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
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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 feet 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 6,500 feet along the western boundary of the Aurora Canyon 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. The purpose of the action is also to ensure that the grazing authorizations implement provision 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). 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 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 that implement provisions of, and are in conformance with, the Bishop Resource Management Plan and the Secretary of the Interior approved Central California Standards for Rangeland Health and Guidelines for Livestock Grazing.

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. The NOPA was also sent to one hundred and twenty-five interested publics including the Center for Biological Diversity, The Wilderness Society, California Wilderness Coalition, Sierra Club, Earth Justice, Audubon Society, Friends of the Inyo, Mono Lake Committee, Lahonton Regional Water Quality Control Board, Great Basin Unified Air Pollution Control District, Inyo and Mono County Supervisors, California Department of Fish and Game, Natural Resource Conservation Service, Bodie State Park, and BLM Resource Advisory Council (RAC) members of California. 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. One letter was received from the Natural Resource Conservation Service (NRCS) on December 21, 2007 and has been addressed within the environmental assessment in Chapter 1, Section D, under Issues and Alternatives. No other comments were received and no issues or additional alternatives were identified as a result of this public scoping.

On March 31, 2008, an invitation letter was sent to Bodie Coordinated Resource Management Plan (CRMP) members and other interested public (including Western Watersheds Project and the Center for Biological Diversity) in regards to a CRMP meeting that was held on May 1, 2008 in Bridgeport, California.

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.

Public Review of Environmental Assessment CA 170-08-18 and Response to Comments

On July 10, 2008, EA CA 170-08-18 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, the Center for Biological Diversity (CBD), and Western Watersheds Project (WWP) were notified that the EA had been posted on the BLM internet site.

On July 23, 2008, the Bishop Field Office received comments on EA CA 170-08-18 from WWP. A number of these comments have been incorporated into the EA to clarify and supplement the

analysis. A summary of comments received and BLM's responses to those comments are provided below:

Comment 1: EA fails to review a reasonable range of alternatives.

Response 1: The Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments met rangeland health standards and there was no documented need to analyze any additional alternatives. Therefore, BLM only considered the three alternatives originally described in the December 17, 2007, Notice of Proposed Action (NOPA) in the version of EA CA 170-08-18 posted for public review. Four additional alternatives proposed as part of this comment were considered and are identified and discussed in Chapter 2.

The three alternatives analyzed in this environmental assessment provide a reasonable range of alternatives that clearly address the purpose and need for action. The Proposed Action alternative responds specifically to the purpose and need "to consider whether or not to authorize grazing for 10-years on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments" and "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)." In contrast, the No Grazing alternative provides a clear comparison of the environmental effects and consequences of not authorizing grazing on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments. The No Action alternative provides the existing baseline for comparison and allows the BLM to evaluate the environmental effects and consequences of both the Proposed Action and No Grazing alternatives. The No Action alternative provides a reasonable baseline for comparison because it conforms to the purpose and need for action.

Comment 2: EA does not explain the benefits of the proposed action as a direct result of the 40% utilization guideline or how the proposed action results in "better livestock distribution."

Response 2: As explained in the EA, "Livestock grazing operations will be conducted so that forage utilization on key perennial species does not exceed 40 percent on the average." This guideline is a derivative of the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (July 2000). Refer to Chapter 1, Section E - Tiering to Existing Land Use Plan(s)/Environmental Impact Statement(s) of this document for further information. This is an additional 20% reduction from the use levels prescribed in the Bishop Resource Management Plan which states, "grazing use is not to exceed 60% on key forage species." In order for permittees to meet terms and conditions, they will have to manage their livestock so forage utilization on key perennial species does not exceed utilization levels. Permittees can meet these terms and conditions, for example, by strategic management of livestock by active herding to distribute use ("better livestock distribution") on forage across the allotment. Further clarification has been made in Chapter 3, Section A - Livestock Management, and Section O - Vegetation/ Threatened and Endangered.

Comment 3: EA needs clarification of listed species that occur within the Bishop Field Office.

Response 3: Clarification made in Chapter 1, Section G, under Threatened and Endangered Species.

Comment 4: EA does not adequately analyze the impacts of the proposed action on sage-grouse.

Response 4: The affected environment and environmental consequences portions of the EA in Chapter 3, Section U - Wildlife/Threatened and Endangered have been restructured and supplemented to clarify the analysis of sage-grouse and sage-grouse habitat on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

Comment 5: EA does not adequately analyze the impacts of the proposed action on Pygmy Rabbit.

Response 5: The affected environment and environmental consequences portions of the EA in Chapter 3, Section U - Wildlife/Threatened and Endangered have been restructured and supplemented to clarify the analysis of Pygmy Rabbit and Pygmy Rabbit habitat on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

Comment 6: EA does not adequately analyze the impacts of the proposed action on American Pika.

Response 6: The affected environment and environmental consequences portions of the EA in Chapter 3, Section U - Wildlife/Threatened and Endangered have been restructured and supplemented to clarify the analysis of American Pika and American Pika habitat on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

Comment 7: Referenced Steinfeld et al (2006), stating "livestock are estimated to be the source of 18% of all GHG emissions (measured in CO2 equivalents) - higher emission levels than are produced by transportation."

Response 7: It is the commenter's responsibility to show the likelihood of impact at the site specific scale. Citing one reference that discusses methane impacts globally does not translate to local impact. Furthermore, an inconsistency in climate change data exists between Steinfeld et al and the United States Environmental Protection Agency (EPA). The EPA notes "transportation sources accounted for 29 percent of total U.S. greenhouse gas (GHG) emissions in 2006. Transportation is the fastest-growing source of GHGs in the U.S., accounting for 47 percent of the net increase in total U.S. emissions since 1990. Transportation is also the largest end-use source of CO2, which is the most prevalent greenhouse gas." EPA further states that "these estimates of transportation GHGs do not include emissions from additional lifecycle processes, such as the extraction and refining of fuel and the manufacture of vehicles, which are also a significant source of domestic and international GHG emissions." (July 2008, Transportation and Climate, available at: http://www.epa.gov/omswww/climate/basicinfo.htm).

Comment 8: EA does not include discussion or analysis of the synergy of climate change with the proposed action.

Response 8: Changes and clarification made in Chapter 3, Section A - Livestock Management, Section I - Global Climate Change, and Section J - Invasive, Non-Native Species.

Comment 9: The EA down plays the role of livestock in spreading and establishing invasive species.

Response 9: The EA section on Invasive Species identifies the risk of target weeds, where they occur and the potential effects of Global Climate Change on future population dynamics of target non-native annual grasses.

Rangeland Health determinations conducted between 2001-2003 determined that weed species, e.g. cheat grass (*Bromus tectorum*) were at levels (<10%) that did not negatively affect ecological function (USDI, BLM 1998) on the Bodie Mountain, Mono Sand Flat, Potato Peak and Aurora Canyon allotments. Based on additional baseline data referenced in the EA under the general vegetation and soil sections, e.g. SVIM Inventories and NRCS Order 3 Soil Inventories, the diversity and density of native grasses, forbs and shrubs is well represented on all the target allotments which has been shown to limit the overall landscape risk of cheat grass invasion (in the absence of fire) (Young and Tipton 1990). In addition, the high native plant diversity and density that exists on these allotments coupled with the 40% use limit on native vegetation that will occur under the proposed action will only increase the vigor of native vegetation which further reduces the risk of weed invasion. The comments received from Western Watersheds Project use references that are not based on site conditions that exist and are being analyzed in this EA and some are not even specific to the Great Basin Floristic Province, e.g. Kimball and Schiffman (2003), Seabloom et. al (2003).

The comment received regarding an increase in weed densities during drought periods is erroneous because increases in production, especially for cheat grass is directly related to higher precipitation levels (Hull and Pehanec 1947). The EA identifies that livestock can disperse weeds and where that can be a risk. The EA also identifies grazing stipulations to avoid the spread of weeds. Although there are references identifying the use of early season grazing as a management tool to control invasive weeds, more site-specific research is needed. BLM will therefore relegate the action as a potential treatment option if monitoring determines its effectiveness in identified locations, e.g. roadsides.

Hull, A.C., Jr., and Pehanec, J.F. 1947. Cheatgrass - a challenge to range research. Journal of Forestry. 45:555-564.

Young, J.A.; Tipton, F. 1990. Invasion of cheatgrass into arid environments of the Lahontan Basin. In: McArthur, E. Durant; Romney, Evan M.; Smith, Stanley D.; Tueller, Paul T., compilers. Proceedings--symposium on cheatgrass invasion, shrub die-off, and other aspects of shrub biology and management; 1989 April 5-7; Las Vegas, NV. Gen. Tech. Rep. INT-276. Ogden, UT: U.S. Department of Agriculture, Forest Service.

Comment 10: There is no data presented in the EA that indicates that the proposed action will reduce weed densities and there are no changes in the grazing season proposed.

Response 10: Addressed and clarification made in Chapter 3, Section J - Invasive, Non-Native Species. Furthermore, the EA section on Invasive Species identifies the risk of target weeds, where they occur and the potential effects of Global Climate Change on future population dynamics of target non-native annual grasses. Weeds are also addressed with regard to their presence within rare plant populations, e.g. *Phacelia monoensis* and the mitigations already made to address these impacts. In addition, plant community and Special Status population benefits are discussed under the proposed action with regard to how the 40% forage utilization level would benefit key floristic and ecological attributes such as:

- 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

Comment 11: EA does not adequately address the impacts of grazing and grazing management on the Masonic Mountain, Bodie Mountains, Bodie, Excelsior, Walford Springs, and Granite Mountain Wilderness Study Areas (WSAs).

Response 11: The affected environment and environmental consequences portions of the EA in Chapter 3, Section T - Wilderness have been supplemented to broaden the analysis specific to the six WSAs. Additional information and clarification on the conditions and history of grazing use since the 1970s in the WSAs have been provided. Supporting documentation that falls outside the scope of the new information provided is cited and listed in the references section. The WSA analyses take into account the issues and concerns identified during scoping and public review of the EA and are commensurate with the magnitude and scope of the purpose and need for the action identified in Chapter 1. In light of these considerations, BLM provides an adequate analysis and gives the reader reasonable depth and information to understand and comment on this process.

Comment 12: The comment disputes the EA's conclusion that each EA alternative would be compatible with the Bodie Bowl ACEC management plan to maintain the area's historic values. The ACEC section needs to be revisited to address potential impacts and mitigations.

Response 12: Addressed and clarification made in Chapter 3, Section C - Areas of Critical and Environmental Concern (ACEC).

Comment 13: The process described in the EA is not the protocol to be followed under the State Protocol Agreement Between the California State Director of the BLM and the California State Historic Preservation Officer Supplemental Procedures for Livestock Grazing Permit/Lease

Renewals.

Response 13: The Bishop Field Office (BIFO) rangeland health assessment and cultural analyses began in 1999 and were completed prior to or by 2003 which predates the State Protocol Agreement (PA) Between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer (2004) Supplemental Procedures For Livestock Grazing Permit/Lease Renewals. In fact, the BIFO's grazing research design (Halford 1999) provided the basis for the State PA. Among other guidance, the State Grazing PA is cited in Chapter 1, Section G. Pursuant to the BIFO research design (Halford 1999) and State PA (2004) all perennial watercourse, springs, and troughs were field evaluated. If monitoring is required, it is specified in the specific EA (under mitigation measures) and/or defers to the State PA procedures. In general, we do not have issues requiring monitoring.

Comment 14: The EA should be revised to include a complete and unbiased economic analysis of livestock grazing that includes income and costs to the government.

Response 14: The EA has been updated to include more recent economic data and information on grazing fees.

Comment 15: There is no analysis of impacts to Duran's lupine although the Calflora Map Viewer clearly shows that it occurs on the allotment.

Response 15: No confirmed populations of Duran's lupine are documented in the California Department of Fish and Game Natural Diversity Database (2007) and surveys conducted recently on Cedar Hill (Paulus 2004) which is in the Mono Sand Flat allotment did not document any occurrences of the Duran's lupine.

Paulus, James. 2004. Botanical Report for the Proposed Sierra Madre Housing Site. County of Mono Community Development Department.

Comment 16: The EA should explain how surveys were conducted and trends determined, etc. in regards to sensitive species.

Response 16: Addressed and clarification made in Chapter 3, Section O - Vegetation/Threatened and Endangered.

Comment 17: No baseline vegetation map included with the EA.

Response 17: The EA references existing, comprehensive baseline soils and vegetation inventories and data layers and provides a synopsis of vegetation on the allotment with detailed descriptions of major community types and their associate species (Chapter 3, Sections N and O). A small scale vegetation map would be difficult to interpret and would not improve the analysis. Therefore, no vegetation map is included in the EA.

Comment 18: EA should document the location of aspen groves and results of monitoring.

Response 18: Addressed and clarification made in Chapter 3, Section O - Vegetation/Threatened and Endangered. Inventory dates and a synopsis of data are provided for aspen groves and meadows with references to past and current restoration projects benefiting these systems.

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. On July 23, 2008, the Bishop Field Office received comment letters on EA CA 170-08-18 from WWP. The comment letter did not identify any issues that were not already being considered and addressed in the analysis. However, the comment letter did propose four additional alternatives for consideration: 1) Reduce stocking rates; 2) Fence off all riparian zones and wetland areas and aspen groves; 3) Eliminate grazing within the boundary of the six Wilderness Study Areas and away from areas proposed for wild and scenic river designation; and 4) Modify the allotment boundary to permanently exclude all habitat used by American pika, sage-grouse and pygmy rabbit. A discussion of these proposed alternatives is provided in Chapter 2, under Alternatives Considered but Eliminated from Detailed Analysis.

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). Mandatory terms and conditions for all allotments administered by the Bishop Field Office were established at the land use planning level in the Bishop Resource Management Plan. The Bishop Resource Management Plan also established which public lands administered by the Bishop Field Office would be available for livestock grazing (allotted vs. un-allotted).

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 Mono Sand Flat allotment and a portion of the Bodie Mountain allotment 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:

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

Threatened and Endangered Species (T&E)

Pursuant to Section 7 of the Endangered Species Act, consultation with the U.S. Fish and Wildlife Service (FWS) is required on allotments for which BLM determines that livestock grazing may affect listed species or designated critical habitat. The stipulations of any grazing permit may be modified to conform to the terms and conditions specified in a FWS biological opinion as the result of formal consultation. In addition, the terms and conditions of any grazing permit may also be modified through subsequent land use plan amendments or revisions to conform to decisions made to achieve recovery plan objectives.

In August 2000, the Bishop Field Office submitted a Biological Evaluation and requested formal consultation on the Bishop Resource Management Plan (RMP) under Section 7(a) (2) of the Endangered Species Act to the FWS. The Biological Evaluation analyzed potential effects of six listed species that occurred within the Bishop Field Office's jurisdiction: Owens pupfish

(*Cyprinodon radiosus*), Owens tui chub (*Siphateles bicolor synderi*), Lahontan cutthroat trout (*Oncorhyncus clarki henshawi*), Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*), bald eagle (*Haliaeetus leucocephalus*), and Fish Slough milk-vetch (*Astragalus lentiginosus var. piscinensis*). In 2007, one of these six species, the Bald Eagle, was delisted. Only designated critical habitat for Sierra Nevada bighorn sheep and Fish Slough milk-vetch overlaps with any public land administered by the Bishop Field Office. Subsequent requests for action on formal consultation on the Bishop RMP were made to the FWS in September 2005 and in April 2008. To date, no action has been taken by the FWS.

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 WSAs are designated wilderness or released from the wilderness review process.

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 (allotted vs. un-allotted) 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). Livestock grazing decisions, including mandatory terms and conditions for all allotments administered by the Bishop Field Office, established in the Bishop RMP 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. Other alternatives may be needed to resolve conflicts or address new conditions or new information. If other alternatives are identified or proposed during scoping but are determined by BLM not to reasonably address the purpose and need for action, or not to be technically or economically feasible, or not to be in conformance with the land use plan, or not to be substantially different from another alternative in design or effects, they may be dismissed from detailed analyses (BLM Manual H-1790-1).

After public review of EA CA-170-08-18, four additional alternatives were proposed by WWP in their comment letter. The proposed action, no action, and no grazing alternatives are described in detail below. The four alternatives proposed by WWP were considered but eliminated from detailed analysis and are also described 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 four allotments. In particular, following the Application of Guidelines of the Central California S&Gs (BLM 2000), some guidelines were applicable regardless of the specific rangeland health condition and some needed to be more specifically identified and then applied as terms and conditions. Terms and conditions were made in consultation with the respective permittee and other interested parties involved in the particular allotment.

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. Mandatory terms and conditions for the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments were established at the

land use planning level in the Bishop Resource Management Plan (BLM 1993).

The 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), and 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), and 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) Allotment Additional

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

Mono Sand Flat (6072) Allotment Additional

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

Potato Peak (6073) Allotment 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) Allotment 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 for the Bodie Mountain, Mono Sand Flat, Potato Peak and Aurora Canyon allotments were established at the land use planning level in the Bishop Resource management Plan (BLM 1993). Therefore, 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) Allotments 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) Allotments 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. Alternatives Considered but Eliminated from Detailed Analysis

The Western Watersheds Project (WWP) comment letter on EA CA-170-08-18 proposed four additional alternatives for consideration in the analysis. These alternatives were considered but eliminated from detailed analysis after initial review. Though not required, a brief explanation of why the proposed alternatives were eliminated from detailed analysis is provided below as recommend in BLM Manual H-1790-1.

Proposed Alternative 1:

Reduce the stocking rate.

Rationale for Eliminating Proposed Alternative 1 from Detailed Analysis:

Rangeland health assessments have been completed on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 these allotments in 2001 and 2003. All of these allotments were found to meet the Secretary of the Interior Approved Rangeland Health Standards and therefore did not warrant such an alternative. Furthermore, the proposed alternative would not be in conformance with the Bishop Resource Management Plan (1993) as amended by the Record of Decision, Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000). Lastly, the proposed alternative did not justify the need for and/or include supporting data or information to warrant

such an alternative.

Proposed Alternative 2:

Fence off all riparian zones and wetland areas and aspen groves.

Rationale for Eliminating Proposed Alternative 2 from Detailed Analysis:

Rangeland health assessments have been completed on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon 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 these allotments in 2001 and 2003. All of these allotments were found to meet the Secretary of the Interior Approved Rangeland Health Standards and therefore did not warrant such an alternative. Furthermore, the proposed alternative would not be in conformance with the Bishop Resource Management Plan (1993) as amended by the Record of Decision, Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000). In addition, the proposal to fence of all riparian zones, wetland areas and aspen would not be technologically or economically feasible due the wide distribution and extent of these habitat types on these allotments. Lastly, the proposed alternative did not justify the need for and/or include supporting data or information to warrant such an alternative.

Proposed Alternative 3:

Eliminate grazing within the boundaries of the Wilderness Study Areas (WSAs) and away from areas eligible for Wild and Scenic River study. The comment letter stated that "This alternative would reduce impacts to potential wilderness and thus allow a clear, comparative analysis of the impacts of the proposed action on the WSAs."

Rationale for Eliminating Proposed Alternative 3 from Detailed Analysis:

Grazing existed on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments at the time the WSAs were designated in 1980 and is a use grandfathered by Section 603(c) of the Federal Land Policy and Management Act (FLPMA). 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 FLMPA was signed (October 21, 1976). While grazing within WSAs is subject to reasonable regulations, policies, and practices, the proposed elimination of grazing within the WSAs would decrease the size of the four allotments by 89 percent (137,240 acres) and falls outside the scope of a reasonable alternative as FLPMA and NEPA have defined it.

As described in the Affected Environment and the Environmental Consequences portions of the EA in Chapter 3, Section T - Wilderness, overall grazing use in the WSAs has decreased when compared to the 1976 baseline required by FLPMA. As a result, grazing impacts to wilderness

values have been incrementally reduced since WSA designation with a commensurate improvement in wilderness character occurring over the last three decades. In addition, the qualitative rangeland health assessments conducted in the early 2000's determined that the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments meet the Secretary of the Interior Approved Rangeland Health Standards and did not document the need for such an alternative.

Furthermore, the No Grazing alternative already provides an analysis of the environmental effects and consequences of not grazing in WSAs. Therefore, a detailed analysis of this proposed alternative is not warranted since the analysis of impacts to the WSAs would be identical in effects to the impacts described in the No Grazing alternative.

Rough Creek and Atastra Creek, identified as eligible for wild and scenic river study, are located in the Bodie Mountain allotment. For detailed analysis, refer to Chapter 3 - Wild and Scenic Rivers. Grazing existed on the Bodie Mountain allotment at the time the creeks were identified as eligible for study by BLM in 1993. The creeks qualified for study eligibility based on their free flowing characteristics and their outstandingly remarkable riparian values. These values are protected under Guidelines for Interim Management of Study Rivers (Bishop RMP, Appendix 2). The guidelines state that domestic grazing is limited to the extent practiced when the creeks were designated for study in 1993. Through the inventory process, grazing use was determined to be compatible with the designation, thereby precluding a need to develop an alternative that prohibits grazing in the study river corridor. Additionally, the elimination of grazing within the wild and scenic eligible river corridors would not provide a reasonable alternative to meet the purpose and need for action.

Finally, this proposed alternative is inconsistent with policy and management objectives for the area and would not be in conformance with the Bishop Resource Management Plan (1993) as amended by the Record of Decision, Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000).

Proposed Alternative 4:

Modify the allotment boundaries to permanently exclude livestock from all habitat used by the American pika, sage-grouse, and pygmy rabbit. The comment letter stated that this was "an additional reasonable alternative" but provided no rational to justify consideration.

Rationale for Eliminating Proposed Alternative 4 from Detailed Analysis:

The proposal to modify the allotment boundaries to permanently exclude livestock from all habitat used by the American pika, sage-grouse, and pygmy rabbit would not provide a reasonable alternative for meeting the purpose and need for action because; 1) it is essentially the same as the No Grazing alternative in design and effects, 2) there is no justification or documented need to eliminate livestock grazing on these allotment to protect American pika,

sage-grouse, or pygmy rabbit habitat, and/or 3) it would not be technically or economically feasible.

The entirety of the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments are within the boundary of the Population Management Units (PMUs) defined in the Greater Sage-Grouse Conservation Plan for the Bi-State Plan Area of Nevada and Eastern California (NDOW 2004). With the exception of moderate to high density pinyon woodland habitats on these allotments, which are typically not used by sage-grouse and are also typically not grazed, these allotments are wholly comprised of known occupied and potential sage-grouse habitat. As a result, this proposed alternative would not be substantially different from the No Grazing alternative in design or effects since it would effectively exclude grazing from the entirety of these allotment. Therefore, a detailed analysis of this proposed alternative is not warranted since the analysis of impacts to sage-grouse, as well as other resources, would be essentially identical in effects to the impacts described in the No Grazing alternative.

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 primarily to ensure a rigorous risk assessment for conservation planning purposes. In fact, grazing in the Bodie PMU was characterized as a manageable risk and the initial conservation strategies focused on implementing grazing management guidelines and standard operating procedures to ensure continued maintenance and improvement of sage-grouse habitat conditions. In contrast, the conservation plan clearly identified urbanization and development that could result from allotment closures and the subsequent sell-off of private lands that are currently base property for grazing permittees as impacts that could have far reaching impacts to sage-grouse over the long-term. Based on the best available habitat information and the conservation plan assessment of risks to sage-grouse populations and habitats in the Bodie PMU, BLM is unaware of any evidence of pervasive direct or indirect negative impacts to sage-grouse or sage-grouse habitat resulting from grazing on these allotments that would warrant consideration of this proposed alternative.

Currently known occupied and potential American pika and pygmy rabbit habitats are nested within the larger extent of known occupied and potential sage-grouse habitats on these allotments. Modification of allotment boundaries to permanently exclude all habitat used by these species would require either extensive fencing to exclude livestock; or the elimination of grazing on the entirety of these allotments. The exclosure fencing option would be extremely costly and cannot be justified based on currently available information related to American pika and pygmy rabbit populations and habitat conditions on these allotments. In addition, the proposal to modify allotment boundaries to permanently exclude all habitat used by American pika and pygmy rabbit would not be technologically feasible due the irregular distribution and variability in extent of these habitat types on these allotments. Lastly, the proposed alternative did not justify the need for and/or include site specific supporting data or information to warrant such an alternative.

Finally, this proposed alternative is inconsistent with policy and management objectives for the area and would not be not in conformance with the Bishop Resource Management Plan (1993) as amended by the Record of Decision, Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000). Qualitative rangeland health assessments determined that these allotments meet the Secretary of the Interior Approved Rangeland Health Standards and did not document the need for such an alternative.

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 (Putman and 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 of 220 miles 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 1st to May 31st. 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 1st to October 15th. 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 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 to meet terms and conditions of the permit which assures for adequate vegetative regrowth of riparian, wetland, and 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 1st.

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 1st to October 31st, although the allotment is not usually grazed later than September 30th. 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 1st. 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. For example, strategic management of livestock by active herding to distribute use of forage across the allotment will indirectly improve forage resources. "On many ranges, improvement will occur without reduction in livestock numbers if practices to secure more uniform utilization are met" (Holechek, J.L., et. al. 1989). Practices already used to distribute livestock include changing salt/mineral block locations and active herd management to move livestock to underutilized areas. Lastly, 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. For this alternative, it is likely that BLM, the permittee and other interested public would need to work together to define allotment-specific applications of the rangeland health standards and guidelines.

c. Impacts of No Grazing

The cancellation of grazing on 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

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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 Mono Sand Flat allotment and a portion of the Bodie Mountain allotment 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_{10} 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_{10} 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_{10} 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_{10} 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. An environmental assessment for the Mt. Biedeman allotment is scheduled for 2009. The ACEC acreage is identified in the table below for comparative purposes and will be similarly identified in the 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 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. No grazing occurs in Bodie State Park which forms the center of the ACEC. In addition, a substantial portion of public land within the ACEC is fenced to exclude livestock grazing from Bodie Creek, the Racetrack and Bodie Bluff. A portion of the ACEC is also part of the Bodie National Historic Landmark as designated by the National Park Service. Most of the Historic Landmark overlaps the State Park and the public lands where grazing is excluded.

Historic structures on public lands in the ACEC where grazing is allowed are not affected by grazing because of existing State Park boundary fences and BLM riparian fences that exclude livestock and protects the facilities. Cattle grazing does not affect remaining unfenced features within the ACEC such as rock foundations because these structures are resistant to cattle nudging and rubbing disturbance. As a result, no known impacts are occurring from existing grazing operations.

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.

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:

Allotment	Previously Surveyed (% of allotment)	Newly Surveyed	Previously Recorded Sites	Newly Recorded Sites
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, only 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 land totals 77,907 acres within these three allotments. A high percentage of survey (7,536 acres) has been completed within these 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 these 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) Conduct cultural resource evaluations at trough locations that have been decommissioned or that are no longer in use prior to re-commissioning.

2) 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.

3) Reservoirs impacting NRHP eligible cultural sites will be decommissioned, or water re-conveyed from the reservoir to a trough removed from the site location.

4) 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). "Agricultural activities contribute directly to emissions of greenhouse gases through a variety of processes (USEPA #430-R-08-005, 2008)." A few of these processes include enteric fermentation (normal digestion), field burning of agricultural residues, and soil management activities such as fertilizer application.

"There is broad scientific consensus that humans are changing the chemical composition of our atmosphere" (Jones & Stokes, August 2007). Changes in the atmosphere have likely influenced temperature, precipitation, storms, and sea level (IPCC, 2007). Rising greenhouse gas (GHG) levels are likely contributing to global climate change. In the eastern Sierra region of California, climate change may result in warmer, drier conditions, and potentially more extreme weather events.

Livestock grazing related to the proposed action and no action alternatives, contributes GHGs in the form of methane (USEPA #430-R-08-005, 2008). One direct emission of greenhouse gasses related to livestock grazing on public land is through enteric fermentation and excretion. "CH4 is produced as part of normal digestive processes in animals. During digestion, microbes resident in an animal's digestive system ferment food consumed by the animal. This microbial fermentation process, referred to as enteric fermentation, produces CH4 as a by-product, which

can be exhaled or eructated by the animal. The amount of CH4 produced and emitted by an individual animal depends primarily upon the animal's digestive system, and the amount and type of feed it consumes (USEPA #430-R-08-005, 2008)." However, challenges exist to determine what fractions of climate change are due to natural variability versus human action since natural contributions of GHGs occur (USEPA #430-R-08-005, 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.

Rangeland allotment monitoring (both upland and riparian) would continue to be conducted annually and/or periodically. Should warmer and drier conditions occur within the next ten years, which is the term of a grazing permit, monitoring may indicate a need to adjust annual operations. Season of use for a permit is generally broad to compensate for natural annual fluctuations in vegetative growth often related to precipitation amounts and timing. The field manager can also authorize temporary changes in grazing use within the terms and condition of a permit, including the flexibility to allow grazing 14 days prior to the begin date and 14 days after the end date specified on a permit.

The no grazing alternative may reduce locally produced GHG emissions from less enteric fermentation and excretion; however, this level of reduction is likely to be minute and practically un-measureable 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>

Jones & Stokes Climate Change Focus Group (Tony Held, Ph.D, P.E., Terry Rivasplata, AICP, Ken Bogdan, J.D., Tim Rimpo, Rich Walter). August 2007. Addressing Climate Change in NEPA and CEQA Documents. Available at: <http://www.climatechangefocusgroup.com>

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 and represent estimated increases since the 2001-2003 Rangeland Health Assessments that documented weed cover percentages for all allotments to be less than 10%.

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

Most of the cheat grass stands are associated with lower elevation, southern exposure slopes, and alongside main roads, mineral sites and livestock watering facilities in the Bodie Hills. Mono Sand Flat has low cheat grass densities due to sandy, remnant Mono Lake shore deposits, which appear to restrict weed incursion. There is an increasing risk for riparian areas in the Bodie Hills, especially lower Bodie Creek to become infested by perennial pepperweed (*Lepidium latifolium* – LELA) 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. Vehicles may also move this plant material from source populations as well. Currently, the West Walker Weed Management Area is working to control LELA at these source populations.

Arid ecosystems have been predicted to be one of the most responsive ecosystem types to elevated atmospheric CO_2 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_2 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 which will reduce producing ecological thresholds that would increase weed spread. Specifically, forage utilization of native vegetation would not exceed 40% on average

under the proposed action which has been shown to benefit plant production and resilience (Vallentine 1990, Van Poollen et. al 1979) compared to the 60% utilization level identified in the Bishop Resource Management Plan (1993). The terms and conditions outlined in the proposed action would sustain and improve the following key floristic and ecological attributes within these allotments (USDI, 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 the 40% forage utilization levels which would increase the competitive ability of native vegetation with commensurate increases in annual below and above ground grass and forb biomass production.

Where applicable, and if pilot monitoring provides data that early season grazing can reduce cheat grass densities, this treatment may be used following site-specific environmental analyses. Early season grazing, normally before seed set, of 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.

Potential long-term and landscape impacts of increased weed densities will be more of a function of increased CO_2 levels and fire induced type-conversions (Chambers et al 2000) than the effects of the proposed action especially since livestock use levels in the eastern Sierra have been in decline since the late 1800's (Beesely 1996) and subsequent risk of weed seed transport is less than during these periods of more intensive livestock use. Currently, the cover values for weed species is low and the native plant diversity and density is currently meeting or exceeding Rangeland Health Standards and Guidelines (2001-2003) which will help limit the incursion of weed species into these areas.

To reduce the risk of declines in ecological function because of increased weed densities, continued implementation of the Rangeland Health Standards and Guidelines that identify keeping non-native species at "acceptable" levels will require frequent monitoring (2-5 years).

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 impacts to the ecological function of these plant communities influenced by environmental perturbations associated with fire (Chambers et. al 2000), insect damage, and global climate change effects. Because the permits do not contain Central California S&Gs within the terms and conditions, for example the 60% utilization level, there would be some increased impacts to native vegetation and potential

decreases in community resiliency to weed invasion. Furthermore, for this alternative, it is likely that BLM, the permittee and other interested public would need to work together to define allotment-specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under the no grazing alternative, impacts from weed invasion on native plant communities would affect only small areas where weed populations currently exist, e.g. roadsides. Weed seed from these locations would not be transported into adjacent and currently intact communities by livestock, but would still be transported via vehicles and by non-anthropogenic agents, e.g. rodents, wind, or water (Tausch et al 1994). Even this alternative is unlikely to off-set the effects of increased CO_2 on spread and production of non-native annual grass species. Under the no action alternative 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. 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 State Park and Bodie Bowl ACEC has experienced approximately 250,000 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 in Inyo and Mono counties are dependent on federal lands (BLM and U.S. Forest Service) and nonfederal lands (state and private). 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.

For 2008, the federal grazing fee for Western public lands managed by the Bureau of Land Management and the Forest Service is $1.35 per animal unit month (AUM). An AUM is the amount of forage needed to sustain one cow and her calf, one horse, or five sheep or goats for a month. The annually adjusted grazing fee is computed by using a 1966 base value of $1.23 per AUM for livestock grazing on public lands in Western states. The figure is then adjusted according to three factors - current private grazing land lease rates, beef cattle prices, and the cost of livestock production. The formula used for calculating the grazing fee, established by Congress in the 1978 Public Rangelands Improvement Act, has continued under a presidential Executive Order issued in 1986. Under that order, the grazing fee cannot fall below $1.35 per AUM, and any increase or decrease cannot exceed 25 percent of the previous year's level.

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 1980 for Inyo and Mono counties, livestock production grossed $11,303,334 and inventories accounted for 71,400 cattle and calves (calves/steers, heifers, cows, bulls, and stockers) and 28,900 sheep and lambs (1980 Annual Crop and Livestock Report). In 2007 for Inyo and Mono counties, livestock production grossed $30,488,850 and inventories accounted for 53,265 cattle and calves (calves/steers, heifers, cows, bulls, and stockers) and 21,500 sheep and lambs (2007 Annual Crop and Livestock Report). Agriculture production which includes livestock, field crops, miscellaneous crop production, and apiary is the second largest industry and an integral part of both Inyo and Mono County economies.

In Mono County for 2007, beef and alfalfa hay production were the primary production crops. Of a 100% total in agricultural values, livestock production accounted for 60% in Mono County. This amounted to $20,227,600 or 60% of the total $36,924,350 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 align with many of 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. 1980. Inyo- Mono Counties.

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

Annual Crop and Livestock Report. 2007. Inyo- Mono Counties (prepared July 9, 2008).

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 2001 and 2003 to determine if the rangeland health standards were being met. Cryptobiotic soil crusts are a soil attribute within the Rangeland Health Standards and Guidelines. This attribute as well as other soil stability and function attributes were found to meet the Rangeland Health Standards (BLM, Rangeland Health Assessments 2001 and 2003) on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments.

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 (BLM 2000). 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 higher utilization standards (e.g. 60% on key species) that interactions between physical, chemical, and biological properties of soils can be negatively 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. For this alternative, it is likely that BLM, the permittee and other interested public would need to work together to define allotment-specific applications of the rangeland health standards and guidelines.

c. No Grazing

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

3. References

Department of the Interior, Bureau of Land Management. 2001 and 2003. Rangeland Health Assessments. Technical Reference 1734-6, 2000, Interpreting Indicators of Rangeland Health (Version 3).

Department of the Interior, Bureau of Land Management. 2000. Central California Standards for Rangeland Health and Guidelines for Livestock Grazing Management, Record of Decision.

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O. VEGETATION/THREATENED AND ENDANGERED

Plant Communities

1. Affected Environment

Uplands

A baseline range inventory for these allotments was completed in 1980 using the BLM Site Inventory Method (SVIM 1979-1980). The allotments occur in the Great Basin Floristic Province. Native plant diversity and density is high on these allotments and meet range site potential (BLM 1980) as well as Rangeland Health Standards and Guidelines (2001 and 2003). 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 occidentalis*), 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, Onagaraceae, 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.

The upland plant communities within these allotments meet Rangeland Health Standards and Guidelines (BLM Rangeland Health Assessments 2001 and 2003). 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. Because of topography and active herding livestock often use only portions of these allotments which allows large acreage (>100 acres) of native vegetation to remain ungrazed.

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.

To reduce and restore ecological function within riparian, and wet and dry meadow system sites, several meadow and riparian exclosures have been constructed on the Aurora Canyon, Bodie Mountain, and Potato Peak allotments.

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. The largest aspen clones occur on private land. Aspen grove community structure is influenced by site hydrology, elevation, and exposure and has several physiological characteristics that permit it to attain great geographic amplitude as well as varied structural and compositional potential (Lieffers et. al 2001). In 1980, 1995, 1996 and 1998 aspen grove complexes throughout the Bodie Hills Management Area were assessed to describe and assess the structural components important for wildlife habitat. Age-class distributions within sampled complexes are generally even-aged with moderate to low juveniles (sucker recruitment) and/or sucker recruitment occurring on the fringes of the grove. Understory vegetation is more diverse in groves associated with springs but the majority of groves are dominated by California brome (*Bromus carinatus)*, *Hordeum jubatum*, hawksbeard (*Crepis* spp.), *Descurania sophia*, *Osmorhiza occidentalis,* currant (*Ribes aureum, R. velutinum)* and occasional snowberry (*Symphoricarpos rotundifolius*).

Potter (1998) documented that the age of aspen corresponds well with the end of the intensive grazing pressure of the late 1800s and the institution of fire suppression in the early 1900s. These residual impacts are still evident in select groves in the Bodie Hills which has led to a static trend with regard to aspen recruitment and understory structure. Active herd management by the permittees as well as the construction of several aspen exclosures since 1991 have improved these attributes.

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. Specifically, forage utilization of native vegetation would not exceed 40% on

average under the proposed action which has been shown to benefit plant production and resilience (Vallentine 1990, Van Poollen et. al 1979), compared to the 60% utilization identified in the Bishop Resource Management Plan (1993). The terms and conditions outlined in the proposed action would sustain and improve the following key floristic and ecological attributes within these allotments (USDI, 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

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. At forage utilization levels prescribed under the proposed action, e.g. 40% several floristic and ecological attributes would be sustained to include, but not be limited to, increased plant cover, root distribution, species recruitment, and diversity.

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. For this alternative, it is likely that BLM, the permittee and other interested

public would need to work together to define allotment-specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under this alternative, livestock grazing on these allotments would cease. Individual plant populations within the communities that are commonly grazed would have an opportunity to complete all phenological stages. 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.

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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

Trends are assessed based on monitoring that occurs every 3-5 years and is primarily comprised of site checks to ensure plants are not being uprooted, weeds are not encroaching into populations and that active seedling recruitment is occurring. In addition, bi-annual plant surveys are conducted in cooperation with the California Native Plant Society Bristlecone Chapter and Partners for Plants to document new populations of Special Status Plants.

Rangeland Health Assessments were designed using a stratified random sampling method to ensure that Rangeland Health Standards and Guidelines were being met in proximity and within Special Status Plant sites. 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.

Grazing Allotments	Special Status Plant Species	Trend
Bodie Mountain	1) Bodie Hills draba (*Cusickiella quadricostata),* 2) Long Valley milk vetch (*Astragalus johannis-howellii),* 3) Mono (*Phacelia monoensis),* 4) Bodie Hills rock cress (*Arabis bodiensis),* 5) William's combleaf (*Polyctenium williamsae).*	1) Stable 2) Stable to increasing 3) Stable 4) Stable 5) Stable
Mono Sand Flat	Tonopah milk-vetch *Astragalus pseudiodanthus*	Stable
Potato Peak	Bodie Hills draba (*Cusickiella quadricostata)*	Stable
Aurora Canyon	1) Bodie Hills draba (*Cusickiella quadricostata),* 2) Mono (*Phacelia monoensis),* 3) Masonic Mtn. jewel flower (*Streptanthus oliganthus*).	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 (*Artemisa tridentata* ssp. *vaseyana*) and bitterbrush (*Purshia tridentata* var. *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. The Masonic Mtn. jewel flower is to grantic outcrops in the Masonic Mtn. area and one population in Aurora Canyon allotment.

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. 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 pseudiodanthus – 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 allotment. 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 to 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* - lambsquaters) 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).

Steptanthus oliganthus

This plant in the mustard family is restricted to granitic rock outcrops that occur in the Masonic area of the Bodie Hills. One population is also documented in Aurora Canyon on a steep, northern exposed site. These sites remain ungrazed due to their topography.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would benefit the Special Status plant species that occur in the Bodie Mountain, Mono Sand Flat, Potato Peak and Aurora Canyon allotments and overall plant community health and provide commensurate benefits to pollinator habitat. Specifically, forage utilization of native vegetation would not exceed 40% on average under the proposed action which has been shown to benefit plant production and resilience (Vallentine 1990, Van Poollen

et. al 1979), compared to the 60% utilization identified in the Bishop Resource Management Plan (1993). The terms and conditions outlined in the proposed action would sustain and improve the following key floristic and ecological attributes within these allotments (USDI, 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

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. 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.

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. For this alternative, it is likely that BLM, the permittee and other interested public would need to work together to define allotment-specific applications of the rangeland health standards and guidelines.

c. No Grazing

Under this alternative, livestock grazing on 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 $C0_2$ unless they are manually removed. 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

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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

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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

Creek	Allotment	Acreage	Proper Functioning Condition Class
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 exclosure 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, 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. Over time, improvements in the overall ecological function of these plant communities would occur that would induce changes toward Proper Functioning Condition. The rate and amount of improvement would be less than expected under the proposed action.

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.

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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 Bishop RMP and CRM plans.

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 forage utilization of 40% on average and riparian standards under the proposed action would result in slight to moderate improvement in riparian and wetland conditions over the long-term. 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.

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 or be slightly improved since this action would be the same as that which occurred in 1993 when the eligible rivers were designated through the RMP process.

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 because riparian vegetative values would be allowed to undergo their full phenological stages without interruption.

T. WILDERNESS

1. Affected Environment

The Bodie Mountain, Aurora Canyon, Potato Peak, and Mono Sand Flat allotments do not occur within any designated Wilderness Area. However, the four allotments occupy portions of five Wilderness Study Areas (WSAs) located throughout the environmental assessment study area. The 6,605 acre Masonic Mountain WSA (CA-010-102) lies entirely in the Aurora Canyon allotment. 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 the Aurora Canyon allotment, while 39% (9,864 acres) lies in the Potato Peak allotment. 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 they are either 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.

Summary of WSA and Rangeland Inventory Findings:

Grazing existed on all allotments at the time the WSAs were designated by BLM 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 in 1979-80, the BLM determined they met 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 range improvements identified in the original inventory assessments. The wilderness inventories in 1978-79 which led to WSA designations determined that range improvement activities were compatible with BLM's wilderness inventory standards. The improvements and the overall native vegetation conditions met the wilderness inventory naturalness criterion to qualify the areas for WSA status.

Finally, the WSA inventory identified outstanding opportunities for solitude or primitive and confined types of recreation occurred throughout the WSAs because of their extensive size, topographic screening effect, vegetative diversity, and natural character.

Grazing Management History in WSAs and the Bodie Hills:

Prior to 1982, no plan existed to guide BLM's grazing management in the eastern Sierra. The Taylor Grazing Act (1934), the Public Rangeland Improvement Act (1973) and an assortment of regulations and policies directed BLM to provide for grazing use on public land incorporating conservation measures to protect soils from erosion, etc. The Federal Land Policy Management

Act of 1976 (FLPMA) gave BLM a land management framework to base future decisions. This new law directed BLM to use comprehensive land planning as part of its mission and stewardship responsibilities.

Under FLPMA's direction, the Bishop Field Office developed the Bodie-Coleville Management Framework Plan (MFP) in 1983 and began to integrate other resource considerations in its management direction. For example, the MFP identified meadow habitats for their high ecologic value and prescribed a 60% utilization standard of key meadow forage species while other habitats in WSAs and throughout the Bodie Hills would be grazed under additional restrictions and/or standards. The MFP was the first coherent BLM planning effort in the eastern Sierra designed to manage grazing incorporating wildlife habitat integrity, watershed quality, wilderness values, etc. It took into account WSA management and adherence to the IMP in its prescriptions. The MFP also documented that livestock had overused much of the Bodie Hills allotments and subsequently prescribed long term direction to correct this problem including reducing animal unit months (AUM).

The 1983 MFP also provided direction for BLM to initiate and execute a Coordinated Resource Management and Planning (CRMP) process. The CRMP is a resource planning, problem solving, and management process that include Bishop Field Office personnel and other public land stakeholders. The CRMP group collaborates to jointly develop plans to improve vegetative conditions for wildlife habitat and protect watersheds while following BLM's multiple use mission to include livestock grazing while complying with various laws/regulations/policies such as the Endangered Species Act, NEPA, IMP, etc.

Through the 1980s, the BLM used the CRMP process to develop Allotment Management Plans (AMPs) for the Bodie Hills allotments taking into account all known resource values including IMP considerations to maintain wilderness values. The AMPs formulated prescriptions and new grazing utilization guidelines to conform to the IMP so wilderness values would not be impaired or compromised. The AMPs launched into a foundation of rangeland management improvements, altering use intensity and implementing other grazing management strategies to arrest overutilization in riparian areas, aspen groves, meadows, and upland plant communities. IMP compliant improvements such as fences in WSAs or water developments outside WSAs were constructed to begin to reverse decades of bio-physical impacts.

From the 1990s to present, the Bishop Resource Management Plan (1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing Management (2000) were written and the CRMP process continued. Throughout the processes, terms and conditions have been modified and adaptive strategies were designed to improve rangeland management. These advancements in rangeland management direction were designed to continue BLM's progression to improve ecological integrity across all habitats in the Bodie Hills.

BLM's implementation and progression in rangeland management, from the Bodie-Coleville Management Framework Plan to present day California Standards for Rangeland Health and

Guidelines for Livestock Grazing Management, has incrementally improved wilderness conditions over the last 28 years.

Current Facilities and Grazing Use Patterns in WSAs:

As mentioned above, BLM determined that the Bodie Hills WSAs qualified for study because the few range improvements were minor in relationship to the expanse of each WSA. Currently, several livestock spring developments/water troughs, reservoirs, fences, and small wildlife exclosures are located within the WSAs. The WSAs also contain drift trails used by livestock to move around the allotments. It was determined the accumulation of these impacts from the range improvement/grazing activities were minor and did not create a substantially noticeable presence of human made features in the WSAs. At any given range improvement site such as spring developments/water troughs and reservoirs, livestock trampling and soil compaction impacts occur a few hundred feet around each site. These impacts occur primarily in the Masonic Mountain, Bodie, and the Bodie Mountains WSAs. The Excelsior and Walford Springs WSAs contain mainly fences which were identified as an acceptable feature for the purposes intended. The majority of range improvements within all the WSAs were built before they were designated. The facilities themselves directly impact less than 1% of the acreage in each WSA.

New range improvements constructed in the WSAs after designation were designed and built to meet the non-impairment standard. Site specific allotment management plans using the CRMP process and environmental assessments with full public disclosure and outreach were prepared for each new improvement.

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. The proposed terms and conditions are designed to protect and sustain rangeland health. 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 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 because no new facilities are proposed to affect these values adversely. 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. Livestock trailing in the WSAs would continue. 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 term and condition. It is expected that under the same conditions, naturalness and other wilderness values would remain the same way.

Wilderness values of outstanding opportunities for solitude and primitive and unconfined types of recreation would remain unaffected because no new facilities are proposed which would affect these values adversely.

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

3. Maps

Overview of Allotments (Map 1 - 3)

4. References

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

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

Department of Interior, Bureau of Land Management. 1982. Bodie-Coleville Grazing Environmental Impact Statement. Bishop Resource Area, Bishop, CA.

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U. WILDLIFE/THREATENED AND ENDANGERED

Wildlife Habitats and Associated Species

1. Affected Environment

Upland Wildlife Habitats

The dominant upland plant communities that define wildlife habitats and associated wildlife species on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments are sagebrush/bitterbrush and pinyon/juniper woodland. The Mono Sand Flat allotment is characterized by drier and typically less productive Wyoming sagebrush associated upland communities; while the Bodie Mountain, Potato Peak, and Aurora Canyon allotments include a diversity of moister and highly productive higher elevation montane sagebrush associated upland communities. Other sagebrush associated upland communities important to a wide variety of wildlife species on these allotments include low sagebrush, mountain shrub, and alpine.

The allotments support many species of songbirds. Sage thrasher, sage sparrow, Brewer's sparrow, green-tailed towhee, vesper sparrow, lark sparrow and loggerhead shrike are known to 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). The allotments also support important upland game bird species including greater sage-grouse, mountain quail, California quail and chukar partridge (non-native). Greater sage-grouse, a BLM sensitive wildlife species, is described in further detail in the Sensitive Wildlife Species section.

Mule deer migrate by the thousands through the Bodie Hills between winter range in Nevada and summer range in the Sierra Nevada. 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 upland 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 spring and fall migration. 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 substantially lessened since then but mule deer habitat quality remains an important management priority 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 east to lower elevations in Nevada. 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 wildlife species, and sagebrush vole; both eat green foods including sagebrush, and need friable soils for burrowing in sagebrush habitats. American pika has also been identified as a species of management interest in the Bodie Hills. Pika are known to inhabit the historic mine tailings along Bodie Bluff near Bodie State park in the Bodie Mountain allotment; and are also known to occur in alpine habitats above 8,500 feet on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. Existing fences surrounding Bodie State Park, upper Bodie Creek, and the historic Bodie Racetrack currently exclude livestock from grazing or trampling the non-natural mine tailings habitat used by pika on Bodie Bluff. Natural pika habitats associated with the alpine communities in the vicinity of Brawley Peaks, Bodie Mountain and Potato Peak receive some livestock use; however, steep rocky terrain and limited forage production and availability generally limits livestock use in these areas. Recent vegetation mapping and assessments

conducted by the Nature Conservancy (TNC) found the condition of alpine habitats in the Bodie Hills to be within the natural range of variability. Numerous other small upland herbivores also inhabit these allotments. Most are granivorous and depend upon good seed production for their survival. 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, Potato Peak, and Aurora Canyon 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 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 descriptions (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 exclosure 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

The overall habitat quality, reflected in the condition of vegetation communities on these allotments, would be improved from their current conditions over the long-term with implementation of the proposed action. Species guilds within the small mammal and songbird groups would gain the most immediate benefit from improvement in the availability of food resources and cover as the result of the 40% utilization limit on key forage species. Mule deer and pronghorn habitat quality would also be improved as the result of the bitterbrush 20% use limit that would ensure adequate bitterbrush leader growth is available for forage. The lower use standards would also promote improved vigor and long-term maintenance of sagebrush associated upland plant communities that provide important wildlife habitat for a wide variety of species on the allotments. The overall effect on riparian and wetland habitats on these allotments would also be positive as the result of implementation of the riparian and wetland stubble height guideline.

Wildlife and wildlife habitats in general would be expected to benefit from improvements in plant community health in the upland areas as a result of the change from 60% to 40% utilization. The maintenance and improvement of plant cover and density that is expected to occur would benefit many species and guilds. 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. The lower use levels would also ensure adequate forage availability for pika in alpine habitats. Pika habitat on Bodie Bluff would continue to be protected by exiting fences that exclude livestock access to these non-natural

habitats.

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 mountain quail, mule deer, pronghorn and several other key indicator species especially on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. 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 in these important habitat types. Over the long-term improved meadow and riparian habitat conditions would benefit many species and habitats such as 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.

b. Impacts of No Action

Maintaining current management would result in no new impacts, likely continuing the current trend of gradual improvement in wildlife habitat condition on these allotments. The overall habitat quality, reflected in the condition of vegetation communities on these allotments, would be maintained or slightly improved from their current conditions over the long-term. Habitat quality in the sagebrush associated upland communities of these allotments would be driven primarily by the use limits prescribed in the Bishop RMP (60% on key forage species and 30% on bitterbrush). Pika habitat on Bodie Bluff would continue to be protected by existing fences that exclude livestock access to these non-natural habitats. The only other difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the proposed action. For the permits which do not contain Central California S&Gs within the terms and conditions, it is likely that BLM, the permittee and other interested public would need to work together to define allotment-specific applications of the rangeland health standards and guidelines.

c. No Grazing

In general, the benefits to wildlife and wildlife habitat conditions on these allotments would be greatest under the no grazing alternative. No impacts to wildlife habitat conditions would occur from grazing since livestock would be completely eliminated from all four allotments. The overall habitat quality, reflected in the condition of vegetation communities on these allotments, would be improved from their current conditions over the long-term. The amount and rate of improvement would be increased and accelerated as compared to the proposed action and no action alternatives. Barring a catastrophic event (e.g. wildfire), the total annual production of the

plant communities would be available as cover and forage for the wide variety of wildlife species on these allotments and conditions would be determined primarily by the natural interaction of climate, soils and vegetation.

Overall wildlife habitat conditions would be improved, particularly in the immediate effect to species guilds within the rodent and songbird groups. Many species would benefit over a relatively short time due to an increased food base, particularly from seed producing plant species. Granivorous rodents would likely benefit from an increased volume of seed producing plant species. Increased populations of rodents should benefit predatory species groups like canids and raptors. Also, songbirds should benefit from the improved condition and availability of seed producing plant species. Mule deer and pronghorn habitat conditions would eventually attain their potential level of productivity for both food and cover resources. The overall effect on riparian and wetland habitats on these allotments would also be positive. The amount and rate of improvement in riparian and wetland habitats would be increased and accelerated as compared to the proposed action and no action alternatives.

The loss of grazing permits would likely lead to the transfer or sale of base property to development interests. This would result in both the direct loss of habitat on private lands to development as well as the indirect effects of disturbance on adjacent public lands associated with development. These habitat loss impacts would likely be concentrated on, or immediately adjacent to, the mesic riparian and meadow habitats on these allotments that are extremely important to a wide variety of species. Surface water available to wildlife would be reduced commensurate with the loss of livestock water developments.

3. References

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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 potential 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 than expected under the proposed action 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

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Sensitive Wildlife Species

1. Affected Environment

Greater sage-grouse (*Centrocercus urophasianus*) and pygmy rabbit (*Brachylagus idahoensis*), BLM sensitive wildlife species, are known or likely to occur on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments based on historical records, field monitoring, and habitat suitability. No other BLM sensitive wildlife species are known to occur on these allotments based on historical records, field monitoring, and/or habitat suitability.

- *Greater Sage-Grouse*

Greater sage-grouse (*Centrocercus* urophasianus) are a species of concern on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments due to their status as a BLM 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 sage-grouse in this Bi-State Area was created by a broad based stakeholder

group as part of the Greater Sage-Grouse Conservation Plan for Nevada and Eastern California (NDOW 2004), with the Nevada Department of Wildlife and the 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 Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments were among the stakeholders who worked on the Bodie PMU portion of the conservation plan.

Sage-grouse population trends in the Bodie PMU as indicated by annual lek (strutting ground) censuses are characterized by frequent 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 Bodie Mountain, Potato Peak, and Aurora Canyon allotments. Radio telemetry data from 1999 to 2003 identified most nesting sites in areas of mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) with co-dominant bitterbrush (*Purshia tridentata* var. *tridentata)* contributing to greater than average canopy cover (BLM 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 is high and compares favorably to that reported elsewhere in sage-grouse range. 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 data 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 (BLM 2003, USGS unpublished data, CDFG unpublished data). As a result, many grouse tend to concentrate in and around high elevation or mesic habitats during the summer. Many of these 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. Available data indicates 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. Recent vegetation mapping efforts conducted by the Nature Conservancy (TNC) found that late seral conditions are extremely over-represented in montane sagebrush associated communities in the Bodie Hills when compared to the natural range of variability and further supports this hypothesis.

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 few 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 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).

- *Pygmy Rabbit*

Pygmy rabbit are known to occur on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. On these allotments pygmy rabbit habitat is typically associated with drainages and

small basins comprised of deeper, depositional clays and loams that provide a suitable substrate for burrow construction. Characteristically these areas are free of rocks, with soils soft enough to dig easily yet cohesive enough to support burrows without collapsing. To date, no evidence of burrow collapse as a result of livestock trampling on these allotments has been documented. Sagebrush cover and type is variable, and active burrow systems have been located in areas comprised of basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*), mountain big sagebrush (*A. tridentata* ssp. *vaseyana*), and silver sagebrush (*A. cana*). Grass cover is also variable and heavily dependent upon site conditions. Notable areas of known occupied pygmy rabbit habitat include the Bodie Creek drainage, the historic Bodie Racetrack, Murphy Meadows, and the Aurora Creek drainage. In the Bodie Creek drainage, burrow systems are commonly located on earthen dams constructed during the historic mining period. Pygmy rabbit have not yet been documented by BLM on the Mono Sand Flat allotment but are likely to have some limited distribution on this allotment based on habitat suitability.

2. Environmental Consequences

a. Impacts of Proposed Action

- *Greater Sage-Grouse*

The attributes of the upland vegetation communities that define sage-grouse habitat on these allotments would be maintained and improved from current conditions over the long-term with implementation of the proposed action. Implementation of proposed terms and conditions would promote improved sagebrush associated plant community vigor and long-term ecological heath; and ensure the maintenance and improvement of both known occupied and potential sage-grouse habitats on these allotments. Overall sagebrush cover and composition required for sage-grouse nesting, brood rearing, summer, winter, and connectivity habitat would be maintained or improved over the long-term.

Sage-grouse nesting habitat on these allotments would be maintained or improved from both the 40% utilization limit on perennial grass species and the 20% utilization limit on bitterbrush. These use guidelines would ensure that suitable nesting cover (e.g. grass height and overstory shrub cover) is available annually for nesting sage-grouse. There would be slight potential for either direct nest destruction or abandonment of nests due to livestock disturbance; however, multiple telemetry studies to date have failed to document any such destruction or disturbance. The period of potential overlap between livestock use on the allotments and nesting sage-grouse would be limited and would occur after the peak of the nesting season. Neither nesting habitat quality nor associated nesting success has been documented as limiting factors for sage-grouse in these allotments.

The attributes of riparian and meadow communities important for sage-grouse on these four allotments would also be maintained and improved from current conditions over the long-term with implementation of the proposed action. The improvement of riparian and meadow habitats on these allotments would occur primarily as a combination of implementation of the riparian

and wetland stubble height guideline and improved livestock management and husbandry practices that will be required to meet the other terms and conditions of the grazing permit. The greatest improvements would occur in the riparian and meadow habitats that provide important late-brood and summer habitat for sage-grouse on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. The lack of early and mid-seral sagebrush habitats that are important as early brood, late brood, and summer habitat would likely remain the primary limiting factor for greater sage-grouse in the Bodie PMU.

- *Pygmy Rabbit*

Implementation of proposed terms and conditions would promote improved plant community vigor and long-term ecological heath and ensure the maintenance and improvement of currently occupied and potential pygmy rabbit habitat on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. Implementation of proposed terms and conditions would also promote improved plant community vigor and long-term ecological heath and ensure the maintenance and improvement of potential pygmy rabbit habitat on the Mono Sand Flat allotment. An increase in grass density and cover would be expected over the long-term as the result of the change from 60% to 40% utilization on perennial grass species. These increases would be greatest on the higher elevation montane sagebrush associated sites on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. The potential for burrow collapse as a result of livestock trampling would remain but is expected to be minimal based on existing information.

b. Impacts of No Action

- *Greater Sage-Grouse*

The attributes of the upland vegetation communities that define sage-grouse habitat on these allotments would be maintained or only slightly improved from current conditions over the long-term under the no action alternative. Habitat quality in the sagebrush associated upland communities of these allotments would be driven primarily by the use limits prescribed in the Bishop RMP (60% on key forage species and 30% on bitterbrush). Overall sagebrush cover and composition required for sage-grouse nesting, brood rearing, summer, winter, and connectivity habitat would be maintained or slightly improved over the long-term.

Existing sage-grouse nesting habitat on these allotments would be maintained from continuation of the 60% utilization limit on perennial grass species and the 30% utilization limit on bitterbrush. There would be slight potential for either direct nest destruction or abandonment of nests due to livestock disturbance; however, multiple telemetry studies to date have failed to document any such destruction or disturbance. The period of potential overlap between livestock use on the allotments and nesting sage-grouse would be limited and would occur after the peak of the nesting season. Neither nesting habitat quality nor nesting success has been documented as limiting factors for sage-grouse in these allotments.

The attributes of riparian and meadow communities important for sage-grouse on these four

allotments would also be maintained or only slightly and improved from current conditions over the long-term under the no action alternative. The improvement of riparian and meadow habitats on these allotments would continue to occur primarily as the result of implementation of the riparian and wetland stubble height guideline. The greatest improvements would occur in the riparian and meadow habitats that provide important late-brood and summer habitat for sage-grouse on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments; but would not be as substantial as expected under the proposed action since this alternative would not require the same level of livestock management and husbandry to comply with the other terms and conditions of the grazing permit. The lack of early and mid-seral sagebrush habitats that are important as early brood, late brood, and summer habitat would likely remain the primary limiting factor for greater sage-grouse in the Bodie PMU.

The only other difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, are applied broadly and uniformly across the allotments. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotments, as in the proposed action. For the permit which does not contain Central California S&Gs within the terms and conditions, it is likely that BLM, the permittee and other interested public would need to work together to define allotment-specific applications of the rangeland health standards and guidelines.

- *Pygmy Rabbit*

The attributes of the upland vegetation communities in currently occupied and potential pygmy rabbit habitat on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments would be maintained or slightly improved from current conditions over the long-term. The attributes of the upland vegetation communities in potential pygmy rabbit habitat on the Mono Sand Flat allotment would also be maintained or slightly improved from current conditions over the long-term. Habitat quality on all four allotments would be driven primarily by the 60% use limit on key forage species prescribed in the Bishop RMP. Only a slight increase in grass density and cover would be expected in currently occupied and potential habitats over the long-term. The Mono Sand Flat allotment would experience the least increase in grass density and cover because of drier site conditions. The potential for burrow collapse as a result of livestock trampling would remain but is expected to be minimal based on existing information.

c. <u>No Grazing</u>

- *Greater Sage-Grouse*

Under this alternative livestock grazing on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments would cease. The attributes of sagebrush associated uplands and riparian and meadow communities important for sage-grouse on these four allotments would be maintained and improved from current conditions over the long-term. The amount and rate of

improvement would be increased and accelerated as compared to the proposed action and no action alternatives. The greatest improvements in vegetation conditions would occur in the riparian and meadow habitats that provide important late-brood and summer habitat for sage-grouse on the Bodie Mountain, Potato Peak, and Aurora Canyon allotments. Barring a catastrophic event (e.g. wildfire), the total annual production of the plant communities would be available as cover and forage for sage-grouse and conditions would be determined primarily by the natural interaction of climate, soils and vegetation. Little change in overall nesting habitat quality would be expected; however, any potential for livestock trampling or disturbance of nest sites would be eliminated. The lack of early and mid-seral sagebrush habitats that are important as early brood, late brood, and summer habitat would likely remain the primary limiting factor for greater sage-grouse in the Bodie PMU.

The loss of grazing permits would likely lead to the transfer or sale of base property to development interests. This would result in both the direct loss of habitat on private lands to development as well as the indirect effects of disturbance on adjacent public lands associated with development. These impacts would be concentrated in or immediately adjacent to the privately owned riparian and meadow habitats that provide important late-brood and summer habitats in the Bodie Hills PMU. Surface water available to sage-grouse would be reduced commensurate with the loss of livestock water developments and negatively affect late-brood and summer habitat in the Bodie Hills and northern Mono Basin. This alternative would also eliminate the possibility of using selective livestock grazing to improve forb production in sage-grouse late-brood/summer habitats.

- *Pygmy Rabbit*

Under this alternative livestock grazing on the Bodie Mountain, Mono Sand Flat, Potato Peak, and Aurora Canyon allotments would cease. Any potential for livestock induced negative impacts to pygmy rabbit habitats and populations on these four allotments would be eliminated. Barring a catastrophic event (e.g. wildfire), pygmy rabbit habitat conditions on these allotments would be determined primarily by the natural interaction of climate, soils and vegetation. The attributes of the upland vegetation communities in currently occupied and potential pygmy rabbit habitats on these allotments would be maintained or improved from current conditions over the long-term. The amount and rate of increases in grass density and cover would be greater than that expected under the proposed action and no action alternatives. The Mono Sand Flat allotment would experience the least increase in grass density and cover because of drier site conditions. Any potential for burrow collapse as a result of livestock trampling on this allotment would be eliminated.

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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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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 Powel 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

Regionally, livestock operations in Inyo and Mono counties are dependent on federal lands (BLM and U.S. Forest Service) and nonfederal lands (state and private) to maintain viable operations and healthy rangelands. Cumulative livestock impacts on rangelands are reduced when well planned grazing systems are in place. When livestock operators have various lands (federal and nonfederal) to choose from throughout a grazing year, operators and land managers then have the capacity to use grazing systems such as deferment, rest, and rotational systems that are best for the resources. Operators will also have the flexibility to adjust for varying climatic conditions that can affect rangelands positively or negatively. The various lands (federal and nonfederal) help supply the livestock industry with renewable resources (e.g. vegetation) which in turn adds to the Inyo and Mono counties agricultural production.

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.

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

The development of roads and trails throughout the region originates from the area's historic settlement at the turn of the twentieth century when access was needed to develop the area's resources and transport goods/services. Settlers, miners, ranchers, merchants, etc. developed a region of small communities and road networks to meet daily sustenance needs. Throughout the latter 20th century, the region evolved from an agrarian economy to its present day tourism. This altered traditional access use from survival and necessity to one that became recreation based, mostly motorized, although mountain biking, hiking and horseback riding may use similar routes. The thousands of miles of paved and unpaved roads in the region tend to be permanent conversions of sites and constitute a total loss of the site productivity. Associated infrastructure needs i.e. 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, Inyo National Forest, and Humboldt-Toiyabe 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 mychorrhizal populations, and increased fire frequency. Eastern Sierra plant communities have experienced increased weed invasions in the past five years due to increased precipitation levels and likely increases in atmospheric nitrogen deposition (Dukes and Mooney, 1999). If this trend continues without commensurate control methods including using early season grazing (pre-seed set), weed proliferation could be exacerbated.

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

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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 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.

Native American Communities

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

During the initialization of the allotment assessment process in FY 1999, seven Native American communities residing within the area administered by the Bishop Field Office– Bridgeport, Mono Lake, Benton, Bishop, Big Pine, Ft. Independence, and Lone Pine – were contacted by letter (January 11, 1999), with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. The communities either said that there were no impacts or decided not to comment/participate. None indicated a desire or need to participate in the assessment process. (Consultation log available for FY 1999)

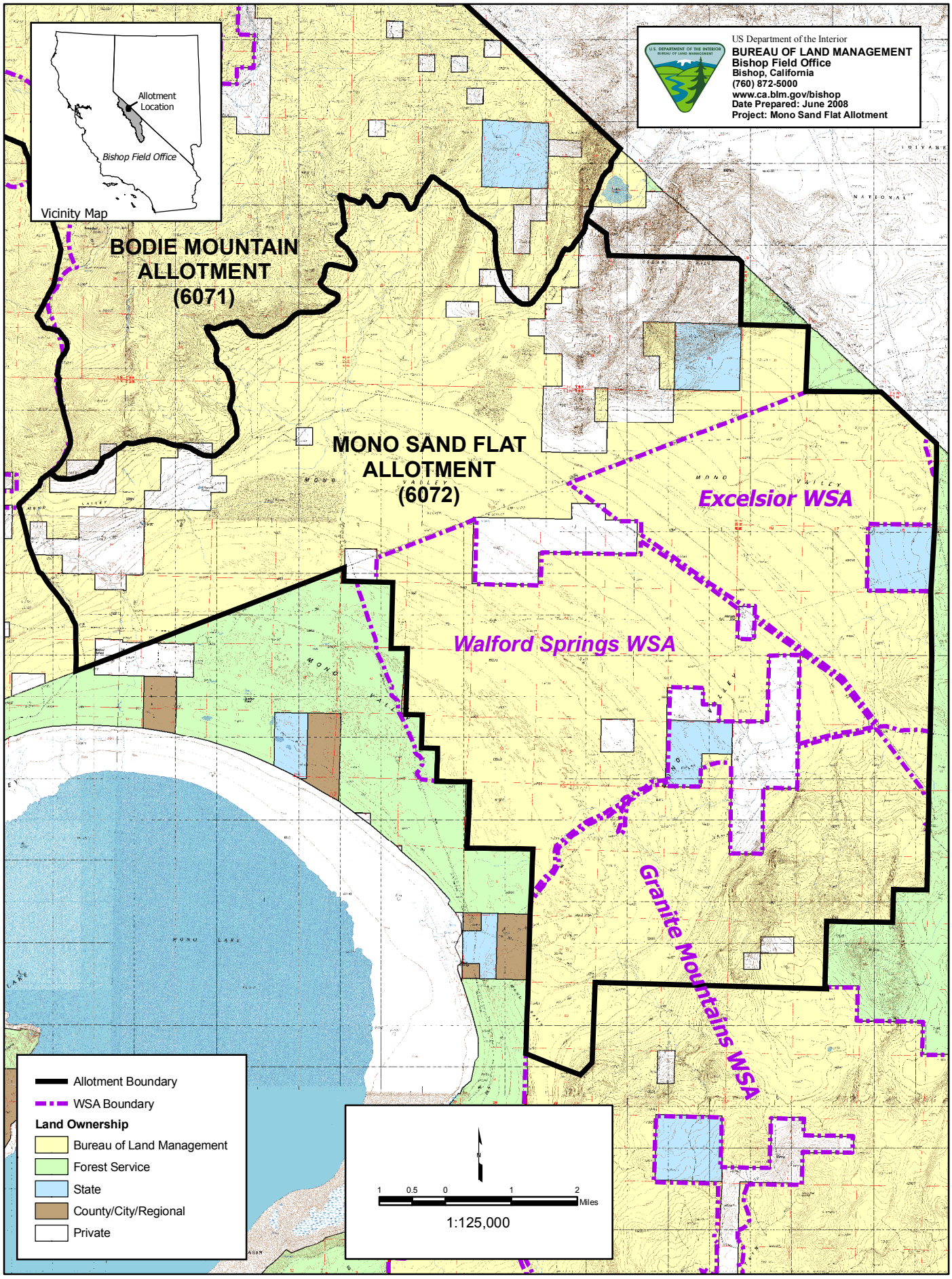
Each of the local tribal offices was contacted again by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to follow up after they received the letter. Various individuals stated some general concerns which are addressed in Chapter 3, Native American Cultural Values; but again, they stated that there are no direct specific impacts to their communities or to their community members by the grazing program. (Consultation log available for FY2001)

Environmental Assessment Preparers

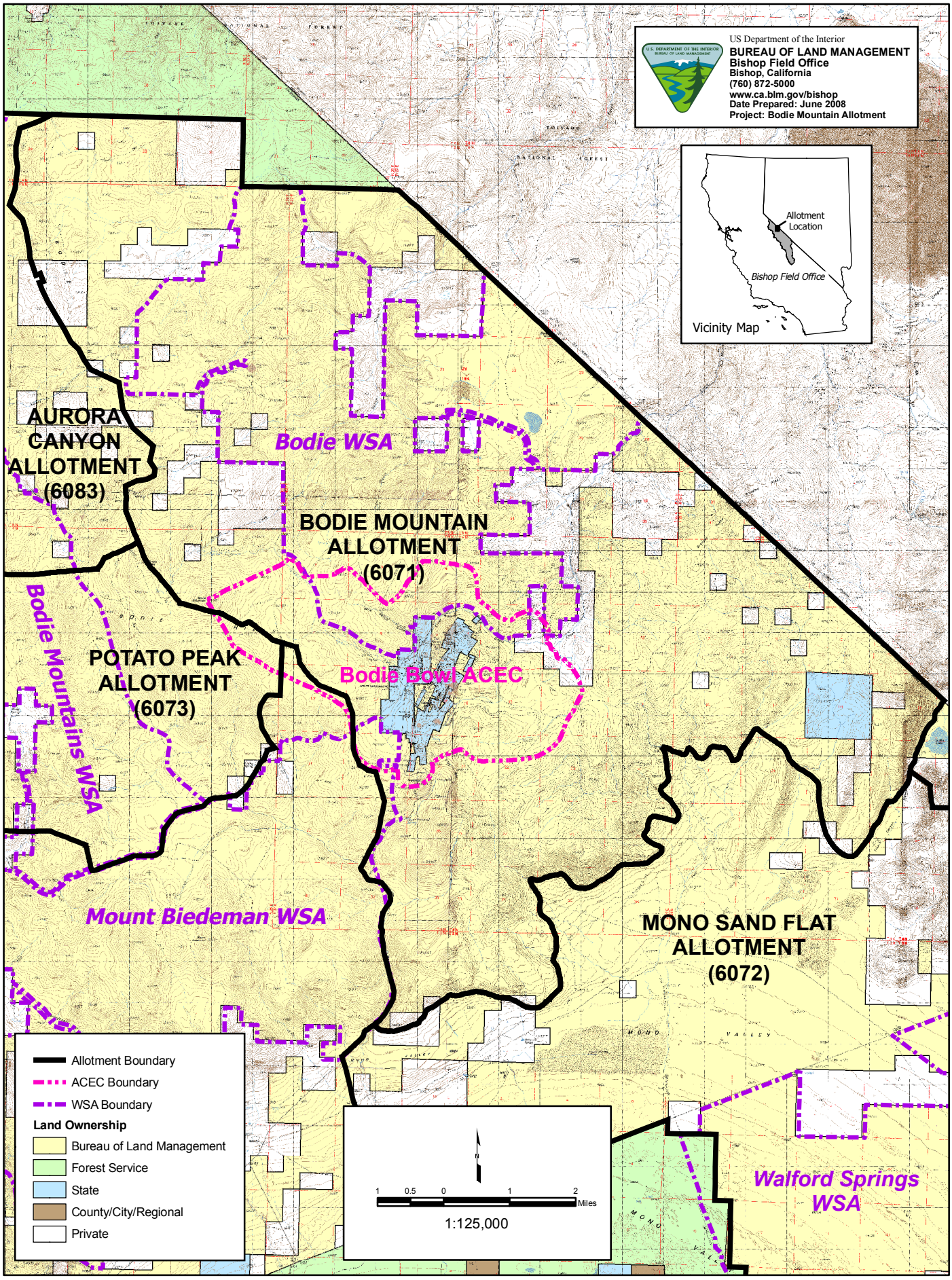
Jeff Starosta	Rangeland Management Specialist
Anne Halford	Botanist
Steve Nelson	Wildlife Biologist/GIS Coordinator
Diana Pietrasanta	Recreation/Wilderness
Kirk Halford	Archeologist
Terry Russi	Supervisory Wildlife Specialist
Joy Fatooh	Wildlife Biologist
Joe Pollini	Assistant Field Manager

Chapter 5:
APPENDICES

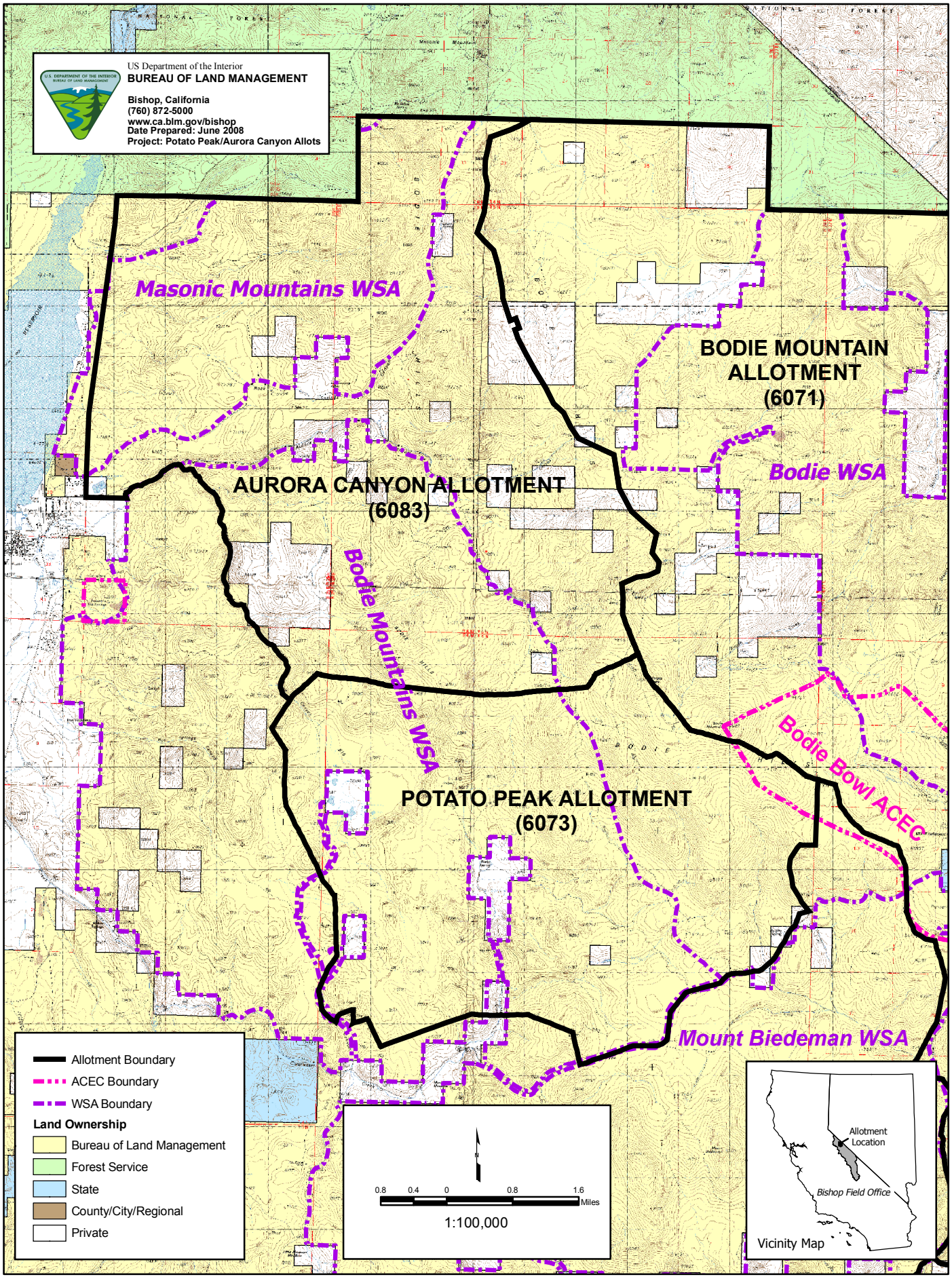
MAPS (1 - 3)



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.