naturally revegetate, enhancing wilderness character and naturalness. Increases in CO<sub>2</sub> due to climate change would provide an environment that would modify plant species to those more conducive to higher temperatures.

### **3. Maps**

Overview of Allotments (Map 1 - 3)

### **4. References**

Department of Interior, Bureau of Land Management. 1990. California Statewide Wilderness Study Report.

Department of Interior, Bureau of Land Management. 1987. Benton-Owens Valley and Bodie-Coleville Study Areas Final Environmental Impact Statement.

Department of Interior, Bureau of Land Management. 1979. Final Intensive Inventory.

Department of Interior, Bureau of Land Management. 1995. H-8550-1 Interim Management Policy for Lands Under Wilderness Review.

Department of Interior, Bureau of Land Management. 1978. Bureau of Land Management Wilderness Inventory Handbook.

## **U. WILDLIFE/THREATENED AND ENDANGERED**

### *Wildlife*

#### **1. Affected Environment**

##### Upland Wildlife Habitats

Greater sage-grouse (*Centrocercus urophasianus*) are of particular concern due to their status as a BLM California sensitive species, rangewide declines (Connelly et al. 2000), and evidence that the populations in Mono County, California and adjacent counties of Nevada are genetically distinct from Greater Sage-grouse elsewhere (Benedict et al. 2003, Oyler-McCance et al. 2005). A conservation plan for this Bi-State Area was created by a broadly based stakeholder group as part of the Greater Sage-Grouse Conservation Plan for Nevada and Eastern California (NDOW 2004), with Nevada Department of Wildlife and California Department of Fish and Game (CDFG) as lead agencies. The Bi-State portion of the plan recognizes the Bodie area as one of several Population Management Units (PMUs). All four allotments lie within the Bodie PMU (the southern boundary of the Mono Sand Flat allotment slightly overlaps the northern boundary of the South Mono PMU) and include known sage-grouse use areas. The Bureau of Land Management, Bishop Field Office wildlife biologists and permittees for the Aurora Canyon, Potato Peak, Bodie Mountain, and Mono Sand Flat allotments were among the stakeholders who worked on the Bodie PMU portion of the plan.

Sage-grouse population trends in the Bodie PMU as indicated by annual lek (strutting ground) censuses are characterized by sharp fluctuations, with the highest numbers recorded during the early 1960s and the early 1990s and the lowest numbers recorded during the mid 1950s and early 1980s. Since 1987, leks have been censused more consistently, largely as the result of a concerted effort coordinated by BLM in cooperation with CDFG. CDFG's analysis of short-term trends shows a strong peak during the early 1990s and low numbers during the late 1990s. From 2000 to 2003, numbers were relatively stable and increasing but remained below both the short-term and long-term averages (NDOW 2004). From 2004 to 2007, the recorded numbers were again above the short-term and long-term averages although still below the peak of the early 1990s. Habitat conditions have generally improved or remained stable throughout the Bodie PMU since the early 1990s with no measureable loss of habitat or habitat quality that correlates to documented changes in population levels.

The Bodie PMU includes the second-largest breeding complex in the Bi-State Area. Several leks

and extensive nesting habitat are found in the Aurora Canyon, Bodie Mountain, and Potato Peak allotments. Radio telemetry data from 1999 to 2003 identified nesting sites in areas of sagebrush (*Artemisia tridentata* ssp. *vaseyana*) with co-dominant bitterbrush (*Purshia tridentata* var. *tridentata*) contributing to greater than average canopy cover (Bishop FO 2003). Perennial grass height and cover, generally considered important for nesting success as it helps screen nests from predators, compared favorably with that found in the current sage-grouse habitat guidelines (Connelly et al. 2000). More recent telemetry studies reported that shrub canopy cover and not residual grass cover or height were the principal vegetation feature used by female sage-grouse in the Bodie Hills to select nest sites. Nest success did not appear to be associated with grass cover but was positively associated with shrub cover other than sage (Kolada 2007). Although the other shrub species were not identified, Bishop Field Office personnel observations of sage-grouse nesting habitat in the Bodie Hills suggest these were mainly bitterbrush with others including wild currant and snowberry. Overall, nest success compares favorably to that reported elsewhere in sage-grouse range and nesting habitat quality or quantity is not considered to be a limiting factor for Greater sage-grouse in the Bodie PMU.

Sage-grouse rely heavily upon insects and forbs as food during spring and summer, especially for hens' pre-laying nutritional needs and for brood rearing. They also require open water during hot, dry weather. Telemetry has documented seasonal movement of a large number of sage-grouse to summer habitat above about 9,000 feet in the Bodie Mountain, Potato Peak, and Aurora Canyon allotments, especially near springs, streams, and meadows (Bishop Field Office 2003). As a result, many grouse tend to concentrate in and around high elevation or mesic habitats during the summer. Many of the mesic habitats are privately owned by the permittees. An apparently smaller number of grouse remain near water sources at lower elevations or leave these allotments and move westward across Highway 395 to the east slope of the Sierra. Currently available data suggests that a relative paucity of early and mid-seral sagebrush and mesic habitats that are important as early brood, late brood, and summer habitat may be a limiting factor for Greater sage-grouse in the Bodie PMU.

Fall/winter concentrations of sage-grouse have been documented in extensive sagebrush stands at Big Flat and on the Dry Lakes Plateau in the Bodie Mountain allotment, and the upper Cottonwood Canyon drainage partly in the southern portion of the Potato Peak allotment. Although no telemetered sage-grouse have been located in the Mono Sand Flat allotment to date, casual winter observations and sign have been documented east of Mono Lake. Extensive winter range has not been documented, however, it is not considered to be a limiting factor for Greater sage-grouse in the Bodie PMU and telemetry studies have shown high over-winter survival which compares favorably to that reported elsewhere in sage-grouse range.

The Bodie PMU stakeholders group identified several potential risks to sage-grouse and their habitats associated with livestock grazing during the development of the Bi-State Plan. However, livestock grazing was not identified as a high priority risk to sage-grouse in the PMU and the potential risks associated with livestock grazing were identified and evaluated to primarily to ensure a rigorous risk assessment for conservation planning purposes. Potential risks associated with livestock grazing identified and evaluated as part of the planning process included; meadow and riparian habitat quality; nesting habitat quality; fences, which grouse may

avoid (as potential predator perches) or may strike in low flight; potential lek disturbance and nest disturbance or trampling or disturbance; and direct loss of habitat to development resulting from reduced economic viability of permittees. The group also noted the potential for properly managed grazing to improve forb availability during the late brood and summer period and emphasized the importance of flexible strategies that address the economic viability of livestock operators along with the needs of sage-grouse. The group recommended that when revising grazing management practices in the PMU, emphasis should be given to sagebrush community quality in known breeding areas; improvement of meadow and riparian habitats; proper design, location and development of livestock management facilities; and reducing impacts of drought (NDOW 2004, Appendix L).

Mountain quail are another native upland game bird prominent in some parts of these allotments; California quail are also observed here. The allotments support many species of songbird. Sage thrasher, sage sparrow, Brewer's sparrow, green-tailed towhee, vesper sparrow, lark sparrow and loggerhead shrike breed in these allotments and are identified by Partners in Flight (of which BLM is a partner) as sagebrush obligate species of concern. Several other upland songbird species breed here and many more appear as spring and fall migrants (CalPIF 2002, Heath et al. 2001, Paige and Ritter 1999, Weston and Johnston 1980). A 1979 songbird survey included several upland habitats in a wide range of habitat types sampled during breeding and migration. Vertical stratification – the layering of diverse foliage types – was credited for the quality of the upland songbird habitats with highest bird densities and species richness, offering a variety of nesting substrates with good hiding cover and food production (Weston and Johnston 1980).

Mule deer migrate by the thousands through the Bodie Hills area between winter range in Nevada and summer range in the Sierra. Several hundred remain to spend mid-May to mid-October, mainly in the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. These areas provide a variety of shrub communities for forage, interspersed with riparian areas and aspen groves providing water and cover. Forbs provide important springtime nutrients to pregnant does. Browse species, especially bitterbrush, are important during the fall migration and on winter range. Hiding and thermal cover adjacent to adequate forage is critical in severe winters.

Conflicts between livestock grazing and mule deer were identified for the Bodie Hills in 1979-81. These included displacement of does from optimal habitat, especially fawning habitat, when livestock concentrate there; adequate forage conditions on spring and fall migration routes; vegetation condition overall; and degradation of meadows when salt licks or water developments were placed on or near them (no longer allowed under current management). Conflicts and problems have lessened since then but mule deer habitat quality remains an important management concern for BLM in the Bodie Hills.

Pronghorn antelope summer range encompasses rolling, expansive, open terrain in large parts of the Potato Peak and Aurora Canyon allotments and nearly the entire Bodie Mountain allotment. In the winter pronghorn migrate to lower elevations in Nevada to the east. The 1979 surveys identified conflicts between livestock and pronghorn: fences which created an obstacle or hazard; salt blocks and water developments placed on or very near meadows resulting in overutilization;

and overutilization of certain areas such as Dry Lakes and Geiger Grade where cattle concentrated throughout most of the grazing season. Under current management livestock use has measurably decreased since the 1970s, salt is not allowed within ¼ mile of meadows, livestock are moved from pasture to pasture throughout the grazing season, and new fences for wildlife habitat improvement projects have been built with wire spacing meeting design specifications for pronghorn and other wildlife.

Small mammal species found on the allotments include pygmy rabbit, a BLM Sensitive species, and sagebrush vole; both eat green foods including sagebrush, and need friable soils for burrowing in sagebrush habitats. Other small upland herbivores are mainly granivorous and depend upon good seed production. These, along with several species of lizard and snake, provide food in turn for larger predators.

#### Aquatic, Riparian, Meadow, and Aspen Grove Wildlife Habitat

Non-native trout – rainbow, brown, and eastern brook trout – have been introduced and/or observed at various times in most streams on the Bodie Mountain, Aurora Canyon, and Potato Peak allotments but there are no significant fisheries or popular sport fishing areas. Fish habitat quality was rated “excellent” in part of Rough Creek in a 1979 survey, and good to poor in other parts of the allotments. Native suckers are found in some of the streams (Bishop FO 1978-1979).

Riparian plant communities are important wildlife habitats found in all the allotments except Mono Sand Flat. Habitat complexity, primary and secondary productivity, and high plant and animal species diversity are a few of the attributes that these communities provide, especially those that include willow and/or aspen. Aspen groves not associated with streams also have these attributes. In the Bodie Hills riparian and aspen habitats were found to support by far the highest breeding songbird densities and species richness among the habitat types sampled; high species richness was associated with multiple layers of vegetation including a complex understory (Weston and Johnston 1980). These findings were corroborated in 1998-2003 songbird studies in riparian habitats throughout the eastern Sierra, including Atastra Creek and Clark Canyon. Riparian bird species diversity was positively correlated with the presence of several vegetation layers including herbaceous, willow shrub and tree; and aspen habitats harbored the most diverse breeding bird communities in the eastern Sierra (Heath and Ballard 2003).

Many animals often found in uplands also rely heavily upon riparian and aspen habitats for succulent foods and for thermal and hiding cover. Mule deer, as an example, use riparian and aspen habitats extensively and are especially reliant on them for fawning habitat. Numerous small mammals, reptiles and amphibians rely on riparian areas and many others are found in both upland and riparian habitats. Larger mammalian predators and many raptors range through several habitat types and find a rich prey base in riparian habitats.

Unless diligently herded, livestock tend to concentrate in riparian, aspen, and meadow habitats with resultant disproportionate impacts of grazing and trampling. Riparian communities within these allotments are (as noted in the Wetlands/Riparian section) typically classified as

Functioning at Risk and some reaches fail to meet Rangeland Health Standards. Many aspen groves also fall short of meeting Desired Plant Community objectives (see Vegetation section) identified in the Bishop RMP. These groves are below their potential and many have lost, to varying degrees, the vertical stratification and understory complexity necessary to support diverse communities of wildlife. Some meadow habitats have also undergone livestock-induced soil compaction, especially affecting small burrowing animals, and changes in plant community to the detriment of wildlife habitat quality as well. The majority of these conditions are relics of historic grazing practices that existed prior to 1980 and severely influenced the habitat conditions encountered today. The trend on most of these habitats has been slowly improving since the late 1970's with measureable improvements documented at many sites, particularly those where livestock use levels are closely managed.

Freshwater marsh habitats are found at the Dry Lakes Plateau (when wet) in the Bodie Mountain allotment and at Big Alkali in the Potato Peak allotment. A waterfowl habitat assessment conducted in 1979 noted that at Dry Lakes livestock remained June-October and degraded waterfowl habitat, and at Big Alkali waterfowl used the spring-fed ponds but nesting cover was lacking due to heavy livestock use preventing the mesic vegetation from recovering quickly enough to provide cover in the spring (Weston and Johnston 1980). Use has measurably decreased since that time with commensurate improvements in habitat quality.

Livestock enclosure fences around some stream reaches, meadows, and aspen groves have brought about major improvements to habitat quality at selected sites as documented by monitoring (Bishop Field office project files).

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

Overall wildlife habitat quality would improve over the long-term under the Proposed Action as a direct result of lighter (40%) annual use and improved long-term vigor of the key forage and important cover species, benefiting animals with forage needs overlapping those of livestock. Widespread improvement of plant communities may result, to the extent that better livestock distribution prevents heavy, concentrated livestock use of certain areas like meadows, riparian areas and aspen groves. This would help meet the habitat needs many species including sage-grouse, mule deer, pronghorn and several other key indicator species on the Bodie Mountain, Mono Sand Flat, Aurora Canyon, and Potato Peak allotments. Wildlife in general would be expected to benefit from improvements in plant community health in the upland areas. As an example, small granivores such as quail and rodents would benefit over time from an increased biomass of seed producing plant species, in turn benefiting predators such as canids and raptors. Maintenance and improvement of plant cover and density would also benefit many species and guilds.

To the extent that the Proposed Action improves distribution and indirectly results in lower levels of livestock use in riparian and aspen habitats, it should improve stability, vegetative cover, vegetative diversity, and vertical stratification. Over the long-term improved meadow and

riparian habitat conditions would benefit many species and habitats such as improved late-brood and summer habitat for sage-grouse, fawning habitat cover for mule deer, and increased insect foods and nesting substrates for songbirds. All of the functions described above for these habitats would be expected to be enhanced over the long-term under the Proposed Action.

The seasons of use in the Proposed Action do not address the potential risk of livestock trampling sage-grouse nests; however, the potential for cattle to destroy nests is extremely low and no such destruction has been documented in telemetry studies to date. In addition, while overlap between livestock grazing and sage-grouse nesting may result in loss of vegetative screening, leaving nests and young broods more vulnerable to predators; the period of potential overlap is extremely limited and neither nesting habitat quality or nesting success have been documented as limiting factors for sage-grouse in these allotments. Finally, timing grazing management to improve vegetative conditions and ensure the health of sagebrush associated plant communities over the long-term will have a greater benefit to sage-grouse than any emphasis on timing to eliminate inter-specific contact.

#### b. Impacts of No Action

Maintaining current management would result in no new impacts, likely continuing current trends of gradual improvement in wildlife habitat condition.

#### c. No Grazing

In general the benefits of the Proposed Action to wildlife habitat conditions on the allotments would be even greater under the No Grazing alternative. However, many of the most vital habitats to wide-ranging species such as sage-grouse, especially springs and meadows, are found on interspersed private lands which are also vital to livestock operations. Eliminating grazing could lead to increased livestock impacts on the private lands, and could potentially render livestock operations economically nonviable, in which case private lands might be converted to uses less compatible with wildlife. The No Grazing alternative would also eliminate the possibility of using livestock grazing selectively to improve forb production in some sage-grouse brood rearing habitats.

### 3. References

Benedict, N.G., S.J. Oyler-McCance, S.E. Taylor, C.E. Braun & T.W. Quinn. 2003. Evaluation of the eastern (*Centrocercus urophasianus urophasianus*) and western (*Centrocercus urophasianus phaios*) subspecies of Sage-grouse using mitochondrial control-region sequence data. *Conservation Genetics* 4: 301-310.

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- Bureau of Land Management, Bishop Field Office. 2003. Bodie Hills sage grouse population and habitat characteristics: Preliminary comparison with management guidelines. Report to the Bi-State Sage Grouse Local Area Conservation Planning Group. Files.
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- Weston, Henry G. Jr. and David Johnston. 1980. Summer and fall censusing of bird populations in the Bodie/Coleville region. Bishop Field Office files.

### ***Threatened and Endangered Wildlife Species***

#### **1. Affected Environment**

No threatened or endangered wildlife species are known or likely to occur on the Bodie

Mountain, Mono Sand Flat, Potato Peak, or Aurora Canyon allotments based on historical records, field monitoring, and/or habitat suitability.

Sierra Nevada bighorn sheep (*Ovis canadensis californiana*), a federally listed endangered species, has not been observed in these allotments nor is there potential habitat on any of these allotments.

Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*), a federally listed threatened fish species, is not currently found on any of these allotments but there is potential habitat on the Bodie Mountain and Aurora Canyon allotments. Habitat in the Rough Creek watershed (Rough Creek, Atastra Creek and Bodie Creek) on the Bodie Mountain allotment has the greatest potential to support Lahontan cutthroat based on current habitat quality and the presence of a naturally producing rainbow trout (*Oncorhynchus mykiss*) population. The majority of this habitat is on private land owned by the permittee.

## **2. Environmental Consequences**

### **a. Impacts of Proposed Action**

There would be no direct impact to threatened or endangered wildlife species as none are found on these allotments. In the Sierra Nevada Bighorn Sheep Final Recovery Plan, a review of scientific literature addressing the potential for disease transmission from cattle to bighorn sheep concluded “Based on the limited information currently available, there is insufficient evidence to exclude cattle grazing in or near bighorn sheep habitat based on disease considerations. However, if cattle grazing increases in proximity to bighorn sheep, disease considerations should be reconsidered” (USFWS 2007). The proposed action would not contribute to an increase in cattle grazing either within or adjacent to Sierra Nevada bighorn sheep habitat and based on currently available information no impacts to Sierra Nevada bighorn sheep or habitat are likely to occur. The condition of potential reintroduction habitat for Lahontan cutthroat trout would be expected to improve over the long-term under the Proposed Action (see Water Quality and Riparian sections of this EA). However, any effort to establish Lahontan cutthroat in these waters would require both the cooperation and agreement of the permittee/land owner.

### **b. Impacts of No Action**

Under this alternative there would be no new impacts.

### **c. No Grazing**

The condition of potential reintroduction habitat for Lahontan cutthroat trout would be expected to improve more rapidly if livestock grazing were eliminated. However, it is unlikely the permittee would cooperate in any effort to establish Lahontan cutthroat on his private lands if the permit was cancelled.

### **3. References**

U.S. Fish and Wildlife Service. 2007. Recovery Plan for the Sierra Nevada Bighorn Sheep. Sacramento, California.

## **V. WILD HORSE AND BURROS**

### **1. Affected Environment**

The Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments do not occur within any designated wild horse Herd Management Area. There is occasional wild horse drift from the Powell Mountain Wild Horse Territory in Nevada into the southwest portion of the Bodie Mountain allotment and into the northern portion of the Mono Sand Flat allotment. The Humboldt-Toiyabe National Forest, Bridgeport Ranger District has conducted two horse captures in year 2003 and 2007. The Bodie Hills, which are outside of the Powell Mountain Wild Horse Territory, was included in the survey flights and some of the drift horses were captured.

### **2. Impacts of Alternatives**

The proposed action, no action, and no grazing alternatives would have no effect on wild horses and burros as there are no designated wild horse herd management areas occurring on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments. The proposed terms and conditions are designed to help maintain, protect, or sustain rangeland health to keep the ecosystem functioning properly. However, should wild horses expand their use within any of the allotments; there would likely be a reduction in the amount of forage available to livestock and wildlife. There is potential for future degradation of ecological conditions of vegetation communities without management of wild horses from the Powell Mountain Wild Horse Territory.

### **3. References**

Powell Mountain Wild Horse Territory Gather Summary. 2003.

Powell Mountain Wild Horse Territory Gather Summary. 2007.

## **W. 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.

### ***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 20<sup>th</sup> 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. power lines, 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. Increased property values 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 mycorrhizal 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 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.

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***

The physical structure and ecological function of plant communities on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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.

There is occasional wild horse drift from the Powell Mountain Wild Horse Territory in Nevada into the southwest portion of the Bodie Mountain allotment and into the northern portion of the Mono Sand Flat allotment. Grazing by wild horses occur unregulated as to basic principles of range management i.e. proper time/season, amount of use, duration of use, and area of use. Livestock grazing is regulated and more closely follows acknowledged principles and practices of the science/art of rangeland management. Given the expansion of use areas, it is reasonable to conclude that rangeland vegetative resources have been impacted by horse use over time on the Bodie Mountain and Mono Sand Flat allotments.

Within the four 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. Future grazing authorizations would maintain the Wilderness Study Area wilderness values of naturalness because the proposed terms and conditions assure that vegetative habitats maintain their range of phenological stages, composition, and vigor.

### ***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 Standards and Guidelines:

On January 27, 1997, the Bishop Field Manager sent a letter to the two permittees at that time which grazed these four 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 at that time which grazed these four 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 four allotments which explained the rangeland health allotment assessment requirements.

On December 11, 2000, the Bishop Field Manager sent a letter to the two permittees at that time which grazed the four 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 T., Staff Attorney, Center for Biological Diversity (CBD). January 30, 2007, Ms. Lisa Belenky requested by telephone to be notified when draft environmental assessments for grazing permit renewals were posted on the Bishop BLM website. On May 15, 2007, BLM spoke with Ms. Belenky of CBD via telephone. Ms. Belenky requested that BLM send her all proposed decisions on the grazing allotment renewals from the Bishop Field Office via email. On June 11, 2007, BLM received a phone message from Ms. Belenky. Ms. Belenky again requested to be informed when draft EAs are posted on the BLM website. Ms. Belenky stated she would specifically request proposed decisions on particular allotments to be sent to her.

BLM replied via email to Ms. Belenky, acknowledging her requests. However Ms. Belenky did not provide BLM with a listing of specific allotments that CBD was interested in becoming an “interested public” in accordance with 4100.5. On January 18, 2008, per Ms. Belenky’s request, BLM sent her via postal mail a copy of the Bishop RMP 1993, RMP EIS Volume I & II, Bodie-Coleville Draft Wilderness Recommendation Final EIS 1987, and the Vehicle Access Strategy Plan.

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.

Connor, Michael J. California Science Director, Western Watersheds Project (WWP). On February 29, 2008, BLM responded via e-mail to Dr. Connor of WWP confirming the addition to the BLM list of interested public. BLM sent Dr. Connor a link to the BLM Bishop website to locate the total list of grazing allotments. On March 6, 2008, Dr. Connor of WWP sent a follow-up letter to the February 28, 2008 letter and requested to be added to the list of “interested public” for all grazing allotments and grazing management decisions from the Bishop Field Office.

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.

F.M. Fulstone Inc. 2008. Livestock Operator. BLM and F.M. Fulstone discussed livestock grazing on the Potato Peak and Aurora Canyon allotments. F.M. Fulstone explained the livestock management for the allotments. BLM and F.M. Fulstone discussed the environmental assessment process and Rangeland Health Standards and Guidelines.

Hilton Family Trust. 2008. Livestock Operator. BLM and Hilton Family Trust discussed livestock grazing on the Bodie Mountain and Mono Sand Flat allotments. Hilton Family Trust explained the livestock management for the allotments. BLM and Hilton Family Trust discussed the environmental assessment process and Rangeland Health Standards and Guidelines.

Holden, Anne. 2008. Engineering Geologist for the Lahontan Regional Water Quality Control Board. At the Bodie CRMP meeting on May 1, 2008, no issues or concerns were raised in accordance with the proposed action for the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

Milovich, George. 1999 through 2007. Agricultural Commissioner Inyo-Mono Counties. BLM

and George discussed the process for issuing the full processed 10-year grazing permits. Also, BLM explained the general changes in terms and conditions to the expiring grazing permits due to 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.

### ***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*

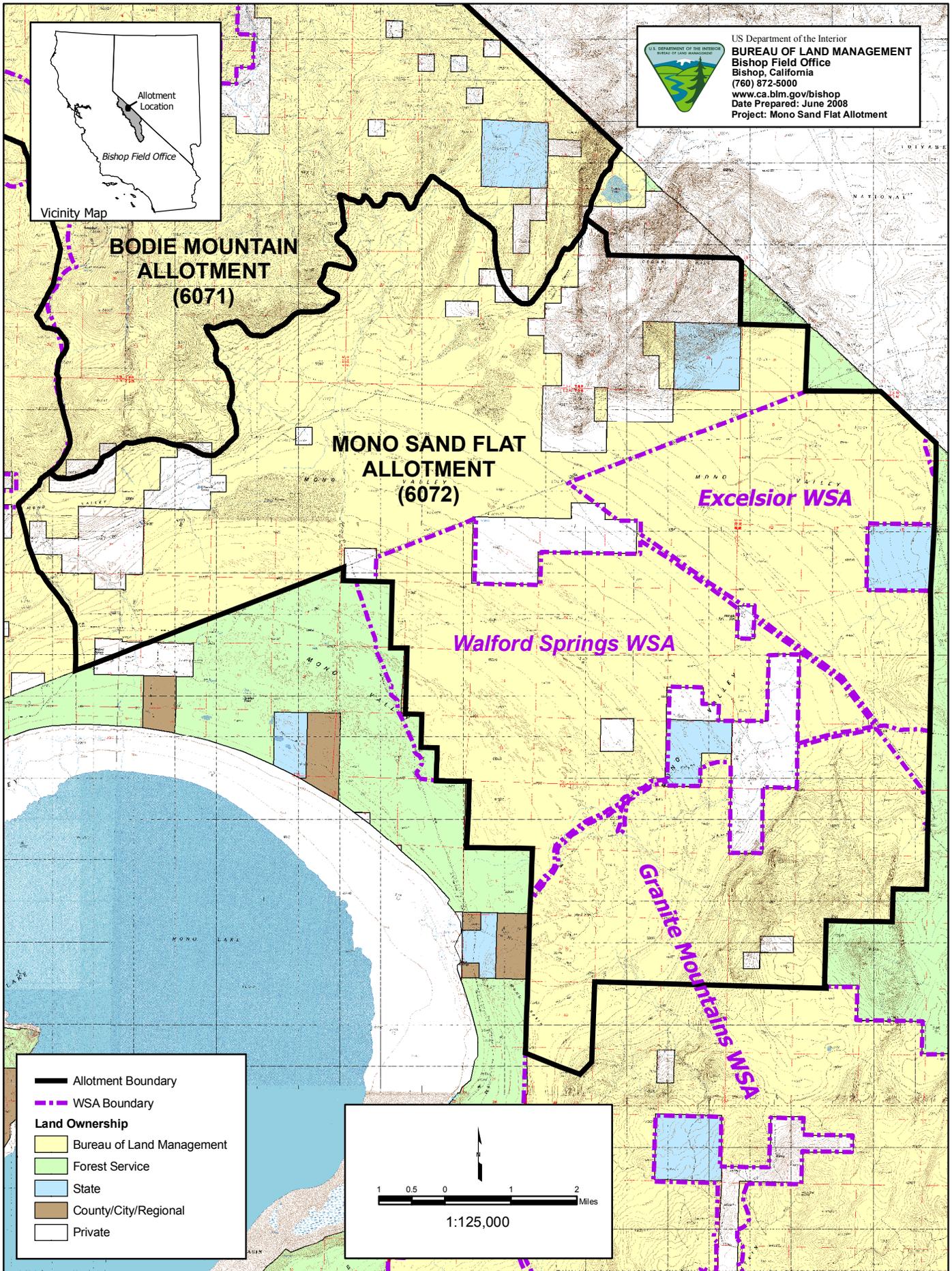
Jeff Starosta  
Anne Halford  
Steve Nelson  
Diana Pietrasanta  
Kirk Halford  
Terry Russi  
Joe Pollini

Rangeland Management Specialist  
Botanist  
Wildlife Biologist/GIS Coordinator  
Recreation/Wilderness  
Archeologist  
Supervisory Wildlife Specialist  
Assistant Field Manager

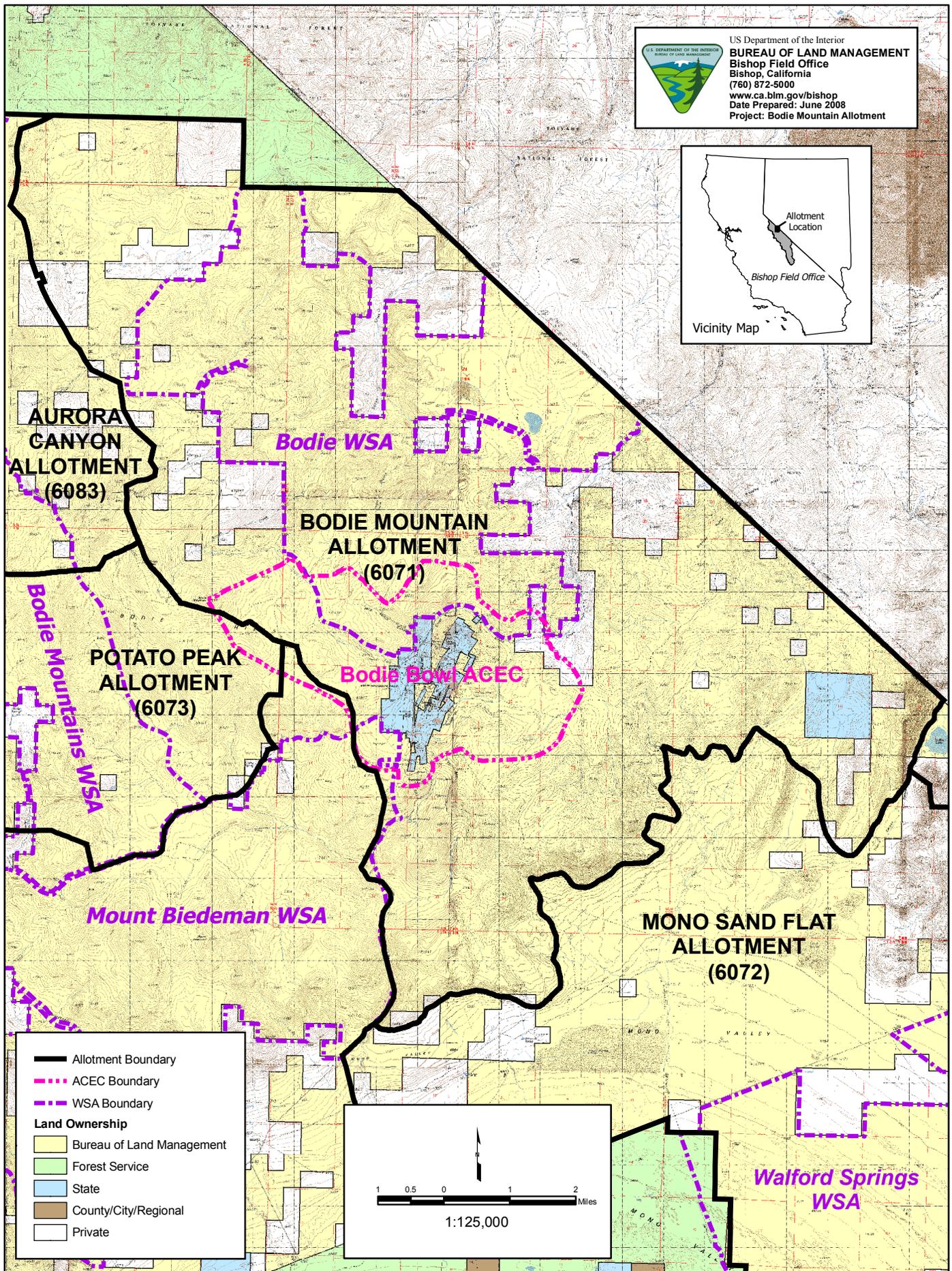
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**Chapter 5:  
APPENDICES**

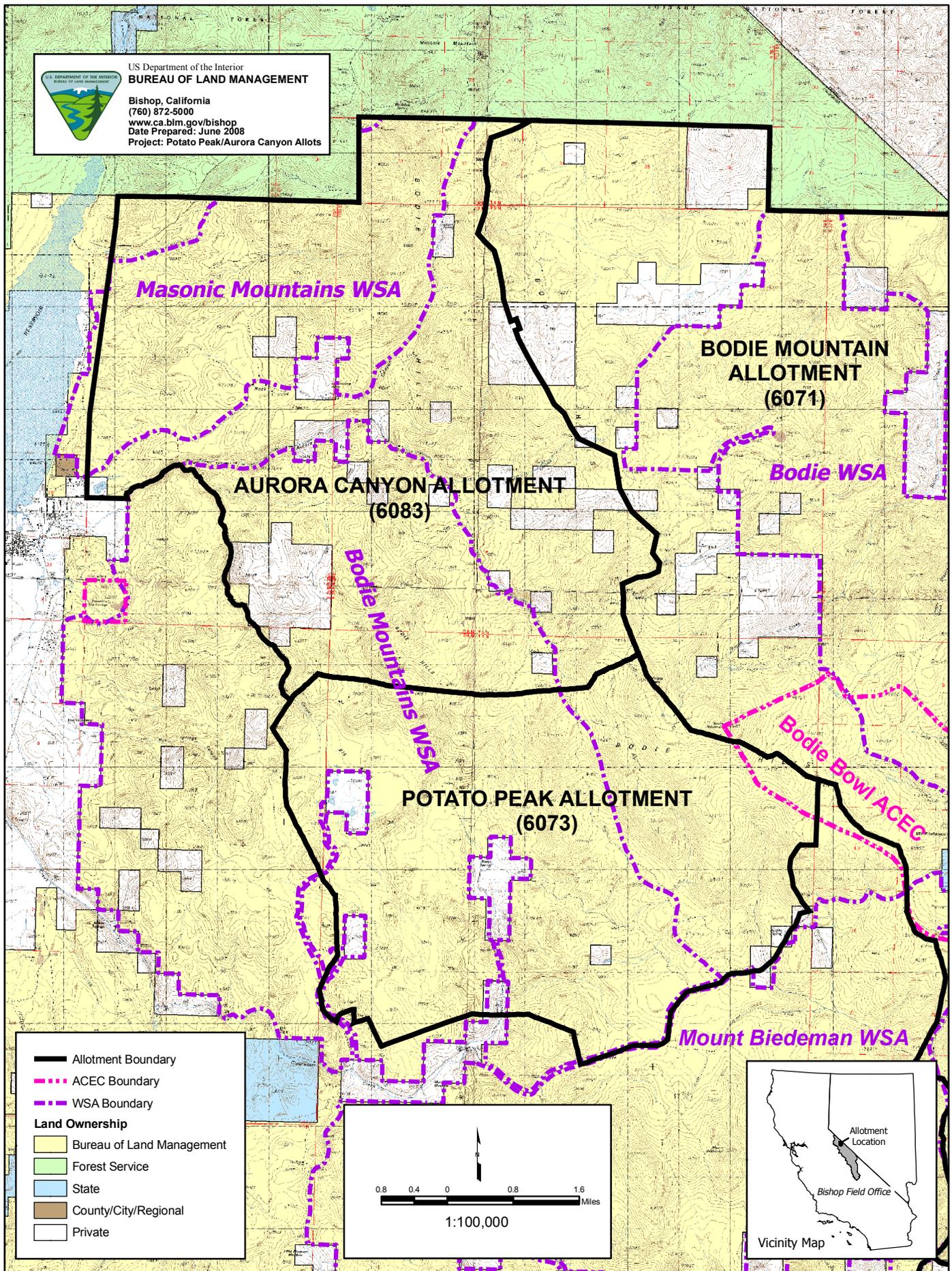
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Map 1. Overview of the Mono Sand Flat Allotment, Mono County, California. Bureau of Land Management, Bishop Field Office, Benton Management Area.



Map 2. Overview of the Bodie Mountain Allotment, Mono County, California. Bureau of Land Management, Bishop Field Office, Benton Management Area.



Map 3. Overview of the Potato Peak and Aurora Canyon Allotments, Mono County, California. Bureau of Land Management, Bishop Field Office, Benton Management Area.