ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION

EA Number CA 170-08-49

Allotment Number and Name(s)

6007 Volcanic Tableland

BLM Bishop Field Office
Prepared
September 2008

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Chapter 1:
INTRODUCTION

A. Summary

This Environmental Assessment (EA) is prepared to analyze and disclose the environmental consequences of re-authorizing a livestock grazing permit for 10-years as proposed on the Volcanic Tableland allotment. 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 Volcanic Tableland allotment analyzed in this EA is located in the Benton Management Area of the BLM Bishop Field Office. The elevation range is between 4,300 and 6,500 feet. Vegetation communities for the allotment are a mix of shadscale scrub, Great Basin big sagebrush and bitterbrush, along with other mixed desert shrubs. Livestock kind and class, permitted season of use, allocated animal unit months (AUMs), and use type for the allotment as prescribed in the Bishop Resource Management Plan (BLM 1993) are:

Allotment	Kind	From	To	AUMs	Use
Volcanic Tableland	Sheep	5/1	6/15	3,788	Perennial

The approximate public, state, and private land acreages (See Map 1) are:

Allotment Name	Public Land	State Land	Private Land
Volcanic Tableland	44,149	2,985	0

There are two livestock operators who use the Volcanic Tableland allotment. The previous fully processed 10-year grazing permits for both operators had expired and interim grazing permits which authorized use on the allotment were issued in accordance with Section 328 of Public Law 107-67. Renewing the 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 a 10-year grazing permit. Operator 0401649 was issued a fully processed 10-year grazing permit on October 2, 2007 for the Volcanic Tableland

allotment based upon an Environmental Assessment (EA CA 170-07-10), and an associated Finding of No Significant Impact (FONSI) and Notice of Proposed Grazing Decision completed during 2007. A subsequent Notice of Proposed Grazing Decision to issue a fully processed 10-year grazing permit on the Volcanic Tablelands allotment for Operator 0401615 was issued on March 4, 2008. This Proposed Grazing Decision was protested and a Final Grazing Decision vacating the Proposed Grazing Decision on the Volcanic Tableland allotment for Operator 0401615 was issued on May 14, 2008. As a result, a fully processed 10-year grazing permit on the Volcanic Tableland allotment for Operator 0401615 was not issued and the interim grazing permit issued in accordance with Section 328 of Public Law 107-67 remained in effect. This interim permit will expire in 2013.

C. Purpose and Need for the Action

The purpose of the action is to consider whether or not to authorize grazing for 10-years on the Volcanic Tableland allotment. The purpose of the action is also to ensure that the grazing authorization implements provisions of, and is 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 permit and to replace the appropriations act permit with a fully processed 10-year grazing permit that implements provisions of, and is 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 permittees who graze the Volcanic Tableland allotment informing them of the status of the 10-year grazing permit and included a proposed schedule for environmental assessment and permit completion.

On November 20, 2006, the Bishop Field Manager sent a second letter to the permittees who graze the Volcanic Tableland allotment informing them on how the environmental assessment would be prepared and the status of the 10-year grazing permit. Included with the letter was a proposed schedule for environmental assessment completion.

On December 28, 2006, a Notice of Proposed Action (NOPA) was sent to the permittees who graze the Volcanic Tableland allotment. 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/bishop. The NOPA provided a 30-day comment period on the proposed action and alternatives. No comments were received and no issues or additional alternatives were identified as a result of this public scoping.

Public Review of Environmental Assessment CA-170-07-10

On April 30, 2007, EA CA 170-07-10 which included the Volcanic Tableland allotment was posted for two weeks on the BLM internet site for public review at http://www.blm.gov/ca/bishop. The permittee and the Center for Biological Diversity (CBD) were notified that the EA had been posted on the BLM internet site. No comments were received and no issues or additional alternatives were identified as a result from public review of EA CA-170-07-10.

Protest of Proposed Grazing Decision for Operator 0401615 on the Volcanic Tableland and Mono Mills allotments

In May 2007, EA CA 170-07-10 which included the Volcanic Tableland allotment was completed and a Finding of No Significant Impact (FONSI) was signed on May 15, 2007. Three alternatives were analyzed in detail: 1) the proposed action authorizing grazing for 10-years on the Volcanic Tableland allotment with applicable terms and conditions, and other provisions; 2) the current management (no action) alternative involved issuing a new 10-year permit with the same terms and conditions as under the existing authorization; and 3) a no grazing alternative would cancel the permit for the Volcanic Tableland allotment. The EA was posted on the BLM internet site for public review at http://www.blm.gov/ca/bishop/ea_nepa.html.

On July 17, 2007, a Notice of Field Manager's Proposed Grazing Decision for the Volcanic Tableland allotment, based upon EA CA 170-07-10; and for the Casa Diablo allotment, based upon EA CA 170-07-09 was issued by certified mail to Operator 0401649. The Proposed Decision provided a fifteen (15) day protest period. On July 31, 2007, the Field Manager's Proposed Grazing Decision became final because no protests were received. On October 2, 2007, Operator 0401649 was issued a fully processed 10-year grazing permit for the Volcanic Tableland and Casa Diablo allotments.

On February 28, 2008, Western Watersheds Project's (WWP) California Office requested to be added to the list of "interested publics" with regard to particular allotments and all grazing

management decisions from the Bishop Field Office. All correspondence was to be sent to Dr. Michael J. Connor.

On March 4, 2008, a Notice of Field Manager's Proposed Grazing Decision for the Volcanic Tableland allotment, based upon EA CA 170-07-10; and for the Mono Mills allotment, based upon EA CA 170-07-11; was issued to Operator 0401615. The Proposed Decision was mailed to the permittee and to interested publics which provided a fifteen (15) day protest period.

On March 15, 2008, BLM Bishop Field Office received one combined protest on the Proposed Grazing Decision for Operator 0401615 on the Volcanic Tableland and the Mono Mills allotments from the Center for Biological Diversity (CBD) and Western Watersheds Project WWP. CBD and WWP protested the decision asserting that BLM failed to adequately comply with the National Environmental Policy Act (NEPA), the Federal Land Policy and Management Act (FLPMA), and the Endangered Species Act (ESA). Furthermore, the protest stated that BLM failed to adequately analyze potential effects of the proposed decision on the Fish Slough Milk Vetch, Sierra Nevada bighorn sheep, and sage-grouse. The protest also stated that the BLM's decision failed to consider the potential effects of, and potential effects on, global climate change. CBD and WWP requested that BLM immediately rescind the proposed decision for Operator 0401615 regarding grazing on the Volcanic Tableland and Mono Mills allotments.

On May 14, 2008, a Notice of Field Office Manager's Final Grazing Decision Vacating the Proposed Decision for Authorization Number 0401615 on the Volcanic Tableland (6007) and the Mono Mills (6055) allotments was issued. The Final Decision was mailed to the permittee and to interested publics which provided a thirty (30) day appeal period. No appeals were received. The Final decision stated that BLM would review the protest points raised and revise the EA to address the protest points as appropriate.

Public Review of Environmental Assessment CA 170-08-49 and Response to Comments

On July 3, 2008, EA CA 170-08-49 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 permittee, 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 17, 2008, the Bishop Field Office received comments on EA CA 170-08-49 from CBD and 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: EA CA 170-08-49 is a Volcanic Tableland allotment specific version of EA CA 170-07-10 that is being completed to address the protest points raised by CBD and WWP on the Proposed Grazing Decision for Operator 0401615 on the Volcanic Tableland and the Mono Mills

allotments. CBD and WWP did not protest the proposed grazing decision based on EA CA170-07-10 for lacking a range of alternatives and no additional alternatives were proposed in the protest. In addition, during public scoping and review of the original EA BLM received no comments suggesting other alternatives. Finally, the Volcanic Tableland allotment 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 28, 2006, Notice of Proposed Action (NOPA) in the version of EA CA 170-08-49 posted for public review. Three additional alternatives proposed as part of this comment are now considered. Two of the alternatives are identified and discussed in Chapter 2. One of the suggested alternatives has been incorporated into the proposed action.

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 Volcanic Tableland allotment" and "to ensure that the grazing authorization implements provisions of, and is 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 Volcanic Tableland allotment. 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: Comment Period Unreasonably Short.

Response 2: CEQ regulations do not require agencies to make EAs available for public review and comment. However, in the interest of public participation and disclosure the Bishop Field Office has consistently provided a 15 day public review and comment period throughout the permit renewal EA process. Our experience with permit renewal EAs completed during 2007 indicated that the 15 day public review and comment period was reasonable. Prior to this comment, BLM had received no public feedback as the result of either public scoping, public review of previous EAs, or the CBD and WWP protest on the Proposed Grazing Decision for Operator 0401615 on the Volcanic Tableland and the Mono Mills allotments that suggested the 15 day public review period was too short. The Bishop Field Office will consider a longer public review period for future permit renewal EAs, if scoping indicates that public interest and/or issue complexity justify a longer review period.

The Bishop Field Office conducted extensive public scoping (NOPA, meetings, etc.) early in the permit renewal process and allowed 15 days for public review and comment on EA CA 170-08-49. EA CA170-08-49 was posted on the BLM internet site for public review on July 3, 2008. The permittee, CBD, and WWP were notified that the EA had been posted on the BLM internet site. The original 15 day comment period ended on July 17, 2008. During this review period,

WWP requested a copy of IM CA-2007-014 and subsequently submitted a Freedom of Information Request (FOIA) for this internal memo on July 10, 2008. This FOIA request was expedited and WWP was emailed a copy of IM CA-2007-014 on July 14, 2008. Because of the processing time required to provide the requested memo to WWP, the Bishop Field Office extended the comment period for an additional 15 days, notifying WWP via certified letter on July 22, 2008. WWP received the certified letter on July 25, 2008, therefore the comment period extension ended August 8, 2008. No comments were received during this comment extension period.

Comment 3: EA should consider modification of the allotment boundary to exclude designated critical habitat for the Fish Slough milk-vetch.

Response 3: Modification of the allotment boundary to exclude designated critical habitat for the Fish Slough milk-vetch has been incorporated into the proposed action.

Comment 4: The grazing use period is in May and June during flowering season of important native plants in regard to Fish Slough milk-vetch potential pollinator habitat.

Response 4: Forage utilization of native vegetation would not exceed 40% on average under the proposed action which would benefit native plants (Vallentine 1990, Van Poollen et. al 1979) compared to 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 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. These improvements would benefit potential pollinator habitat.

Comment 5: 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 5: 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 6: EA does not include discussion or analysis of the synergy of climate change with the proposed action.

Response 6: Changes and clarification made in Chapter 3, Section A - Livestock Management, Section I - Global Climate Change, and Section J - Invasive, Non-Native Species.

Comment 7: Given the inverse relationship between livestock grazing use on the Volcanic Tableland allotment and grazing in the California Desert District allotments described in the EA and the current and predicted climatic conditions, use of the Volcanic Tableland allotment will likely increase.

Response 7: Addressed and clarification made in Chapter 3, Section A - Livestock Management. Use of the allotment is not contingent upon, nor driven by, use on the permittees other allotments (e.g. California Desert District allotments). Prior to the grazing season, the allotment is field assessed by the permittee and BLM to determine if grazing is appropriate for a given year. Authorized use is not allowed to exceed either the allocated AUMs or the use levels prescribed in the allotment terms and conditions even in extremely good production years.

Comment 8: The EA down plays the role of livestock in spreading and establishing invasive species.

Response 8: 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. The EA also discusses the present occurrence of invasive weeds on the allotment and how the 40% forage utilization levels would benefit native plants and further reduce the risk of weeds on the allotment. Changes and clarifications relative to other comments made regarding invasive species are also addressed in Chapter 3, Section J - Invasive, Non-Native Species.

Comment 9: EA needs clarification of listed species that occur within the Bishop Field Office.

Response 9: Clarification made in Chapter 1, Section G, under Threatened and Endangered Species.

Comment 10: BLM must consult with the US Fish and Wildlife Service (FWS) on the potential impacts to Sierra Nevada bighorn sheep and to designated critical habitat for Fish Slough milk-vetch.

Response 10: The Bishop Field Office is aware of its consultation requirements and coordinates with the FWS to ensure agency actions do not adversely affect listed species or designated critical habitat. If BLM determines that the proposed grazing decision for the Volcanic Tableland allotment may affect Sierra Nevada bighorn sheep or their designated critical habitat, the Bishop Field Office will initiate the appropriate level of consultation with the FWS in accordance with legal and policy requirements. The allotment boundary has been modified to exclude designated critical habitat for the Fish Slough milk-vetch in the proposed action.

Comment 11: BLM should use the risk assessment methodology developed by the Recovery Team to facilitate the analysis of the risk of disease transmission from domestic sheep to Sierra Nevada Bighorn sheep.

Response 11: The risk assessment methodology cited in this comment has not been finalized and is not currently available to facilitate analysis of the disease transmission risk from domestic sheep to Sierra Nevada Bighorn sheep on the Volcanic Tableland allotment. In addition, the final Recovery Plan for the Sierra Nevada Bighorn Sheep does not identify the Volcanic Tableland allotment as being at high risk for contact and subsequent disease transmission at this time.

As a member of the Recovery Team, the Bishop Field Office is committed to taking appropriate action to eliminate the potential for disease transmission that could result from contact between domestic sheep and Sierra Nevada bighorn sheep. The final Recovery Plan for the Sierra Nevada Bighorn Sheep recommends that BLM coordinate at least annually with the US Fish and Wildlife Service (FWS) and the California Department of Fish and Game (CDFG) to review the most current bighorn sheep movement data and determine if the risk assessment methodology should be used to evaluate some allotments east of US Highway 395 (FWS 2007). In accordance with this recommendation, the Bishop Field Office will coordinate annually with the FWS and the CDFG to determine if recent bighorn sheep movements require such an evaluation of the risk of contact between domestic sheep and Sierra Nevada bighorn sheep on allotments east of US Highway 395. If the best available information on bighorn sheep locations and movement patterns indicate the Volcanic Tableland allotment requires evaluation, the BLM will incorporate the risk assessment methodology developed by the Recovery Team into any analysis used to determine if permanent closure, seasonal closure, or changes in grazing practices are necessary to eliminate the risk of contact.

In addition, if the best available information on bighorn sheep locations and movement patterns indicate domestic sheep use of the Volcanic Tableland allotment poses an imminent risk of contact, the authorized officer will temporarily close the allotment, or portions of the allotment, as necessary to eliminate the risk of contact. Subsequent to any such temporary closure, the BLM will incorporate the risk assessment methodology developed by the Recovery Team into an analysis to assess the current risk of contact and to determine if permanent closure, seasonal closure, or changes in grazing practices are necessary to eliminate the risk of contact. This language has been added as new terms and conditions to the proposed grazing permit for the

Volcanic Tableland allotment (Chapter 2, Alternative 1 - Proposed Action, Other Terms and Conditions).

Comment 12: EA does not adequately analyze the impacts of the proposed action on sage-grouse.

Response 12: Although within the geographical limits of the species range, sage-grouse are not known or likely occur on the Volcanic Tableland allotment based on historical records, field monitoring, and/or habitat suitability. In addition, the Volcanic Tableland allotment is not within any sage-grouse Population Management Unit (PMU) identified in the Greater Sage-Grouse Conservation Plan for the Bi-State Plan Area of Nevada and Eastern California (NDOW 2004).

Comment 13: EA does not adequately address the impacts of grazing and grazing management on the Chidago Canyon, Casa Diablo, Fish Slough, Volcanic Tableland, and White Mountains WSAs.

Response 13: 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 Chidago Canyon, Casa Diablo, Fish Slough, and Volcanic Tableland WSAs. Additional information and clarification on the conditions and history of grazing use since the 1970s in the WSAs has been provided. Supporting documentation that falls outside the scope of the new information provided is cited and listed in the References Section. The WSA analysis takes 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.

The White Mountains WSA is not located within the Volcanic Tableland allotment nor is it a WSA administered by the Bishop Field Office.

Comment 14: The allotment is an important deer use area in winter and the Wildlife section of the EA must explain how Guideline 9 of the Standards and Guidelines will be achieved in practice.

Response 14: Guideline 9 was misapplied as a term and condition to the existing permit for this allotment under current management (No Action alternative). The Volcanic Tableland allotment does not receive concentrated use by wintering deer and does not include any identified critical winter range or migratory habitat subject to Guideline 9. Therefore, this guideline is not listed as a term and condition to the permit in the Proposed Action alternative. This difference between the proposed action and no action alternatives demonstrates how the terms and conditions identified in the Proposed Action alternative are tailored to specific vegetation communities and resources present on the allotment. The purpose of the wildlife section of the EA is to describe the affected environment and environmental consequences of the proposed action and alternatives. Implementation guidelines for monitoring and ensuring compliance with use levels

are described in the proposed action.

Comment 15: 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 15: 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. Changes to correct any reference to cattle on the Volcanic Tableland allotment have been made in Chapter 3, Section D - Cultural Resources.

Comment 16: 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 16: The EA in Chapter 3, Section M - Social and Economic Values has been updated to include more recent economic data and information on grazing fees.

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.

Issues and Alternatives

No issues or additional alternatives related to re-authorizing grazing for 10-years on the Volcanic Tableland allotment were identified as a result of either public scoping or public review of EA CA-170-07-10 which was completed in May 2007.

On March 15, 2008, a protest was filed by the Center for Biological Diversity (CBD) and the Western Watersheds Project (WWP) on the Proposed Grazing Decision for Operator 0401615 on the Volcanic Tableland and the Mono Mills allotments which identified three issues that have relevance and are addressed within this environmental assessment. The three issues are the

federally threatened Fish Slough milk-vetch, the federally endangered Sierra Nevada bighorn sheep, and global climate change following the Department of Interior Order No. 3226. CBD and WWP did not protest the proposed grazing decision based on EA CA170-07-10 regarding an insufficient range of alternatives and no additional alternatives were proposed in the protest.

On July 17, 2008, the Bishop Field Office received comment letters on EA CA 170-08-49 from CBD and WWP. These comment letters did not identify any issues that were not already being considered and addressed in the analysis. However, the comment letters did propose three additional alternatives for consideration: 1) Eliminate grazing within the boundary of one or more of the allotment's Wilderness Study Areas (WSAs); 2) Modify the allotment boundary to permanently exclude livestock from designated critical habitat for the Fish Slough milk-vetch; and 3) Reduce stocking rate. The proposal to modify the allotment boundary to exclude designated critical habitat for Fish Slough milk-vetch has been incorporated into the Proposed Action alternative. A discussion of proposed alternatives 1 and 3 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 Volcanic Tableland allotment occurs outside of any Federal Air Quality Non-Attainment/Maintenance Area.

Cultural Resources

California BLM has the responsibility to manage cultural resources on public lands pursuant to the 1966 National Historic Preservation Act, the 1980 Rangeland Programmatic Memorandum of Agreement with the Advisory Council on Historic Places (WO IM 80-369), the 1997 Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act, the State Protocol Agreement Between the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer (2004) and other internal policies.

Special Status Plant Species

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

No Special Status Plant Species populations are present on the Volcanic Tableland allotment based on historical records, field monitoring, and/or habitat suitability.

Threatened and Endangered Species (T&E)

Pursuant to Section 7 of the Endangered Species Act, 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 on 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.

A small portion of designated critical habitat for the federally threatened Fish Slough milk-vetch (*Astragalus lentiginosus* var. *piscinensis)* occurs within Zone 2 of the Fish Slough ACEC within the current boundary of the Volcanic Tableland allotment. However, Fish Slough milk-vetch does not occur in any portion of Zone 2 of the Fish Slough ACEC or in any portion of the Volcanic Tableland allotment. All plants occur within Zone 1 of the ACEC, which also contains all the primary constituent elements essential to the conservation of the species (USFWS 2005). No additional listed species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability in the Volcanic Tableland allotment.

Water Quality

The Volcanic Tableland allotment is 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. Any allotment that contains 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 Volcanic Tableland allotment contains no designated wild and scenic rivers. However, one mile of an eligible wild and scenic river segment potentially classified as recreational was designated in the RMP. This segment, called Fish Slough, lies in the extreme southeast corner of the allotment. No grazing occurs in this area because of the Zone 1 ACEC grazing restrictions; the channel's water flow and associated outstandingly remarkable values remain stable.

Wilderness Study Areas

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

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

Approximately, 37% (7,711 acres) of the Chidago Canyon WSA (CA-010-079), 100% (5,595 acres) of the Casa Diablo WSA (CA-010-082), 98% (15,649 acres) of the Fish Slough WSA (CA-010-080), and 30% (3,776 acres) of the Volcanic Tableland WSA (CA-010-082) occurs within the Volcanic Tableland 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 decision, 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 the grazing allotment 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 in June 2000 on the Volcanic Tableland allotment.

Geographical Information System (GIS) database information was used to stratify the number of areas (ecological sites) to sample. Field assessments consisted of following protocol established in BLM Technical Reference 1734-6, Interpreting Indicators of Rangeland Health Version 3 (2000). A preponderance of the evidence is the criterion for determining if rangeland health standards are being met at each sample site. Rangeland Health Assessment Determinations, following the Central California Resource Advisory Council assessment protocol, were completed for the Volcanic Tableland allotment. The Volcanic Tableland allotment was found to meet the Secretary of the Interior Approved Rangeland Health Standards.

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).

No additional alternatives were identified as a result of livestock operator consultation, cooperation, and coordination or public scoping efforts. In addition, the Center for Biological Diversity (CBD) and Western Watersheds Project (WWP) did not protest the Proposed Grazing Decision for Operator 0401615 on the Volcanic Tableland and the Mono Mills allotments based on EA CA170-07-10 regarding an insufficient range of alternatives and no additional alternatives were proposed in the protest. However, after public review of EA CA-170-08-49, three additional alternatives were proposed by WWP and CBD in their comment letters. The proposed action, no action, and no grazing alternatives are described in detail below. A proposal to modify the allotment boundary to exclude designated critical habitat for Fish Slough milk-vetch has been incorporated into the Proposed Action alternative. Two additional 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 to Operator 0401615 for 10-years on the Volcanic Tableland allotment 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 the allotment. 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 Volcanic Tableland allotment 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 the allotment are:

Allotment	Number	Kind	From	To	% P.L.	AUMs
Volcanic Tableland	8,878	Sheep	5/1	6/15	100	2,685

B. Terms and Conditions - Bishop Resource Management Plan

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.

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

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

Sagebrush Grassland and Semi-desert Grass & Shrubland: Livestock grazing operations would be conducted so that forage utilization on key perennial species does not exceed 40 percent of the average. Key areas would be selected and utilization on key species would be estimated in accordance with the current BLM technical reference. Utilization monitoring would be conducted by a BLM employee, permittee, and/or trained range consultant. Then, all key area allotment data would be averaged and verified by a BLM employee to determine if the terms and conditions are being met. If utilization guidelines on the average of the upland key areas across the allotment are exceeded for 2 consecutive years or in any 2 years out of every 5 years, BLM would consult with the permittee to address the situation, potentially implementing a management change (e.g. change in livestock distribution).

Because of the potential long-term damage to perennial grass species associated with severe grazing, when grazing utilization exceeds 70% in any upland key area for more than 2 consecutive years, management action would be taken to remedy the problem in the area of the allotment that key upland area represents.

D. Other Terms and Conditions

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

Use existing camps, bedding grounds, and watering sites and do not make new ones. Stay on existing roads and trails with all vehicles. Avoid all identified archeological sites, Zone 1 of the Fish Slough ACEC, and designated critical habitat for Fish Slough milk-vetch. A map will be provided with the grazing permit which will identify resource areas to be avoided (e.g. archeological sites) on the allotment. The allotment boundary will be modified to exclude designated critical habitat for Fish Slough milk-vetch.

The Bishop Field Office will coordinate annually with the US Fish and Wildlife Service (FWS) and the California Department of Fish and Game (CDFG) to determine if recent bighorn sheep movements require a re-evaluation of the risk of contact between domestic sheep and Sierra Nevada bighorn sheep on allotments east of US Highway 395. If your allotment requires re-evaluation, the BLM will use the risk assessment methodology developed by the Sierra Nevada Bighorn Sheep Recovery Team and the best available information on bighorn sheep locations and movement patterns to assess the current risk of contact and to determine if permanent closure, seasonal closure, or changes in grazing practices are necessary to eliminate the risk of contact.

If the best available information on bighorn sheep locations and movement patterns indicate domestic sheep use of the allotment poses an imminent risk of contact, the authorized officer will temporarily close the allotment, or portions of the allotment, as necessary to eliminate the risk of contact after consultation with you in accordance with 43 CFR 4110.3-2(a) and 4110.3-3(b)(1). Subsequent to any such temporary closure, the BLM will use the risk assessment methodology

developed by the Sierra Nevada Bighorn Sheep Recovery Team and the best available information on bighorn sheep locations and movement patterns to assess the current risk of contact and to determine if permanent closure, seasonal closure, or changes in grazing practices are necessary to eliminate the risk of contact.

The authorized officer will implement changes in active use through a documented agreement or a decision (43 CFR 4110.3-2(a) and 4110.3-3(b)(1)). Notices of closure and decisions requiring modifications of authorized grazing use may be issued as final decisions effective upon issuance or on the date specified in the decision. Such decisions will remain in effect pending the decision on appeal unless a stay is granted by the Office of Hearings and Appeals in accordance with 43 CFR 4.472.

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 this allotment. 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 this allotment 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 Volcanic Tableland allotment is designated as a Category C allotment in the Bishop Resource Management Plan (Appendix 4, pages A4-5 through A4-7). Consistent with BLM policy, monitoring on the allotment would be conducted periodically.

Short-Term Monitoring

Short-term monitoring is a tool to gauge the cause and effect of the current grazing management on resource conditions on allotments. This monitoring consists of information addressing current climatic conditions and the collection of utilization data (including stubble height, if

appropriate). Monitoring would consist of documenting utilization levels to ensure that forage utilization on key perennial species does not exceed 40 percent on the average. Key areas would be selected and utilization on key species would be estimated in accordance with the current BLM technical reference. This would assure compliance with permit terms and conditions for the Volcanic Tableland allotment.

Long-Term Trend Monitoring

Trend refers to the direction of change. Rangeland data are collected at different points in time on the same site in accordance with the BLM technical reference and the results are then compared to detect change. Trend data are important in determining the effectiveness of on-the-ground management actions. The Volcanic Tableland allotment does not have established long-term trend plots. There is no plan at this time to establish long-term trend plots in the allotment given current management priorities.

Compliance Assurance

Allotment compliance would be conducted on the Volcanic Tableland allotment on an annual schedule to assure adherence to permit terms and conditions. Compliance involves assuring that livestock are on/off the allotment according to annual application dates, counting livestock numbers, identifying their location, checking brands, and assuring range improvements function properly.

B. Alternative 2 - Current Management (No Action)

This alternative involves issuing new 10-year permit with the same terms and conditions as under the existing authorization. The only difference between this alternative and the proposed action alternative is that under current management the terms and conditions from both the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) were applied commonly and broadly to this and to other allotments, without defined implementation guidelines, and were not tailored to specific vegetation communities and resources on this allotment. The Bishop Resource Management Plan (1993), as well as allotment management and other activity plans were amended when the Central California Standards and Guidelines for Livestock Grazing were signed on July 13, 2000 by the Secretary of the Interior.

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

A. Mandatory Terms and Conditions

Mandatory terms and conditions for the Volcanic Tableland allotment 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

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

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

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

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

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

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

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

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

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

D. Other Terms and Conditions

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

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

Volcanic Tableland (6007) Additional

Use old camps, bedding grounds, and watering sites. Do not make new ones. Stay on existing roads and trails with all vehicles. Avoid all archeological sites and Zone 1 of Fish Slough ACEC per the letter and map of 3/31/95.

Trailing Stipulations

1. Trail in the direction of destination at all times. 2. See other standard office stipulations under terms and conditions.

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 one permit on the Volcanic Tableland allotment. As a result, grazing by Operator 0401615 would not be authorized on the allotment. Under this alternative, BLM would initiate the process in accordance with 43 CFR parts 4100 and 1600 to eliminate grazing by Operator 0401615 on the allotment and amend the Bishop Resource Management Plan.

D. Alternatives Considered but Eliminated from Detailed Analysis

The Western Watersheds Project (WWP) and Center for Biological Diversity (CBD) comment letters on EA CA-170-08-49 proposed three additional alternatives for consideration in the analysis. A proposal to modify the allotment boundary to exclude designated critical habitat for Fish Slough milk-vetch has been incorporated into the Proposed Action alternative. Two additional proposed 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:

Eliminate grazing within the boundaries of one or more of the allotment's Wilderness Study Area (WSA). 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 WSA."

Rationale for Eliminating Proposed Alternative 1 from Detailed Analysis:

Grazing existed on the Volcanic Tableland allotment at the time the WSAs were designated by BLM in the 1980's 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 boundary of the WSAs would decrease the size of the Volcanic Tableland allotment by up to 70 percent (32,731 acres) and cannot be considered reasonable. The elimination of grazing within the WSAs would not provide a reasonable alternative for meeting the purpose and need for action and does not warrant consideration because grazing in wilderness is considered a compatible use and there is no other justification for the proposed large decrease in allotment size. Furthermore, 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).

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 established by FLPMA. As a result, grazing impacts to potential wilderness have already 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 determined that the Volcanic Tableland allotment meets the Secretary of the Interior Approved Rangeland Health Standards and did not document the need for such an alternative.

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

Proposed Alternative 2:

Modify the allotment boundary to exclude designated critical habitat for the Fish Slough milk-vetch.

Rationale for Eliminating Proposed Alternative 2 from Detailed Analysis:

The proposal to modify the allotment boundary to exclude designated critical habitat for the Fish Slough milk-vetch has been incorporated into the proposed action. Therefore, there is no need to analyze this proposal as a standalone alternative.

Proposed Alternative 3:

Reduce the stocking rate.

Rationale for Eliminating Proposed Alternative 3 from Detailed Analysis:

Rangeland health assessments have been completed on the Volcanic Tableland allotment 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 the Volcanic Tableland allotment in June of 2000. The Volcanic Tableland allotment was 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.

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 Volcanic Tableland allotment is located within the Benton Management Area as defined in the Bishop Resource Management Plan (RMP) (See Map 1). The allotment is located north of Bishop, within the interior part of the Owens Valley, and incorporates a large portion of the Volcanic Tableland formation. The Volcanic Tableland formation is a unique geologic feature formed by the cataclysmic volcanic eruption of the Long Valley Caldera 750,000 years ago which left a highly dissected landscape of Bishop Tuff. The Volcanic Tableland allotment is situated at the ecological cusp of the Northern Mojave and Great Basin floristic Provinces where

plants and associated wildlife species combine to make this an unusual and biologically diverse landscape.

There are two livestock operators that are permitted to use the Volcanic Tableland allotment. Livestock operator, livestock number, livestock kind, permitted season of use, and allocated animal unit months (AUMs) for the Volcanic Tableland allotment as prescribed in the Bishop RMP (BLM 1993) are:

Livestock Operator	Number	Kind	Class	From	To	AUMs
#1	8878	Sheep	Ewes	5/1	6/15	2,685
#2	1010	Sheep	Ewes	5/1	6/15	306

The allotment does not get used every year, especially if southern desert allotments (e.g. administered by the California Desert District) have good spring forage production where these two permittees graze. This allows the permittees to stay longer on their desert allotments before coming north to summer range. However, sometimes when the southern desert allotments have poor forage production, the Owens Valley can be productive due to adequate precipitation. The two permittees only use the Volcanic Tableland allotment when annual plants are abundant which is approximately 1 year out of 4-5. Prior to the grazing season, the allotment is field assessed by the permittees and BLM to determine if grazing is appropriate for a given year. Use of the allotment is not contingent upon, nor driven by, use on the permittees other allotments and use is not allowed to exceed the allocated AUMs or the use levels prescribed in the allotment terms and conditions even in extremely good production years. The only water found on the allotment is located in Zone 1 of the Fish Slough ACEC and extends for 1 mile in the main channel draining the Fish Slough wetland before entering the Upper McNally ditch on LADWP land. However, this water source is not used by livestock; rather permittees haul water for livestock use throughout the allotment. Based on terms and conditions, there is no grazing allowed in Zone 1 of the Fish Slough ACEC or within designated critical habitat for the Fish Slough milk-vetch. In addition, all identified archeological sites are to be avoided.

If permittee #1 does not use the Volcanic Tableland allotment, they will go directly to their leased meadows north of Bridgeport. When permittee #1 does use the allotment, they will often run an average 400 sheep for 15 days which is approximately 40 AUMs. The permittee will unload livestock at the intersection of Fish Slough Road and Casa Diablo Road. Sheep are actively herded the entire time on the allotment. The operator will generally graze north and west only using old camps, bedding grounds, and watering sites found mainly along the Casa Diablo, Sheepherder, and power line roads. The permittee will then gather and load livestock at the same intersection mentioned above.

If permittee #2 does not use the Volcanic Tableland allotment, they will go directly to their Casa Diablo allotment which is permitted through the Inyo National Forest. When permittee #2 does use the allotment, they will often run on average 1200 sheep for 10 days which is approximately 60 AUMs. The permittee will unload livestock at the intersection of Fish Slough Road and Casa Diablo Road. Sheep are actively herded the entire time on the allotment. The permittee will

generally graze north and west only using old camps, bedding grounds, and watering sites found mainly along the Casa Diablo, Sheepherder, and power line roads. The permittee prefers to graze along the power line road because he does not use the allotment until late May, after selling lambs. Along the power line, the elevation is higher and therefore, the forage greens-up later. The permittee will then move off the Volcanic Tableland allotment and onto their adjacent Inyo National Forest, Casa Diablo allotment.

2. Environmental Consequences

a. Impacts of Proposed Action

Authorizing grazing with revised, allotment-specific terms and conditions would not create negative impacts to livestock operations. Because livestock grazing practices would follow the Bishop RMP guidelines as amended by the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) and the revised terms and conditions, the permittee would have to manage their livestock (e.g. active herd management for better distribution) so forage utilization on key perennial species does not exceed utilization levels, as defined in the proposed terms and conditions described in Chapter 2. For example, strategic management of livestock by active herding to distribute use on 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 location of watering points and active herd management to move livestock to underutilized areas. Lastly, these terms and conditions are designed to help maintain, protect, and improve rangeland health, increasing the probability of long-term economic viability for the permittee.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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 this allotment would force the operator to look for alternative forage and may increase the cost of their ranching operation. The permittee may be forced to operate with fewer livestock or sell the entire livestock business. If the business is sold, private

lands associated with the ranch have the potential to be sold and developed. Ranches build connections between public and private land, 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 often contain springs, riparian, rich soils, and/or critical habitat that wildlife depends on. A few of the consequences from development of rural lands are landscape level fragmentation, decrease in biodiversity, and loss of important wildlife habitat.

3. Map

Overview of allotment (Map 1)

4. References

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B. AIR QUALITY

1. Affected Environment

The Volcanic Tableland allotment is 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.

2. Environmental Consequences

a. Impacts of Proposed Action

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

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

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 Fish Slough ACEC is located within the Volcanic Tableland allotment. Approximately, 21,300 acres (60%) of the ACEC lies in the allotment. The ACEC is divided into three management zones. The Volcanic Tableland allotment contains approximately 3,210 acres within Zone 1, approximately 17,680 occur in Zone 2, and approximately 392 acres occur in Zone 3 of the Fish Slough ACEC.

Zone 1, classified as the Fish Slough Ecological Area, includes the Owens Valley Native Fish Sanctuary, BLM Spring, and the main feeder springs, slough, and marsh of Fish Slough proper. Zone 2, classified as the Volcanic Tableland western aquifer, includes the area to the northwest of Fish Slough proper, but is within the surface drainage basin to it. Zone 3, classified as the Volcanic Tableland northern aquifer, includes the area to the north of Chidago Canyon to Red Rock Canyon, west of Hammil Valley.

The ACEC was designated in 1984, encompassing nearly 36,000 acres, in recognition of the unique assemblage of resource values. Values include T&E species habitat (plants and animals), wetlands, and archeological resources. A small portion of designated critical habitat for the threatened Fish Slough milk-vetch (*Astragalus lentiginosus* var. *piscinensis)* occurs within Zone 2 of the Fish Slough ACEC. The Fish Slough milk-vetch does not occur in any portion of Zone 2 of the Fish Slough ACEC or within any portion of the Volcanic Tableland allotment. All plants occur within Zone 1 of the ACEC which contains all the primary constituent elements essential to the conservation of the species (USFWS 2004). Cultural sites exist throughout the

ACEC, impacts have been minimal because of low livestock use.

Livestock use impacts comply with the RMP and the Fish Slough ACEC Plan. Since livestock use is authorized for sheep grazing under two permits, present physical impacts consist of slight soils compaction from herding and trailing with associated inability of plants to complete their phenological growth. Under current utilization levels, the grazing system is designed to sustain natural processes as defined in the above plans. Sheep herding practices which control and distribute physical impacts in the ACEC emphasize forage consumption when and where range conditions provide the best utilization opportunities while protecting the ACEC's primary resource values. Based on terms and conditions, sheep use is not authorized in Zone 1 of the Fish Slough ACEC and there is no grazing allowed within designated critical habitat for the Fish Slough milk-vetch. In addition, all identified archeological sites are to be avoided.

Livestock, infrequently, graze the escarpment of the northeastern boundary of Zone 2 and the southwestern boundary of Zone 3, creating similar physical impacts such as trails from soil compaction. This is due to distance from available water and their preference for other foraging areas. The portion of the allotment that includes the ACEC meets the standards for soils.

The plant communities within the Volcanic Tableland allotment have not been negatively impacted by livestock grazing because of the infrequent use, variable distribution, and the low number of animals grazing the allotment.

The principal wildlife habitat types found in the ACEC are saltbush/shadscale scrub and mixed desert scrub. Common small mammals, reptiles, and birds are distributed throughout these communities.

No other ACECs are located within the remainder of the Volcanic Tableland allotment.

2. Environmental Consequences

a. Impacts of Proposed Action

Reissuing the grazing permit with revised, allotment specific terms and conditions for the Volcanic Tableland allotment would maintain existing physical impacts to the Fish Slough ACEC similar to those identified in the Affected Environment with some improvements in weed control and the ACEC's ecological health.

No impacts to Zone 1 would occur because grazing is prohibited in this area of the Fish Slough ACEC according to permit terms and conditions. Onsite sheepherders would be required to herd sheep to comply with the Zone 1 prohibition. The modification of the allotment boundary to exclude designated critical habitat for the Fish Slough milk-vetch would ensure there are no grazing impacts to this species over the long-term.

The proposed action would create no new impacts to soils 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. Additionally, site conditions and native vegetation would benefit from improved control of weedy species that compete with area vegetation.

The implementation of the terms and conditions on the Volcanic Tableland allotment would enhance and sustain the large-scale ecological function of the ACEC's plant communities especially during non-drought years (BLM 1999, 2000) and when stocking rates are low. The proposed action would sustain and improve perennial grass cover, root distribution, species diversity, vegetative structure and recruitment (BLM 1998).

The overall wildlife habitat quality of the ACEC would be maintained or slightly improved because of a lack of concentrated use in any one area of an allotment which reduces significant alteration impacts to soil and vegetation, thus maintaining more intact wildlife habitats

Impacts to cultural resources are expected to be low since livestock use would remain dispersed throughout the ACEC. Additionally, sheepherders routinely herd livestock to reduce impacts to cultural resources.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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 no grazing alternative would have slight benefits to the soil component since disruption would cease from termination of grazing operations. 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 natural disturbances, e.g. fire, insect damage, drought, and other non-anthropogenic induced effects. No grazing would also eliminate all livestock threats of damage to cultural properties.

3. Map:

Overview of Volcanic Tableland allotment (Map 1)

4. References

Bureau of Land Management. Bishop Resource Management Plan Record of Decision, April 1993.

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

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.

To evaluate the allotment for cultural resource values a Class I records search was conducted and a GIS utilized to determine previously surveyed acres and sites recorded on each allotment. Range improvements where livestock congregate (troughs, salt licks, reservoirs, etc.) were mapped. Following the Bishop Field Office research design for grazing allotment assessments (Halford 1999), all areas with a high probability for the congregation of livestock and for the occurrence of significant cultural resources were field evaluated. The allotment was field checked to determine if congregation areas occur. Inventory was focused on known or suspected areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas, and salt block stations. The results of the analyses are used to modify grazing permits to protect or mitigate impacts to cultural resources. If significant cultural resources are identified, the stipulations of the grazing permit may be modified to reflect the presence and protection of significant cultural resources. The Volcanic Tableland allotment, while receiving sporadic and ephemeral use, does not contain range improvements.

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

Allotment	Previously Surveyed (% of allotment)	Newly Surveyed	Previously Recorded Sites	Newly Recorded Sites
Volcanic Tableland	4000 acres (9%)	20 acres	121	0

2. Environmental Consequences

a. Impacts of Proposed Action

Impacts to cultural properties are predicted to be minimal as a result of the proposed action for the following reasons. Livestock use on the allotment is generally highly dispersed with light use. Impacts to sites are low based on targeted field evaluations and are predicted to be low across the allotment.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

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

3. Maps

Due to the proprietary nature of the cultural resource information, no maps are included in this EA.

4. References

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E. ENVIRONMENTAL JUSTICE

There are no low-income or minority populations living on the Volcanic Tableland allotment.

There are 11 Native American communities who reside in close proximity to the allotment. 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 the allotment.

2. Environmental Consequences

a. Impacts of Proposed Action

Continued livestock grazing on the allotment would have no effect upon any low-income or minority populations. If any changes in grazing management are required, there may be a loss of a job to a member of a low-income or minority population. There may also be new jobs created and sustained as a result of the long-term livestock grazing sustainability from rangeland health standards implementation. Any such impacts would be limited to a single job here or there. There would not be a disproportionate impact, either negative or positive, to any low-income minority.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

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

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

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 Volcanic Tableland allotment.

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 Volcanic Tableland allotment.

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 Volcanic Tableland allotment.

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 allotment:

Allotment	**Invasive Weed Species**	**Estimated % Cover** **(Rangeland Health Assessments 2000)**
Volcanic Tableland	*Bromus madritensis ssp. rubens*	15-20%
	Bromus tectorum	25-30%
	Salsola tragus	30-35%

The highest densities of weed species on the Volcanic Tableland allotment are most frequently associated with county maintained rights-of-ways, historic sheep bedding areas, and historic mineral exploration sites. Weed densities within the majority of the Volcanic Tableland allotment are not affecting native species composition or cover on the allotment (BLM, Rangeleand Health Assessment 2000). Evidence of wide-spread cryptobiotic soil crusts are also evident within the allotment. If weed densities within the Volcanic Tableland allotment continue to increase, there could be an elevated risk of fire impacts due to increased fine fuel loading in the desert scrub communities that comprise the majority of the allotment. This hypothesized increase would be dampened by consecutive years of drought which significantly reduces annual grass seed production (Hull and Pehanec 1947). Periodic monitoring (1-3 years) of the allotment would facilitate documenting changes in site composition and density of these invasive weed species.

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

The proposed action would provide added benefit to site conditions and native vegetation in the Volcanic Tableland allotment because the proposed terms and conditions are designed to help reduce the spread of weeds, and to maintain or improve rangeland health which would reduce the risk of crossing 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 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 the 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.

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. 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.

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 current risk of weed seed transport is less than during these periods of more intensive livestock use.

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.

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, within roads, historic sheep bedding locations, mineral block locations, livestock watering facilities, and historic mineral exploration sites. 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, 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 Volcanic Tableland allotment. There are no treaty rights (hunting, fishing, etc.) associated with any of the communities or the allotment.

Some members of these communities hunt and some do subsistence collecting of materials from public lands such as, basket weaving materials, medicinal plants, etc. However, this is general use and there were no specific “traditional use areas” identified at this time by any of the Tribes on the allotment. 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 assessments showed the allotment currently meets rangeland health standards. The proposed terms and conditions are designed to help protect and sustain rangeland health, keep the ecosystem functioning properly, and thereby maintain or improve the natural environment that Native American cultural values depend on. Monitoring would continue and any impacts that affect Native American sites from high congregation and concentration of livestock use would be corrected.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

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 and facilities on the Volcanic Tableland allotment are limited. Access is from approximately 30 miles of primitive 4 wheel drive and single track motorized vehicle routes and trails. This access, coupled with no developed recreational facilities currently precludes intensive recreation activity. Activities that take place consist of motorized touring, single track motorcycle riding, horseback riding, and low levels of walking, hiking, hunting, climbing, and dispersed camping. Encounters with livestock occur infrequently.

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 the allotment. Recreationists would continue to encounter livestock infrequently under the proposed action and no action alternative.

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 Volcanic Tableland allotment has two permittees. There is a careful balance of livestock numbers and seasons of use for grazing, 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 Inyo County for 2007, beef and alfalfa production was the primary production crops. Of a 100% total in agricultural values, livestock production accounted for 55%. This amounted to $10,261,250 or 55% of the total $19,979,550 agricultural production in Inyo County. 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 allotment lies in a broad region and valley that is largely undeveloped and rural in nature. Tourism is a primary industry of the area, attracting millions of annual visitors who enjoy the rural, isolated nature of the eastern Sierra. Livestock grazing, for some people, complements the frontier setting they seek in their visits to the area.

2. Environmental Consequences

a. Impacts of Proposed Action

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

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

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

3. References

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 classifications of the allotment have been mapped in detail by the Natural Resource Conservation Service (NRCS 1996). Soils on the Volcanic Tableland allotment are predominantly a shallow tableland association which are volcanic in origin and restrict water infiltration and plant rooting. These soils primarily occur on slopes and ridges. Ashy loamy sands are inclusions occurring within depressions or valleys between the slopes. These soils are well drained, which provide a more favorable habitat for both grasses and mixed desert shrub species. Valley floor soils may have inclusions of calcareous loam along remnant river terraces that exhibit duripans which inhibit water infiltration and restrict shrub rooting depths. Erosion potential on the valley floor range from slight to moderate due to wind erosion and can be somewhat attributable to the effects of livestock hoof action which disturbs the soil surface. Erosion potential of soils on the Volcanic Tableland allotment is low due to infrequent and limited areas of use by livestock. There are no identified erosion problems on the allotment. 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 2001-2002) on the Volcanic Tableland allotment.

BLM assessed the allotment in 2000 to determine if the rangeland health standards were being

met. Specific soils standards relate to permeability and infiltration. All sites examined were found to meet the standards for soils.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would create no new impacts because the proposed terms and conditions are designed to help maintain, protect, or sustain rangeland health including soils, and to keep the ecosystem functioning properly. For example, improvements in ecological attributes would be a result of the 40% forage utilization levels which would lead to increases in plant biomass production resulting in adequate soil protection (e.g. wind erosion).

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

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

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

O. VEGETATION/THREATENED AND ENDANGERED

Plant Communities

1. Affected Environment

A baseline range inventory for the allotment was completed in 1977 and correlated to the recently completed 1999 NRCS soil/vegetation inventory to document plant cover and composition as well as to develop updated ecological site descriptions. The allotment occurs in the Great Basin and Northern Mojave Floristic Provinces. The dominant plant communities are mixed desert scrub and shadscale scrub. These scrub communities are dominated by Chenopod shrub species such as Shadscale (*Atriplex confertifolia),* 4-wing saltbush (*Atriplex canescens),* allscale *(Atriplex polycarpa),* and budsage (*Artemisia spinescens).* Understory grass species are sparse (15% or less) and include desert needlegrass (*Achnatherum speciosum),* Indian rice grass (*Achnatherum hymenoides),* squirrel tail (*Elymus elymoides),* and blue grass (*Poa secunda* ssp. *Juncifolia)* at the upper elevational extent of these scrub communities (Barbour and Major 1977). Additional associate species that make up these communities include, but are not limited to, big sagebrush (*Artemisia tridentata* ssp. *tridentata*), bitterbrush (*Purshia tridentata),* hop sage (*Grayia spinosa),* horsebrush (*Tetradymia canescens* and *T. axillaris),* Nevada ephedra (*Ephedra nevadensis),* winter fat (*Krasheninnikovia lanata),* yellow rabbitbrush (*Chrysothamnus naseosus),* green rabbitbrush (*Chyrsothamnus teretifolious),* gold bush (*Ericameria cooperi),* and cheesebush (*Hymenoclea salsola).* During years of high precipitation, annual forbs are abundant and include species from the following genera: *Cryptantha , Eriogonum, Mentzelia, Linanthus, Phacelia*, as well as genera in the Asteraceae Family. Weed species within the upland communities of the Volcanic Tableland allotment are addressed in the Invasive Species section of the EA.

The upland plant communities within the Volcanic Tableland allotment meet Rangeland Health Standards and Guidelines (BLM, Rangland Health Assessments 2000). Generally, utilization of key forage species, e.g. desert needlegrass, spiny hopsage, winterfat, and budsage is within the slight to moderate range (20-40%) and occurs in the spring. Forage capacity on the allotment is low and the plant communities are incapable of sustaining large numbers and frequent livestock use which has been shown to be detrimental to the various attributes of ecological function including plant vigor, seedling recruitment and recovery (Clary and Holmgren 1987; Holcheck 1983; Sneva 1980). Topography and rough terrain also reduce livestock access and commensurate impacts.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would provide added benefit to site conditions and native vegetation in the Volcanic Tableland allotment because the proposed terms and conditions are designed to help reduce the spread of weeds, and to maintain or improve rangeland health which would reduce

producing ecological thresholds. 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 (USDI, BLM 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

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 allotment and be associated primarily with bedding grounds. These impacts would not contribute to a large-scale reduction in ecological function of the plant communities that occur within the allotment, but would require periodic (2-5 years) monitoring to determine impact thresholds.

Such improvements in floristic and ecological attributes would be a result of the 40% forage utilization levels and improved livestock distribution as the result of more intensive herding which would lead to commensurate increases in annual below and above ground grass and forb biomass production. The implementation of the terms and conditions on the Volcanic Tableland allotment would enhance and sustain the large-scale ecological function of these plant communities especially during non-drought years (BLM 1999, 2000) and when stocking rates are low.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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 the allotment 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.

3. References

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

California Department of Fish and Game. 2006. California Natural Diversity Database.

Chambers, Jeanne C., McArthur, Durant E., Monson, Steven B., Meyer, Susan E. Shaw, Nancy L., Tausch, Robin J. 2005. Blank, Robert R. Blank, Bunting, Steve, Miller Richard R., Pellant, Mike Pellant, Roundy, Bruce A., Walker, Scott C. Walker and Whittaker, Alison. 2005 Sagebrush steppe and pinyon-juniper ecosystems – effects of changing fire regimes, increase fuel loads and invasive species

Clary, W.B. and R.C. Holmgren 1987. Difficulties in interpretation of long-term vegetation trends. IN: Proceedings of the Symposium on Plant-Herbivore Interactions. General Technical Report INT-222. U.S. Forest Service, Intermountain Research Station, Ogden, Utah.

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

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

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

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

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

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

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

Smith, Stanley D., Huxman, Travis E., Ziter, Stephen F., Charlet, Therese N., Housman, David G., Coleman, Lynn K. Fenstermaker, Seemann, Jeffrey R., and Nowak, Robert S. 2000. Elevated CO_2 increase productivity and invasive species success in an arid ecosystem. Nature Vol. 408. Pages 79-81.

Threatened Plant Species

1. Affected Environment

A small portion of designated critical habitat for the federally threatened Fish Slough milk-vetch (*Astragalus lentiginosus* var. *piscinensis)* occurs within Zone 2 of the Fish Slough ACEC within the current boundary of the Volcanic Tableland allotment. However, Fish Slough milk-vetch does not occur in any portion of Zone 2 of the Fish Slough ACEC or in any portion of the Volcanic Tableland allotment. All plants occur within Zone 1 of the ACEC, which also contains all the primary constituent elements essential to the conservation of the species (USFWS 2005).

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would have no direct negative impacts on the Fish Slough milk-vetch because all populations of this species occur in Zone 1 of the Fish Slough ACEC and would not be grazed. The proposed action would also have no indirect negative impact on Fish Slough milk-vetch because the allotment boundary would be modified to exclude all designated critical habitat for this species. Modification of the allotment boundary would insure long-term protection for designated critical habitat on the most eastern edge of the Volcanic Tableland allotment. In addition, the proposed action would benefit site conditions and native vegetation on the Volcanic Tableland vegetation adjacent to designated critical habitat in general because the proposed terms and conditions are designed to help reduce the spread of weeds, and 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 (USDI, BLM 1993).

b. Impacts of the No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The primary 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 allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on the allotment, as in the Proposed Action. Protection of designated critical habitat on the most eastern edge of the Volcanic Tableland allotment would be achieved via permit terms and conditions that require avoidance of Zone 1 of the Fish Slough ACEC.

c. No Grazing

Under this alternative, livestock grazing on the allotment would cease. Individual plant populations within the communities that are commonly grazed would have an opportunity to complete all phenological stages. Slight increases in weed densities could occur due to a reduction of early season grazing on these target species. Impacts to the ecological function of these plant communities would be confined to environmental perturbations associated with fire (Chambers et. al 2000), insect damage, and global climate change effects.

Special Status Plant Species

No Special Status Plant Species are known to occur within the Volcanic Tableland allotment (CNDDB 2006, BLM 1999, 2000).

References

California Department of Fish and Game. 2006. California Natural Diversity Database.

Chambers, Jeanne C., McArthur, Durant E., Monson, Steven B., Meyer, Susan E. Shaw, Nancy L., Tausch, Robin J. 2005. Blank, Robert R. Blank, Bunting, Steve, Miller Richard R., Pellant, Mike Pellant, Roundy, Bruce A., Walker, Scott C. Walker and Whittaker, Alison. 2005 Sagebrush steppe and pinyon-juniper ecosystems – effects of changing fire regimes, increase fuel loads and invasive species

U.S. Department of the Interior. 2005. Fish and Wildlife Service. Endangered and threatened wildlife and plants: proposed designation of critical habitat for *Astragalus lentiginosus* var. *piscinensis* (Fish Slough milk-vetch). Federal Register Vol. 69, No. 108. Proposed Rules.

P. WASTE, HAZARDOUS OR SOLID

The proposed action, no action, and no grazing alternatives would not generate hazardous or solid waste on the Volcanic Tableland allotment.

Q. WATER QUALITY, DRINKING-GROUND

1. Affected Environment

Surface water is poorly distributed in the Volcanic Tableland allotment. Within the allotment, perennial flow extends for 1 mile in the main channel draining the Fish Slough wetland in Zone 1 of the Fish Slough ACEC before entering the Upper McNally ditch on LADWP land. The water source is not a tributary to or part of State 303d listed streams. Temporal water quality monitoring has not been conducted and there are no apparent anthropogenic or natural influences affecting water quality.

Water in Fish Slough contains calcium, sodium, bicarbonate, and sulfate as major solutes with a near neutral pH (7.3 – 8.3), phosphorus likely limits primary productivity within the wetland system and, overall, Fish Slough is characterized by hard but potable water (Melack & Setaro, 1991).

There is no information known for water quality relating to groundwater.

2. Environmental Consequences

a. Impacts of Proposed Action

Livestock do not use the Fish Slough channel as a water source and would continue this practice with implementation of the proposed terms and conditions. Aquatic chemistry would remain unchanged from the overall good water quality conditions.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

With no grazing, the potential for a future change in livestock behavior relating to water source use would be eliminated. Therefore, water quality conditions would be expected to remain at current constituent concentrations.

3. References

Hershler, R. 1988. *Status Survey of Hydrobiidae in Owens River Drainage.* Final Report. California Department of Fish and Game. Contract C-1922. 29pp.

Melack, J. & F. Setaro. 1991. *Water Chemistry* in *Biotic Inventory and Ecosystem Characterization for Fish* Slough*, Inyo and Mono Counties, California.* Final Report. California Department of Fish and Game. Agency Award No. FG-83890. 5pp.

Owens Valley Planning Unit, URA Step II. 1978

R. WETLANDS/RIPARIAN ZONES

1. Affected Environment

Vegetation along the channel of Fish Slough is made up primarily of bulrush (*Scirpus sp*.) and wire grass (*Juncus sp*.).

2. Environmental Consequences

a. Impacts of Proposed Action

The condition of the riparian vegetation along the Fish Slough channel will remain in the current condition of high species diversity and good vigor with implementation of the proposed action terms and conditions. This is due to livestock not using these sources of water, historically, and the proposed action would not cause a change in livestock behavior on the allotment.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action.

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 the allotment would cease and eliminate any future potential for livestock to discover and use riparian vegetation. Riparian vegetation would continue in its current state of high quality and diverse nature.

S. WILD AND SCENIC RIVERS

1. Affected Environment

No designated wild and scenic rivers occur in the Volcanic Tableland allotment. However, the Fish Slough channel in the extreme southeast corner of the allotment is designated as an eligible wild and scenic river segment. The segment's length is about a mile. Since designation, no grazing has occurred in this area maintaining unimpeded water flows and its associated outstandingly remarkable values.

2. Environmental Consequences

The proposed action, no action, and no grazing alternatives would have no effect on wild and scenic rivers because there are no designated wild and scenic rivers in the Volcanic Tableland allotment.

The proposed action, no action, and no grazing alternatives would have no effect on the Fish Slough eligible wild and scenic river segment because grazing restrictions under all three alternatives would be the same i.e. no grazing. Each alternative would maintain the channel's water flow and associated outstandingly remarkable values in the same condition as they are currently.

T. WILDERNESS

1. Affected Environment

The Volcanic Tableland allotment does not occur within any designated Wilderness Area. However, approximately 37% (7,711 acres) of the Chidago Canyon WSA (Wilderness Study Area CA-010-079), 100% (5,595 acres) of the Casa Diablo WSA (CA-010-082), 98% (15,649 acres) of the Fish Slough WSA (CA-010-080) and 30% (3,776 acres) of the Volcanic Tableland WSA (CA-010-81) occurs within the Volcanic Tableland allotment.

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

Summary of WSA and Rangeland Inventory Findings

Grazing existed on the Tableland allotment at the time the four WSAs were designated by BLM in the 1980s 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 it 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, the WSAs had to appear generally natural, and could include some minor impacts identified in the original inventory assessment in 1978-79. The wilderness inventory, which led to the WSAs designation, determined that sheep grazing activities were compatible with BLM's wilderness inventory standards. 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 abound throughout the units because of their topographic screening, spaciousness and uncluttered expanse, their relatively unintruded physical nature and overall natural character.

Grazing Management History in WSAs and BLM's Planning Process

Prior to 1982, no plans 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 use planning as part of its mission and stewardship responsibilities.

Under FLPMA's direction, the Bishop Field Office developed the Benton-Owens Valley Management Framework Plan (MFP) in 1982 and began to integrate other resource

considerations in its management direction. The four WSAs fell within the scope of this MFP. The MFP was the first coherent BLM planning effort in the eastern Sierra designed to manage grazing and maintain wildlife habitat integrity, watershed quality, wilderness values, etc. It took into account WSA management and adherence to the IMP in its prescriptions. The MFP which resulted in the Benton-Owens Valley Grazing Final Environmental Impact Statement (July 1981) acknowledged the adverse resource impacts that would result from continuance of past grazing practices and prescribed a reduction in grazing use, allocated forage for wildlife use, and identified range improvements to improve livestock management and distribution to increase resource protection and improve resource conditions.

Over a decade later, the Bishop Resource Management Plan (1993) and subsequently the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing Management (2000) were prepared and approved. These recent plans replaced the MFP and instituted even more restrictive grazing terms and conditions and adaptive management strategies designed to further improve resource conditions. These advancements in rangeland management direction were designed to continue BLM's progression to improve ecological integrity across all habitats in the Benton-Owens Valley Planning Area including the four WSAs. Subsequently, any future livestock authorizations are required to operate under particular terms and conditions designed to maintain rangeland health as described in the Proposed Action Alternative.

BLM's implementation and progression in rangeland management, from the Benton-Owens Valley MFP to the present day Bishop Resource Management Plan and California Standards for Rangeland Health and Guidelines for Livestock Grazing Management, has incrementally improved wilderness conditions over the last 28 years by increasing habitat quality and integrity through decreased grazing use and altering grazing systems to more ecologically based strategies.

Current Facilities and Grazing Use Patterns in WSAs:

As mentioned above, BLM determined that each of the four WSAs qualified for study because they met the wilderness criteria of size, naturalness, etc. No livestock range improvements or related impacts exist in the WSAs. Historically, sheep have used the Volcanic Tableland allotment within the WSA and are typically herded by the permittee where livestock use can be easily controlled.

2. Environmental Consequences

a. Impacts of Proposed Action

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

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 which would 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 Volcanic Tableland allotment in the Volcanic Tableland, Fish Slough, Chidago Canyon, and Casa Diablo WSAs would conform with the BLM IMP and not impair Congress's ability to designate these WSAs as wilderness should they choose to do so. Additionally, since grazing was occurring at the time the WSAs were inventoried, and those impacts did not disqualify the areas or any portion of the areas from being designated as a WSA, they would not do so now.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because they are very similar. The only difference between this alternative and the proposed action alternative is that under current management the terms and conditions from both the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) are applied broadly to this allotment without defined implementation guidelines, and have not been tailored to specific vegetation communities and resources of the allotment.

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

Plant and wildlife habitat would improve, at best, slightly from a lack of grazing impacts on various resources allowing natural processes to increase and complete all phenological stages without interruption, enhancing the wilderness value of naturalness. Wilderness values of outstanding opportunities for solitude and primitive or unconfined types of recreation would remain in their present state.

3. Map

Overview of allotment (Map 1)

4. References

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

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

Department of Interior, Bureau of Land Management. 1981. Benton-Owens Valley Grazing Environmental Impact Statement. Bishop Resource Area, Bishop, CA.

Department of Interior, Bureau of Land Management. 1982. Benton-Owens Valley Management Framework Plan (MFP). Bishop Resource Area, Bishop, CA.

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

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

Department of Interior, Bureau of Land Management. 1993. Bishop Resource Management Plan Record of Decision.

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

U. WILDLIFE/THREATENED AND ENDANGERED

Wildlife Habitat and Associated Species

1. Affected Environment

The principal wildlife habitat types found in the allotment are saltbush/shadscale scrub and mixed desert scrub. Common small mammals, reptiles, and birds are distributed throughout these communities, as sampled by a 1978 wildlife inventory that included all these habitat types.

Small mammals include black-tailed hare, Audubon cottontail rabbit, and a broad diversity of rodents with the Merriam's kangaroo rat (Dipodomys merriami) and deer mouse (Peromyscus maniculatus) being the most numerous species within the habitats. Coyotes and gray fox are common mammalian predators in these habitats.

The reptile fauna of these habitat types include a diverse assemblage of lizards, venomous and non-venomous snakes with the large spotted leopard lizard (*Gambelia wislizenii*), side blotch lizard (*Uta stansburiana*), barred spiny lizard (*Sceloporous magister transversus*), Great Basin

whiptail (*Cnemidophorus tigris tigris*), and sidewinder (*Crotalus cerastes*) being the most common species recorded.

The more common bird species likely to breed in these habitat types include black-throated sparrow (Amphispiza bilineata), rock wren (Salpinctes obsoletus) and Brewer's sparrow (Spizella breweri). Other avian species present but typically in lower breeding population numbers are the sage sparrow, horned lark, loggerhead shrike, and mourning dove. Some of these species, like the rock wren, are also year-round residents. The three sparrows are species of interest because they are considered sagebrush obligates and may be declining range-wide as a result of loss of sagebrush habitat, although in this area they are known to breed in other desert shrub communities.

The allotment is used by winter resident raptors that include Cooper's hawk and rough-legged hawk, and spring breeding resident species including northern harrier, red-tailed hawk, golden eagle, prairie falcon, barn owl, and great horned owl.

Mule deer use the Volcanic Tableland allotment in low densities during the winter and depend on Fish Slough as a principal water source. The allotment is not considered critical mule deer winter range or migratory habitat.

2. Environmental Consequences

a. Impacts of Proposed Action

The overall habitat quality of the allotment will be maintained or slightly improved with implementation of the proposed terms and conditions because they are designed to help protect and sustain rangeland health which includes wildlife habitat, and to keep the ecosystem functioning properly. The principal reason for this is a lack of concentrated use in any one area of the allotment which reduces significant alteration impacts to soil and vegetation, thus maintaining more intact wildlife habitats.

b. Impacts of No Action

Impacts of the no action alternative would be the same as the proposed action because both alternatives are very similar. The only difference between this alternative and the proposed action alternative is that terms and conditions developed from the Bishop Resource Management Plan (BLM 1993) and the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000), under current management, were applied broadly and uniformly to this allotment. No defined implementation guidelines exist nor are they tailored to address specific vegetation communities and/or resources on this allotment, as in the proposed action. 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

No impacts to wildlife habitat condition would occur since livestock would be completely eliminated from the allotment.

3. References

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

Threatened or Endangered Wildlife Species

1. Affected Environment

No federally listed threatened or endangered species are present or likely to occur on the Volcanic Tableland allotment based on historical records, field monitoring, and/or habitat suitability.

A high priority recovery action for management of Sierra Nevada bighorn sheep (*Ovis canadensis sierrae*), listed as federally endangered, is to prevent physical contact between wild and domestic sheep since that contact increases the likelihood of bighorn sheep potentially incurring significant population mortality through pneumonia related die-offs (USFWS 2007). The western boundary of the Volcanic Tableland allotment is within 23 kilometers of the boundary of the Central Recovery Unit for SNBS; a distance used in the final Recovery Plan for the Sierra Nevada Bighorn Sheep (USFWS 2007) to narrow the focus for analysis when considering potential physical contact between domestic and wild sheep. The nearest population of Sierra Nevada bighorn sheep is found in the Wheeler Ridge herd unit in the Sierra Nevada, approximately 8 kilometers west of the western boundary of the allotment.

Sierra Nevada bighorn sheep do not occur in, nor are they likely to be attracted near to, the Volcanic Tableland allotment due to a lack of favorable habitat conditions that might serve as an attractant to wild sheep. Within the intervening distance between the Volcanic Tableland allotment and the Wheeler Ridge herd unit area are a number of substantial impediments to wild sheep successfully transiting the area like the Rock Creek road, U.S. Highway 395, the Owens Gorge, the Owens River, several highway right-of-way fences, and pasture and range fences in Round Valley at the eastern base of Wheeler Ridge along with human developments near U.S. Highway 395 at Swall Meadows, Paradise, Rovana, Mustang Mesa, and Mill Creek. The BLM is aware of one instance when a male bighorn (ram) from the Mt. Warren herd unit is reported to have crossed Highway 395 from west to east during the fall of 2003, in the vicinity of Conway Summit, north of Lee Vining, California. It is unknown how long this ram spent east of the highway. Reportedly, the ram was struck by a vehicle attempting to return to the Sierra Nevada and ultimately died a result of injuries sustained during the collision several weeks later. There are no reported instances of wild sheep wandering to the east from the Wheeler Ridge unit area into Round Valley and the Volcanic Tablelands or to the north into Little Round Valley or the Convict Creek herd unit area. The Volcanic Tablelands allotment is typically used by domestic

sheep for less than 30 days during the late spring, a time when forage resources are abundant in the Sierra Nevada as well as a time when male bighorn are less likely to roam from their herd unit area.

The obstacles cited above also serve as significant barriers to any fugitive domestic sheep moving from the Volcanic Tableland allotment to the west toward the Wheeler Ridge herd unit area. The Volcanic Tableland allotment is typically used for domestic sheep grazing during May to early June for less than 30 days when there is sufficient forage available in the form of annual flowering species. Sufficient annual forage for grazing has historically been available approximately one year out of five. The annual forage is not comprehensively available across the allotment which requires the band(s) be moved after only a few days, characteristically moving from south to north. The band(s) are managed according to the terms and conditions of the annual grazing authorization and forage utilization guidelines while being under the control of a herder and herding dogs. There are no natural water sources available which requires water being hauled on the few usable roads to favorable forage locations.

2. Environmental Consequences

The proposed action, no action, and no grazing alternatives would have no effect on threatened or endangered wildlife species because no federally listed threatened or endangered species are present or likely to occur on the Volcanic Tableland allotment based on historical records, field monitoring, and/or habitat suitability.

The location and timing of domestic sheep presence on the Volcanic Tableland allotment along with: 1) the terms and conditions of the grazing permit specific to monitoring and responding to Sierra Nevada bighorn sheep movements relative to allotments east of Highway 395, 2) the relative lack of suitable Sierra Nevada bighorn sheep habitat on the Volcanic Tableland allotment, 3) the combination of distance and impediments to movement by either wild sheep or domestic sheep between the Volcanic Tableland allotment and the Wheeler Ridge herd unit, 4) the characteristic behavior of wild sheep to exhibit group living, a strong preference for rocky escape terrain, and occupation of alpine ranges (females) and lower elevation subalpine habitat near the Sierra Nevada crest (males) in the summer and, 5) the reluctance of wild sheep to disperse from their home range (USFWS 2007) combine to ensure sufficient safeguards are in place to prevent physical contact between the two species.

The proposed action, no action, and no grazing alternatives would have no effect on Sierra Nevada bighorn sheep because existing man-made and natural barriers act as safeguards to prevent physical contact between the two species on the Volcanic Tableland allotment. In addition, domestic sheep are not on the allotment during the late summer or fall when Sierra Nevada bighorn sheep are likely to make long distance forays into unsuitable habitat.

3. References

Department of Interior, U.S. Fish and Wildlife Service. 2007. Recovery Plan for the Sierra Nevada Bighorn Sheep. Sacramento, CA. 199 pp.

Sensitive Wildlife Species

1. Affected Environment

No BLM sensitive wildlife species are known to occur on the Volcanic Tableland allotment based on historical records, field monitoring, and/or habitat suitability.

2. Environmental Consequences

The proposed action, no action, and no grazing alternatives would have no effect on BLM sensitive wildlife species because there are no BLM sensitive wildlife species are known to occur on the Volcanic Tableland allotment based on historical records, field monitoring, and/or habitat suitability.

V. WILD HORSE AND BURROS

The proposed action, no action, and no grazing alternatives would have no effect on wild horses and burros as there are no wild horse and burro populations or designated wild horse herd management areas occurring on the Volcanic Tableland allotment.

W. CUMULATIVE IMPACTS

Introduction

Current conditions in the project area result from a multitude of natural events and human actions that have taken place over many decades. Cumulative effects are defined as the "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR § 1508.7). A description of current conditions inherently includes the effects of past actions and serves as a more accurate and useful starting point for a cumulative effects analysis than by "adding up" the effects of individual past actions. "Generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." (CEQ Memorandum 'Guidance on the Consideration of Past Actions in Cumulative Effects Analysis' June 24, 2005.) By comparing the "no action" alternative (current condition) to the action alternatives, we can discern the "cumulative impact" resulting from adding the "incremental impact" of the proposed action to the current environmental conditions and trends. The geographic scope of the cumulative impact

analysis for this environmental assessment encompasses the public lands administered by the Bishop Field Office. This geographic scope was chosen because of the unique ecotone of public lands composing two distinct habitat types of Great Basin and Mojave Desert rangelands along the eastern Sierra front range. It is expected that the geographic scope of impacts would be confined to this region.

Regional Impacts

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

The development of roads and trails throughout the region originates from the area's historic settlement at the turn of the twentieth century when access was needed to develop the area's resources and transport goods/services. Settlers, miners, ranchers, merchants, etc. developed a region of small communities and road networks to meet daily sustenance needs. Throughout the latter 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 and the Inyo National Forest have embarked on motorized access efforts throughout the 1990s to implement route designations to manage for environmental issues and recreation needs. These efforts have led to localized rehabilitation projects improving various habitats and scenic vistas, mostly on BLM land. Additionally, BLM works with the counties to reduce and control private subdivision proliferation and trespass onto adjoining public lands.

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

Construction activities, road maintenance, vehicle transport, and livestock use operations are common vectors or site modifications that can move invasive/non-native species. Potential long-term cumulative impacts of the proposed action if weed densities increase, include a reduction in native plant cover and vigor (below and above ground production), increased erosion leading to increased germination of invasive weed seed (Evans and Young 1972), a reduction in mychorrhizal populations, and increased fire frequency. Eastern Sierra plant communities have experienced increased weed invasions in the past five years due to increased precipitation levels and likely increases in atmospheric nitrogen deposition (Dukes and Mooney, 1999). If this trend continues without commensurate control methods including using early season grazing (pre-seed set), weed proliferation could be exacerbated.

There would not be substantive cumulative impacts to the local or regional economy of Inyo or Mono County from the implementation of the proposed action. Cumulative impacts to low income or minority populations from past, present, and reasonably foreseeable public or private actions including any actions on non federal lands would be extremely low and would not have disproportionate impacts on other segments of the population.

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

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

Site-Specific Impacts

For the Volcanic Tableland allotment in this assessment, grazing issues and impacts have been minimal due to low livestock use and few facilities to attract and concentrate the use. The low occurrence of sensitive resources such as riparian areas, etc., reduces the likelihood of future adverse impacts as well.

The physical structure and ecological function of plant communities on the allotment 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 the allotment. 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 large mammals, would be improved from the current situation.

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

Conclusion

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

1. References

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

Dukes, J.S. and Mooney, H.A. 1999. Does global change increase the success of biological invaders? Trends in Ecology and Evolution. 14:4:135-139.

Jeff Putman and Genny Smith (editor). 1995. Deepest Valley: Guide to Owens Valley, Its Roadsides and Mountain Trails (2nd Edition). University of Nevada Press, Reno, NV. pp. 231-268.

Chapter 4:
CONSULTATION AND COORDINATION

Livestock Operator Consultation, Cooperation, and Coordination

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

On January 27, 1997, the Bishop Field Manager sent a letter to the permittees that graze the allotment. 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 permittees who graze the allotment. 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 permittees who graze the allotment which explained the rangeland health allotment assessment requirements.

On December 11, 2000, the Bishop Field Manager sent a letter to the permittees who graze the allotment 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 environmental assessments for grazing permit renewals were posted on the Bishop BLM website for public review. 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 EAs are posted on the BLM website for public review. 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, Mr. Starosta responded via e-mail to Dr. Connor of WWP confirming the addition to the BLM list of interested public. Mr. Starosta 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. Dr. Connor also requested electronic copies of EA CA 170-07-10 and EA CA 170-07-11, and wanted to discuss Sierra Nevada bighorn sheep. Mr. Starosta sent Dr. Connor both EAs via e-mail. Mr. Starosta also spoke with Dr. Connor via telephone about the Bishop Field Office Range Program and issues regarding Sierra Nevada bighorn sheep and sage grouse habitat. On March 14, 2008, Mr. Starosta spoke over the phone with Dr. Connor of WWP briefly about EA CA 170-07-10. Dr. Connor called to notify the BLM Bishop that WWP was planning to protest the proposed decision for the Volcanic Tableland and Mono Mills allotments. Dr. Connor asked if BLM Bishop was planning to issue a proposed decision to the other permittee which shares the Volcanic Tableland allotment. Mr. Starosta told Dr. Connor that BLM Bishop had already issued that proposed decision on October 2, 2007 to Operator 0401649, as referenced above.

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.

Iturriria, Paco. 2008. Livestock Operator. In 2007, BLM and Paco discussed livestock grazing on the Volcanic Tableland allotment. Paco explained the livestock management for the allotment. On May 14, 2007, BLM and Paco discussed an option of adjusting the Volcanic Tableland allotment boundary to exclude Zone 1 of the Fish Slough ACEC because there is to be no grazing within Zone 1 based on the current and proposed term and condition. On January 10, 2008, BLM and Paco had a meeting to discuss the environmental assessment process, proposed

terms and conditions, and mitigation measures for Sierra Nevada bighorn sheep. In April and May of 2008, BLM informed Paco of the protest received for the the Volcanic Tableland and Mono Mills allotments and BLM's plan to address the protest points.

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.

Area of Critical Environmental Concern (ACEC)

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

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

Native American Communities

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

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)

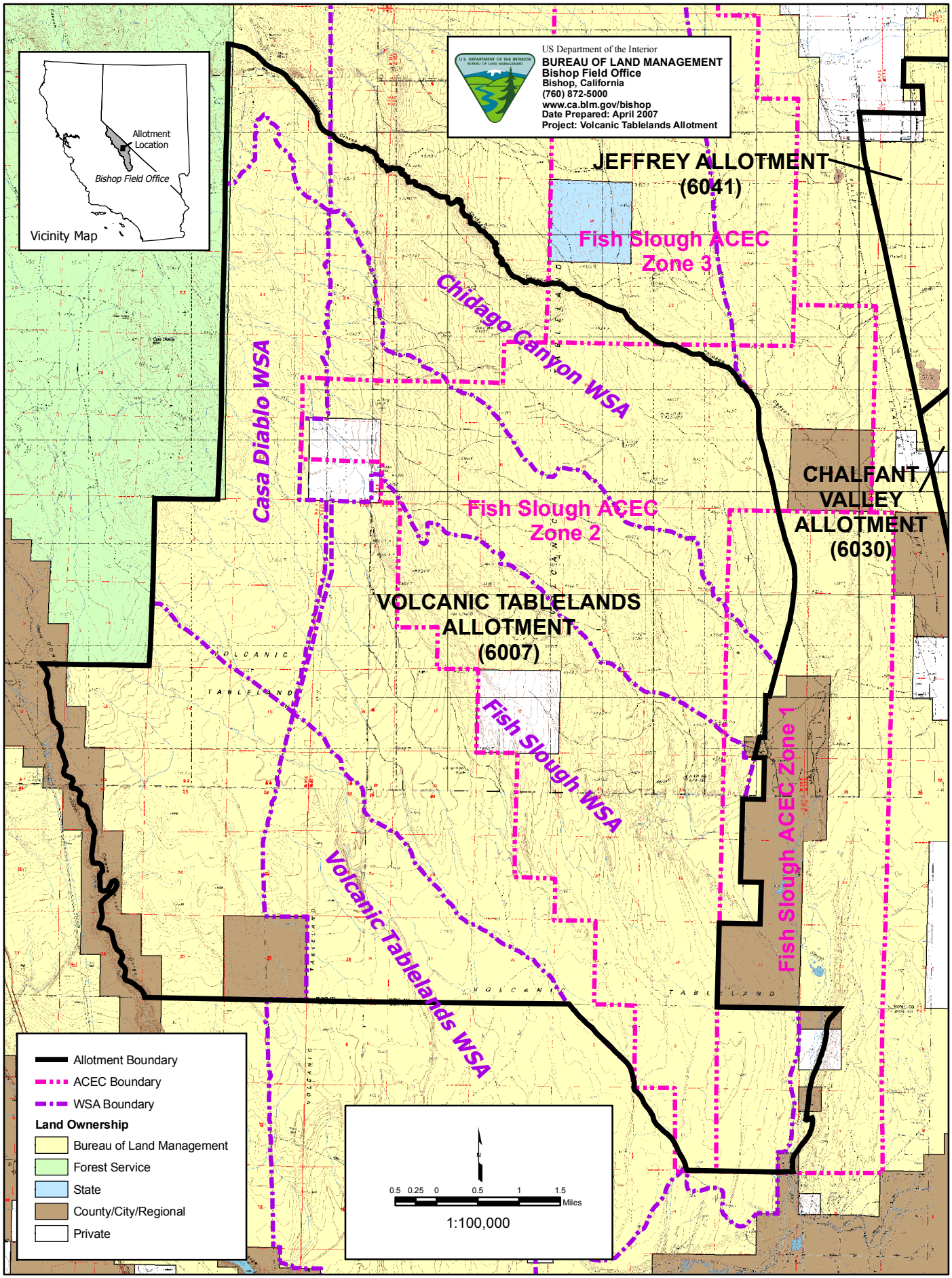
Each of the local tribal offices was contacted again by phone on 11/30/00 and the letter of January 1999 was sent to them again (fax). Several phone calls were made to each Tribe to

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 Biologist
Joe Pollini	Assistant Field Manager

Chapter 5:
APPENDICES



Map 1. Overview of the Volcanic Tablelands Allotment, Inyo and Mono Counties, California. Bureau of Land Management, Bishop Field Office, Benton Management Area.