

**ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION**

EA Number CA 170-07-14

Allotment Number and Name(s)

**6063 Dry Canyon
6064 Koenig Ranch
6065 Aristo Ranch
6066 Slinkard Valley
6068 Sarman Ranch**

**BLM Bishop Field Office
Prepared
July 2007**

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Chapter 1: INTRODUCTION

A. Summary

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

B. Background

The five allotments analyzed in this EA are located in the Coleville Management Area of the BLM Bishop Field Office. Their elevation range is from about 5,100 feet on the west side of Antelope Valley to 8,930 feet along the Mono/Alpine County line. Overall, vegetation communities are a mix of Great Basin Big Sagebrush and Bitterbrush, and Pinyon/Juniper Woodlands. Livestock kind, permitted season of use, allocated animal unit months (AUMs), and use type for each allotment as prescribed in the Bishop Resource Management Plan (BLM 1993) are:

Allotment	Kind	From	To	AUMs	Use
Dry Canyon	Cattle	5/15	10/31	78	Perennial
Koenig Ranch	Cattle Horse	5/1	10/31	5	Perennial
Aristo Ranch	Cattle	5/1	10/31	112	Perennial
Slinkard Valley	Sheep Cattle	5/15 5/15	5/31 10/31	75 95	Perennial
Sarman Ranch	Cattle Sheep Horse	5/1	10/31	22	Perennial

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

Allotment Name	Public Land	State Land	Private Land
Dry Canyon	857	53	0
Koenig Ranch	532	0	0
Aristo Ranch	763	0	0
Slinkard Valley	6,367	6,170	0
Sarman Ranch	408	0	0

Currently, the Koenig Ranch and Sarman Ranch allotments are not attached to a base property for authorization of grazing use. The 10-year grazing permits for the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments have expired. In the interim, the grazing permit which authorizes use on the Dry Canyon allotment was issued in accordance with Section 328 of Public Law 107-67. This permit will expire in 2013. The interim grazing permit authorizing use on the Aristo Ranch and Slinkard Valley allotments was issued under Section 325 of Public Law 106-13. This permit will expire in 2014. The interim grazing permit authorizing use on the Slinkard Valley allotment was issued in accordance with Section 328 of Public Law 107-67. This permit will expire in 2013. Renewing permits under the appropriations acts authorized existing grazing use to continue, while allowing BLM time to complete rangeland health allotment assessments and to meet applicable National Environmental Policy Act (NEPA) requirements to analyze the environmental consequences of issuing 10-year grazing permits.

C. Purpose and Need for the Action

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

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

D. Scoping and Issues

Public Scoping

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

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

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

On June 29, 2007, a draft EA was posted for two weeks on the BLM internet site for public review at <http://www.blm.gov/ca/bishop>. The draft EA was developed using the BLM, California State Office Revised Environmental Assessment Template for Consideration of Livestock Grazing Authorizations (Instruction Memorandum No. CA-2007-014). The three permittees, the Center for Biological Diversity, and one interested public were notified that the EA had been posted on the BLM internet site.

Issues and Alternatives

The Bishop Field Office received one letter from an interested public in regards to the NOPA addressing the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments. The concerns addressed in the letter included fire, native fish, riparian areas, aspen, exotic plants, range improvements, wildfire, drought planning, and wilderness study areas. All of these concerns will be addressed within this environmental assessment. No additional alternatives were identified as a result of public scoping or draft EA review.

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

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

This EA is tiered to the Final Bishop Resource Management Plan and Environmental Impact Statement (BLM 1991). Tiering helps focus this EA more sharply on the significant issues related to grazing on the allotments while relying on the Final Bishop Resource Management Plan and Environmental Impact Statement for the overall analysis of grazing actions throughout

the Field Office. Livestock grazing was analyzed in Chapter 4, Impacts, of the Final Bishop Resource Management Plan and Environmental Impact Statement (pages 4-20 through 4-26).

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

F. Prevention of Unnecessary or Undue Degradation

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

G. Relationship to other Statutes, Regulations, and Plans

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

Air Quality

Section 176 (c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 et seq.), and regulations under 40 CFR part 93 subpart W, with respect to the conformity of general Federal actions to the applicable State Implementation Plan apply to projects within any Federal Air Quality Non-Attainment/Maintenance Areas. Under those authorities, "no department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan." Under CAA 176 (c) and 40 CFR part 93 subpart W, a Federal agency must make a determination that a Federal action conforms to the applicable implementation plan before the action is taken.

40 CFR Part 93.153 Applicability.

(c) The requirements of this subpart shall not apply to the following Federal actions:

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

Where livestock grazing occurs within an area classified as a Federal Air Quality Non-Attainment/Maintenance Area, BLM will make a determination whether the action is in

conformance with the applicable State Implementation Plan requirement. The Great Basin Unified Air Pollution Control District (GBUAPCD) has state air quality jurisdiction over parts of Inyo and Mono County.

The Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments occur outside of any Federal Air Quality Non-Attainment/Maintenance Area.

Cultural Resources

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

Special Status Plant Species

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

The Dry Canyon, Koenig Ranch, Aristo Ranch, and Sarman Ranch allotments do not contain any known Special Status plant species based on historical or current surveys. The Slinkard Valley allotment contains two populations of Shevock's bristlegrass (*Othotrichum shevockii*). Refer to Section N for a listing of these populations and their associated trend and Environmental Impact analyses.

Threatened and Endangered Species (T&E)

Pursuant to Section 7 of the Endangered Species Act, formal consultation with the U.S. Fish and Wildlife Service (FWS) is required on all allotments for which livestock grazing may affect listed species. The stipulations of any grazing permit may be modified to conform to the terms and conditions specified in a FWS biological opinion. In addition, the terms and conditions of any grazing permit may also need to be modified through subsequent land use plan amendments or revisions to conform to decisions made to achieve recovery plan objectives. In August 2003, the Bishop Field Office submitted a Biological Evaluation and requested formal consultation on

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

No Threatened or Endangered Species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability on BLM managed lands in the Dry Canyon, Koenig Ranch, Aristo Ranch, and Sarman Ranch allotments. However, Lahontan cutthroat trout, a federally threatened species, are located in the upper reaches of Slinkard Creek on Fish and Game State Land within the Slinkard Valley allotment. Grazing management on the Fish and Game Land is permitted and managed by the Fish and Game.

Water Quality

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

Wild and Scenic Rivers

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

The Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments contain no designated Wild and Scenic Rivers nor do they contain creeks determined to be eligible for wild and scenic study.

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.

The Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments do not occur within any congressionally designated Wilderness Area. In addition, the Dry Canyon, Koenig Ranch, Aristo Ranch, and Sarman Ranch allotments do not occur within any designated Wilderness Study Area. However, 100% (3,886 acres) of the Slinkard WSA (CA-010-105) occurs within the Slinkard Valley allotment.

H. Plan Conformance

Determination

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

Rationale

The proposed action would occur in areas identified as available for livestock grazing in the Bishop RMP (BLM 1993). The proposed action is consistent with the General Policies, Area Manager's Guidelines, Valid Existing Management, Standard Operating Procedures, Decisions, and Support Needs prescribed in the RMP. A summary of key RMP prescriptions specific to the proposed action include: 1) Livestock management decisions from the Benton-Owens Valley and the Bodie-Coleville Grazing Environmental Impacts Statements (EISs) provide the basis for grazing management throughout the Bishop Field Office (RMP, Valid Existing Management,

page 10 and Area-Wide Decisions, page 22). Those livestock grazing decision carried forward are summarized in Appendix 4 (RMP, pages A4-1 through A4-11); 2) Standard Operating Procedures specific to grazing systems, grazing management, and range improvement project development throughout the Bishop Field Office (RMP, pages 10 through 12); and 3) Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) that amended the Bishop RMP (Central California S&Gs, pages 3 through 12).

I. Rangeland Health

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

Dry Canyon	June 2003
Aristo Ranch	June 2003
Slinkard Valley	July 2003

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 Dry Canyon, Aristo Ranch, and Slinkard Valley allotments. Areas of allotment does (does not) meet the Secretary of the Interior Approved Rangeland Health Standards as follows:

Rangeland Health Standard	Meets Standard	Does Not Meet Standard	Livestock are a causal factor for not meeting Yes or No	Remarks (locations, etc.)
Dry Canyon	X	X - Slinkard Creek only	No	Functioning at Risk - Fire Impacts
Aristo Ranch	X			
Slinkard Valley	X	X - Slinkard Creek only	No	Functioning at Risk - Fire Impacts

Rangeland health assessments have not been conducted on the Koenig Ranch and Sarman Ranch allotments. These allotments were unallocated when rangeland health assessments were conducted in the area.

Chapter 2: PROPOSED ACTION AND ALTERNATIVES

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

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

A. Alternative 1 - Proposed Action

The proposed action is to authorize grazing for 10-years on the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments with applicable terms and conditions and other provisions as described in this section. Furthermore, the proposed action is to combine the Dry Canyon and Koenig Ranch allotments into one allotment called the Dry Canyon allotment. Also, combine the Aristo Ranch and Sarman Ranch allotments into one allotment called the Aristo Ranch allotment. By combining allotments, rangeland management within the area will be improved by having contiguous allotment boundaries.

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

A. Mandatory Terms and Conditions

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

The proposed mandatory terms and conditions for each allotment are:

Allotment	Number	Kind	From	To	% P.L.	AUMs
Dry Canyon	10	Cattle	3/1	10/31	100	83
	51	Sheep				
Aristo Ranch	20	Cattle	3/1	10/31	80	134
	117	Sheep				
Slinkard Valley	24	Cattle	3/1	10/31	71	95
	670	Sheep				

The approximate public, state, and private land acreages (See Proposed Action Map 2) within each allotment will be:

Allotment Name	Public Land	State Land	Private Land
Dry Canyon	1392	53	0
Aristo Ranch	1170	0	0
Slinkard Valley	6,367	6,170	0

B. Terms and Conditions - Bishop Resource Management Plan

All Allotments

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

Dry Canyon (6063) Allotment

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

Slinkard Valley (6066) Allotment

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

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

All Allotments

The goal of these terms and conditions is to provide the permittee the opportunity to realize the highest, long-term, agricultural, economic return with the least risk to rangeland health. Livestock would be managed to progress toward maintaining or promoting adequate vegetative ground cover, and maintaining soil moisture storage and soil stability appropriate

for the ecological sites within the management units. Maintaining adequate ground cover should allow soil organisms, plants, and animals to support the hydrologic, nutrient, and energy cycles.

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

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

Riparian Areas & Wetlands: *Dry Canyon (6063) and Slinkard Valley (6066) Allotments*

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

D. Other Terms and Conditions

All Allotments

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

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

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

Handbook.

Notify BLM of noxious weed locations when encountered on allotments.

Use old camps, bedding grounds, and watering sites and do not make new ones.

Due to type conversions of vegetation because of recent fires, permitted AUMs are suspended on a temporary basis (43 CFR, Part 4100, Section 4110.3-2). However, livestock can be used to control exotic weed species such as cheatgrass (*Bromus tectorum*) and tansy mustard (*Sisymbrium altissimum*), from 3/1 to 5/31, based on yearly field evaluations and subsequent determinations by the authorized officer. Field evaluation and/or monitoring would be conducted prior to extension of season-of-use and/or removal of suspended AUMs, and be based on the following resource indices;

- Reduction of exotic weed species cover by 20% based on assessed cover values on individual allotments
- Plant composition and structure are moving toward Resource Management Plan Desired Plant Community (DPC) objectives.

E. Range Improvements

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

F. Monitoring

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

The Dry Canyon and Aristo Ranch allotments are designated as Category C allotments and the Slinkard Valley allotment is designated as Category I allotment in the Bishop Resource

Management Plan (Appendix 4, pages A4-5 through A4-7). Consistent with BLM policy, monitoring on the Category C allotments would be conducted periodically and the Category I allotment will be conducted annually.

Short Term Monitoring

Short term monitoring is a tool to gauge the cause and effect of the current grazing management on resource conditions on the allotments. This monitoring consists of information addressing current climatic conditions and the collection of utilization data (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 Dry Canyon, Aristo Ranch, and Slinkard Valley allotments.

Long-Term Trend Monitoring

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

Since 2003, Claremont McKenna College under contract with the BLM Bishop Field Office has been monitoring plant community change following the Cannon and Slinkard fires. Monitoring consists of documenting changes in plant cover and composition using Daubenmire cover classes. To date yearly monitoring reports have been completed including a photographic flora of the study areas. The contract ends in 2007, but the established sampling sites could be used to document long-term changes in post-fire plant community succession.

Compliance Assurance

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

B. Alternative 2 - Current Management (No Action)

This alternative involves issuing new 10-year permits with the same terms and conditions as under the existing authorizations.

A. Mandatory Terms and Conditions

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

The proposed mandatory terms and conditions for each allotment are:

Allotment	Number	Kind	From	To	% P.L.	AUMs
Dry Canyon	14	Cattle	5/15	10/31	100	78
Koenig Ranch	1	Cattle	5/1	10/31	100	5
	1	Horse				
Aristo Ranch	23	Cattle	5/1	10/31	80	112
Slinkard Valley	24	Cattle	5/15	10/31	71	95
	670	Sheep	5/15	5/31	100	75
Sarman Ranch	3	Cattle	5/1	10/31	100	22
	18	Sheep				
	3	Horse				

B. Terms and Conditions - Bishop Resource Management Plan

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

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

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

E. Range Improvements

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

F. Monitoring

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

C. Alternative 3 - No Grazing

This alternative would cancel the permit for the Dry Canyon allotment, the permit for the Aristo Ranch and Slinkard Valley allotments, and the permit for the Slinkard Valley allotment. As a result, grazing would not be authorized on these allotments. Under this alternative, BLM would initiate the process in accordance with 43 CFR parts 4100 and 1600 to eliminate grazing on these allotments and amend the Bishop Resource Management Plan.

D. Other Alternatives

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

**Chapter 3:
ENVIRONMENTAL ANALYSIS**

A. LIVESTOCK MANAGEMENT

1. Affected Environment

The Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments are located within the Coleville Management Area as defined in the Bishop Resource Management Plan (RMP) (See Map 1). Livestock kind, permitted season of use, allocated animal unit months (AUMs), and use type for these allotments as prescribed in the Bishop RMP (BLM 1993) are:

Allotment	Kind	From	To	AUMs	Use
Dry Canyon	Cattle	5/15	10/31	78	Perennial
Koenig Ranch	Cattle Horse	5/1	10/31	5	Perennial
Aristo Ranch	Cattle	5/1	10/31	112	Perennial
Slinkard Valley	Sheep Cattle	5/15 5/15	5/31 10/31	75 95	Perennial
Sarman Ranch	Cattle Sheep Horse	5/1	10/31	22	Perennial

There is one permittee for the Dry Canyon allotment who relinquished the Koenig Ranch allotment in August of 2001. For both allotments, public land is unfenced from adjacent private land. Historically, public land composed of steep terrain located to the west of the private land had kept livestock grazing to the lower portions of the slopes. Livestock grazing for the Dry Canyon allotment is permitted from May 15th to October 31st, although, the allotment was last used in 1990 from May 16th to July 15th with 30 cattle (60 AUMs). Livestock grazing for the Koenig Ranch allotment was permitted from May 1st to October 31st, and the allotment was last used in 1990 from May 1st to May 31st with 10 cattle (5 AUMs). Since 1990, non-use has been taken on the allotments because of economic, drought, and fire reasons. The current permittee would like to transfer the Dry Canyon allotment to a local Coleville sheep operator. The same sheep operator has been grazing the Walker-Coleville area for the last two years to control exotic plant species (e.g. cheatgrass) that have become established over the last several years due to fires.

There is one cattle operator for the Aristo Ranch and Slinkard Valley allotments. For the Aristo Ranch allotment, public land is unfenced from private land. Livestock grazing for the Aristo Ranch allotment is permitted from May 1st to October 31st, although, the allotment was last used in 1978 with 40 cows amounting to 112 AUMs. Since 1978, non-use has been taken on the allotment because of drought, being unfenced and too close to a busy highway, and fire reasons.

For the Slinkard Valley allotment, state land is intermingled within portions of the allotment and portions of state land is fenced from public land. Cattle grazing for the Slinkard allotment is permitted from May 15th to October 31st, although, the allotment was last used in 2002 from June 1st to August 31st with 45 cattle. Since 2002, non-use has been taken on the allotment because of recent fires and fluctuations within the ranching operation.

There is currently no operator for the Sarman Ranch allotment and it is unclear when the allotment was last used. According to BLM Bishop Field Office files acquired from the BLM Carson City office, the allotment was on record in 1958, mentioned in a hand written document of the Coleville Unit Area of Use.

Recent fires within the Slinkard Valley area has converted historical sagebrush, bitterbrush, pinyon-juniper plant communities to large stands of cheatgrass and other exotic plant species. A local Coleville sheep operator, mentioned within this section, has been authorized by the Bishop Field Office, under a Free-Use-Grazing permit, to use sheep grazing to control exotic species (e.g. cheatgrass) and to reduce the fine fire fuel loads. Over the last two years, the sheep operator has grazed portions of the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments. The season of use and areas designated for grazing were determined by the BLM authorized officer. The early season grazing of exotic plant species (e.g. cheatgrass) is intended to impact those plants by trampling, topping them before going to seed, and/or removing the entire plant. The sheep operator is to avoid areas where exotic plant species have already gone to seed to not further spread those seeds. By reducing the competitive nature of exotic plant species from the ecosystem, native species should have an opportunity to compete for space and nutrients. Furthermore, by reducing the fine fire fuel loads that build from those fast growing weeds, fire will hopefully be minimized and not have the opportunity to spread to remaining unburned native plant communities.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would not create negative impacts to livestock operations. By combining the Dry Canyon and Koenig Ranch allotments into one allotment called the Dry Canyon allotment, and combining the Aristo Ranch and Sarman Ranch allotments into one allotment called the Aristo Ranch allotment, range management within the area will improve. There will be contiguous allotment boundaries. By converting the Dry Canyon and Aristo Ranch allotments to cattle or sheep, range management will improve by having the opportunity to authorize the appropriate livestock type depending on range condition and/or established plant communities. By extending the season of use (March 1st to October 31st) on the three allotments, range management will improve by providing flexibility depending on timing of precipitation, range condition, and/or established plant communities. For example in 2007, cheatgrass started to green-up by early March and by late April cheatgrass had begun to go to seed on lower south facing hill slopes along highway 395. The earlier season of use will allow grazing operators the ability to graze early season exotic plant species.

With implementation of the specific proposed term and condition which has been developed because of recent fires, the rangeland will improve in the area over time as weed densities decrease and native plant communities reestablish. When native plant communities reestablish, and because livestock grazing practices would follow the Bishop RMP guidelines as amended by the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (BLM 2000) and the revised terms and conditions, permittees would have to manage their livestock (e.g. strategic salt placement or adjustment in livestock distribution) so forage utilization on key perennial species do not exceed utilization levels, as defined in the proposed terms and conditions above. Furthermore, these terms and conditions are designed to help maintain, protect, or improve rangeland health, increasing the probability of long term economic viability for the permittees.

b. Impacts of No Action

The no action alternative would not create negative impacts to current livestock operations. The no action alternative and current terms and conditions would be in conformance with the Bishop Resource Management Plan (RMP) approved on March 23, 1993. However, the Central California Standards for Rangeland Health and Guidelines for Livestock Grazing (Central California S&Gs) approved on July, 13, 2000 amended the RMP. Terms and conditions would still need to be developed to reflect changes from the Central California S&Gs. For example under current management, grazing use is not to exceed 60% on key forage species which may be detrimental to any remaining key perennial species which survived the recent fires. Under the Central California S&Gs, forage utilization on key perennial species is not to exceed 40 percent on the average which was determined to help maintain, protect, or improve rangeland health. Due to type conversion of vegetation because of recent fires, livestock grazing would be limited until the BLM authorized officer determined normal grazing operation appropriate. Sheep grazing would still be authorized by the Bishop Field Office, under a Free-Use-Grazing permit, to control exotic species (e.g. cheatgrass) and to reduce the fine fire fuel loads.

c. Impacts of No Grazing

The cancellation of grazing on the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments would require the operators to look for alternative forage and may increase the cost of their ranching operations. For the operators that also have private and/or Forest Service allotments, the grazing capacity of their private and/or Forest Service land may not accommodate the increased use or meet Forest Service management requirements of those lands. The permittees may be forced to operate with fewer livestock.

3. Maps

Overview of Allotments (Map 1) and Proposed Action (Map 2)

B. AIR QUALITY

1. Affected Environment

The Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments are not within any federal non-attainment/maintenance area under jurisdiction of the Great Basin Unified Air Pollution Control District's (GBUAPCD). Federal actions are not subject to conformity determinations under 40 CFR 93.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would create no new impacts because the proposed terms and conditions are designed to help maintain, protect, or sustain rangeland health including soils, and to keep the ecosystem functioning properly. Fugitive dust emissions could occur due to the soil disturbance as a result 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

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.

c. Impacts of No Grazing

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

C. AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

1. Affected Environment

The Slinkard ACEC consists of approximately 16,603 acres. About 15,098 of these acres contain allotments. These allotments include the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments. Approximately, 12,503 acres of the ACEC lies in the Slinkard Valley allotment while approximately 532 acres lie in the Koenig Ranch allotment, 892 acres in the Dry Canyon allotment, 763 acres in the Aristo Ranch allotment, and

408 acres in the Sarman Ranch allotment. Currently, three permits are issued for the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments for either sheep or cattle use.

The Slinkard ACEC was designated in the April 1993 Bishop RMP Record of Decision to protect its wildlife habitat and scenic values and enhance recreation opportunities. The ACEC has no current management plan. The ACEC landscape consists of two narrow and short north-south linear mountain ranges surrounding state lands held Slinkard Valley (2 miles wide). The ranges lie along the edge of the east-central Sierra Nevada immediately west of U.S. Highway 395. The ranges are about 2 miles wide and 5-6 miles long. The RMP management prescriptions include maintaining and improving mountain beaver habitat conditions through use limitations and vegetative treatments in riparian zones. Additionally, old growth stands of white fir are protected while all activities are required to conform to VRM Class I standards.

Pinyon pine/sagebrush/bitterbrush plant communities typically dominated the east range, although wildfires in the past years have led to non-native weedy species proliferation. Dense pinyon and white fir stands occupy the west range.

Existing livestock use impacts are very limited. A few cattle graze public lands along the east foothills of the westernmost mountain range while several wildfires since 2002 have eliminated all native vegetation on the easternmost mountain range, suspending all normal livestock operations during the last four years. Successful efforts to reduce the spread of cheatgrass over the last few years have included herding sheep in weedy areas to forage the unwanted species, providing an improved environment for native vegetation to reestablish.

Diversity and abundance (total number of individuals of a particular species) of wildlife using the allotments has likely been dramatically altered from past wildfires. The ACEC serves as a major migration corridor and holding area for the West Walker Mule Deer Herd. Black bears, mountain beaver, grouse, mountain quail, raptors, and various songbirds also use habitat within the ACEC. See Wildlife in section T of this document for further information.

The ACEC has maintained its scenic integrity along the westernmost mountain range, although the eastern range has lost some of its natural appearance due to the recent wildfires which has blackened and charred much of the area's natural colors and allowed cheatgrass to flourish. The eastern range is within the viewshed of U.S. Highway 395 and easily seen along the roadway by countless of tourists each year. This range is located a short one-half mile from the highway. Additionally, the presence of cheatgrass as a non-native species compromises the area's natural scenery. The objective of VRM Class I standards is to preserve the existing character of the landscape and allow for natural ecological changes with very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Past wildfire activity has made prominent changes in the characteristic landscape, easily attracting the attention of motorists on U.S. Highway 395 and conflicting with the VRM I standard. Numerous darkened pinyon snags, stumps, and limbwood occupy the flats and hillsides in the area.

No other ACECs are located within the remainder of the Slinkard Valley allotment or the Dry Canyon, Koenig Ranch, Aristo Ranch or Sarman Ranch allotments.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would benefit current site conditions and native vegetation in the newly aggregated Dry Canyon, Aristo Ranch, and Slinkard Valley allotments comprising the ACEC. The proposed terms and conditions to maintain and/or improve rangeland health would attempt to reduce invasive weeds by lowering seed bank inputs and decreasing weed spread. Provisions for grazing before seed set of these species has been included in allotment grazing stipulations. Early season grazing, normally before seed set, of these annual grasses may help reduce the spread of these invasive weeds by reducing inputs into the seed bank of particular sites. By reducing native species competition, natural vegetation can repopulate the site more easily and compete more effectively with remnant cheatgrass populations.

The proposed action would also reduce seasonal use of native perennial bunch grass species from 60 to 40% which would increase long-term productivity and survivorship of these target species and increase effective competition to cheatgrass invasion.

Under the proposed action, early, short-duration grazing would likely increase native species recovery by reducing weed cover on portions of the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments. Under the proposed terms and conditions, ancillary impacts such as localized soil disturbance would diminish because no new camps, bedding grounds, and watering sites would be developed. The 40% use level on native perennial species would sustain current vigor and production of these species. Periodic (2-5 years) monitoring would be necessary to corroborate such impact thresholds.

Benefits to native plant habitat from reestablishment of native species would affect wildlife positively. Reemergence of native grasses and forbs would improve habitat forage and cover needs for wildlife such as mule deer, mountain beaver, black bears, sage grouse, and other animal species. Mule deer habitat quality for thermal and hiding cover and the biomass of available bitterbrush forage would be substantively improved with retention of 80% of current year growth. Mule deer would likely benefit to some degree from improved fawning habitat in the less used riparian communities. Seed eating species of rodents and birds should gain the most immediate benefit from improvement in the availability of food resources and cover.

The proposed terms and conditions designed to improve native plant habitat and cover would in the long term improve the current visual quality of the eastern mountain range as burnt black fire remnants dissipate as newly emergent trees, shrubs, grasses, and forbs repopulate the area. This would restore the natural and vibrant colors of the area, improving conformance and maintaining the VRM standards. The westernmost mountain range which has been largely untouched by past

wildfires would maintain its scenic character and conform to the VRM Class I standard.

b. Impacts of No Action

The impacts of the no action alternative would allow a 60% versus 40% use threshold on native perennial bunch grasses currently recovering from post-fire effects. Sustained spring use of perennial bunch grasses at and above the 60% level would decrease plant vigor and long-term survivorship. This reduction in native plant vigor and cover would increase the risk of weed invasion, altering wildlife habitat, by decreasing the competitive abilities of the recovering native species on all five existing allotments.

Continuation of livestock grazing would protract the recovery period for native vegetation with delayed recovery for numerous wildlife species populations dependent on upland habitat for all or a portion of their life cycle activities. Due to the fire's removal of native bunch grass and the sagebrush/bitterbrush dominated shrub community from the allotment areas, the moist soil habitats (meadows and riparian along streams) will be the most negatively affected due to livestock typically concentrating their use in these sites and would be especially exacerbated during the recovery period for the upland vegetation types.

Impacts to visual quality of the area would be slightly negative since the risk of native plant reestablishment is lessened, thus reducing the area's ability to restore itself to a naturally appearing landscape. The VRM standard would be likely met because the scenic landscape would still appear as it currently does i.e. unimpaired in the west range, burned and charred along the east range, especially along the U.S. Highway 395 viewshed.

c. No Grazing

No grazing before seed set could potentially increase the density and cover of some of these invasive, non-native species because of seedbank inputs into particular sites over time. Additionally, the no grazing alternative would remove the opportunity to use livestock in a targeted short-duration manner to forage invasive species before seed set. Impacts from invasive weed species on native plant communities would be higher than the proposed action by allowing for increased weed cover, density, and seed bank densities.

Barring a catastrophic event (e.g. wildfire), the long term total annual production of plant communities would be available and habitat conditions for all wildlife species would change with the natural interaction of the local climate, soil, water, and vegetation. This would improve wildlife habitat conditions in the long term.

Visual quality of the area would be affected adversely by non-native plant species that invade the scenic landscape. These species can facilitate frequent wildfires which can reburn the area, increasing the likelihood of residual blackened and charred vistas and scenic backdrops over time. This likely will make the VRM Class I standards impossible to maintain in the short term because natural ecological processes have been disrupted and could continue to be compromised,

subject to unpredictable weather and other natural events. Over the long term, VRM Class I standards can be maintained more effectively if natural plant succession processes resume and native plants eventually outcompete invasive species, returning the area to its natural appearance.

3. Maps

Overview of Allotments (Map 1) and Proposed Action (Map 2)

4. References

Bishop Resource Management Plan Record of Decision, April 1993.

D. CULTURAL RESOURCES

1. Affected Environment

Located on the western fringe of the Great Basin physiographic province the Owens Valley region, incorporated within the Bishop Field Office, contains the highest archaeological site densities within the Great Basin (Basgall and McGuire 1988; Bettinger 1975, 1982). In 1981 and 1982 the BLM completed two Environmental Impact Statements (EIS) addressing grazing on public lands within the Bishop Field Office; “Proposed Livestock Grazing Management for the Benton-Owens Valley Planning Unit”, 1981 and “Proposed Livestock Grazing Management for the Bodie-Coleville Planning Units”, 1982. In both EIS’s cultural resource reviews are limited to Class I literature searches of existing data.

Using existing survey data (BLM 1978; Busby et al. 1979; Hall 1980; Kobori et al. 1980), site densities were predicted to range from 9 sites per square mile (m²) in the Benton Planning Unit to 4 sites/m² in the Owens Valley Planning Unit, with an average of 9.54 sites/m² in the Bodie/Coleville Planning units.

To evaluate each allotment for cultural resource values, a Class I records search was conducted and GIS utilized to determine previously surveyed acres and sites recorded on each allotment. Following the Bishop Field Office research design for grazing allotment assessments (Halford 1999), all areas with a high probability for the congregation of cattle and for the occurrence of significant cultural resources were considered for field evaluation. A high percentage of the area has been subjected to archaeological inventory (see Table below). No range improvements where cattle generally congregate (troughs, salt licks, reservoirs, etc.) occur on these allotments. While numerous spring sources occur on the Slinkard Valley allotment, very little use was found on BLM administered lands, with livestock use focused on the valley bottom on Fish and Game lands. During a sample survey conducted by the University of Nevada, Reno, very little livestock use was found to occur on BLM land and no affects to sites were noted.

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

Allotment	Previously Surveyed (% of allotment)	Newly Surveyed	Previously Recorded Sites
Dry Canyon	230 acres (27%)	Cursory	3
Koenig Ranch	40 acres (7%)	Cursory	3
Aristo Ranch	26 acres (3.5%)	Cursory	1
Slinkard Valley	982 acres (15%)	Cursory	28
Sarman Ranch	20 acres (5%)	Cursory	2

In general, grazing use is extremely low on the northern, Antelope Valley allotments (Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley and Sarman Ranch), within the Coleville Management Area. Archaeological evaluations indicate that impacts to sites are not occurring or are negligible on BLM administered lands. Due to the minimal grazing on these allotments, site impacts are predicted to be low. The use of sheep to control weeds for short, but intense periods of use in the spring should be coordinated to identify any cultural concerns, such as areas where significant or a high numbers of sites may occur.

2. Environmental Consequences

a. Impacts of Proposed Action

Impacts to cultural resources are predicted to be low as a result of the proposed action.

b. Impacts of No Action

Impacts to cultural resources are predicted to be low as a result of the no action alternative.

c. Impacts of No Grazing

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

3. Maps

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

4. References

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E. ENVIRONMENTAL JUSTICE

1. Affected Environment

There are no low-income or minority populations living on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

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

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

2. Environmental Consequences

a. Impacts of Proposed Action

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

b. Impacts of No Action

Continued livestock grazing on the five allotments would have no effect upon any low-income or minority populations. If any changes in grazing management are required, there may be a loss of a job to a member of a low-income or minority population. There may also be new jobs created and sustained as a result of the long-term livestock grazing sustainability from rangeland health standards implementation. Any such impacts would be limited to a single job here or there.

There would not be a disproportionate impact, either negative or positive, to any low-income minority.

c. No Grazing

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

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

F. ESSENTIAL FISH HABITAT

The proposed action, no action, and no grazing alternatives would have no effect on essential fish habitat because there are no anadromous fish species or designated essential fish habitats present on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

G. FARMLANDS, PRIME OR UNIQUE

The proposed action, no action, and no grazing alternatives would have no effect on farmlands, prime or unique, because none are present on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

H. FLOOD PLAINS

The proposed action, no action, and no grazing alternatives would have no effect on flood plains because none are present on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

I. INVASIVE, NON-NATIVE SPECIES

1. Affected Environment

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

Allotment	Invasive Weed Species	Estimated % Cover (Rangeland Health Assessments 2001 and 2002)
Dry Canyon	Cheatgrass (<i>Bromus tectorum</i>)	30-50%
Koenig Ranch	Cheatgrass (<i>Bromus tectorum</i>)	25-30%
	Tansy mustard (<i>Sisymbrium altisissima</i>)	10-15%
Aristo Ranch	Cheatgrass (<i>Bromus tectorum</i>)	40-60%
	Tansy mustard (<i>Sisymbrium altisissima</i>)	10-15%
Slinkard Valley	Cheatgrass (<i>Bromus tectorum</i>)	30-50%
	Tansy mustard (<i>Sisymbrium altisissima</i>)	10-15%
Sarman Ranch	Cheatgrass (<i>Bromus tectorum</i>)	15-20%

Currently, the density of invasive, non-native plant species is moderate to high, due to the effects of the 2003 Slinkard Fire which affected the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and the western portion of the Sarman Ranch allotments. Within these allotments, risk to native species composition and vigor is high and will likely contribute to other environmental impacts, such as fire hazard, increased erosion, or large-scale reductions in mycorrhizal densities (Bethlenfalvay and Dakessian 1984). High weed densities have, and will continue to impact plant recruitment of native perennial bunch grass and bitterbrush seedlings. Periodic early-season sheep grazing in the uplands of the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments (Mosley 1996, Murray 1968, Murray 1971) can be used to reduce continued recruitment of cheatgrass, in addition to, future small scale pre-emergent herbicide (Imazipic) applications.

A two year study conducted by the University of Nevada on the BLM Elko District in 2005 and 2006, documented an increase in native plant seeding success following grazing of cheatgrass by sheep (Glimp and Davison 2005). If recovery of the native plant component does occur due to these and other potential weed control treatments, then removal of grazing for a prescribed period of time may be required, especially in specific areas identified as critical mule deer use areas. Periodic monitoring (1-3 years) of the allotments will facilitate documenting changes in site composition and cover of any non-native species as well as prescribed treatment results.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would benefit current site conditions and native vegetation in the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments because the proposed terms and conditions are designed to target invasive weeds by reducing seed bank inputs and decreasing the spread of weeds to maintain and/or improve rangeland health. Provisions for grazing before seed set of these species has been included in allotment grazing stipulations. Early season grazing, normally before seed set, of these annual grasses may help reduce the spread of these invasive weeds (Olson 1999) by reducing inputs into the seed bank of particular sites.

The proposed action would also reduce seasonal use of native perennial bunch grass species from 60 to 40% which would increase long-term productivity and survivorship of these target species and increase effective competition to cheatgrass invasion (Mosely 1996).

b. Impacts of No Action

The impacts of the no action alternative would allow a 60% versus 40% use threshold on native perennial bunch grasses that are still recovering from post-fire effects. Sustained spring use of perennial bunch grasses at and above the 60% level has been shown to decrease plant vigor and long-term survivorship (Laycock 1967, Vallentine 1990). This reduction in native plant vigor and cover would increase the risk of weed invasion by decreasing the competitive abilities of the recovering native species on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

c. No Grazing

No grazing before seed set of the invasive species could increase the seedbank inputs into particular sites overtime and potentially increase the density and cover of some of these invasive, non-native species. However, no grazing would reduce the chances that residual weed seed from sites is spread to new areas if grazing occurs in areas that have reached seed set due to micro-climatic variations.

Under the no grazing alternative, impacts from invasive weed species on native plant communities would be higher than the proposed action. There would no longer be herbivory of invasive weed species prior to seed dissemination which would potentially increase seed bank densities.

3. References

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Mosley, J.C. 1996. Prescribed sheep grazing to suppress cheatgrass: A review. *Sheep and Goat Research Journal* 12:74-80.

Olson , B.E. 1999. Grazing and weeds. Pages 85-97 in R.L. Sheley and J.K. Petroff, editors. *Biology and management of noxious rangeland weeds*. Oregon State University Press, Corvallis, Oregon.

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J. NATIVE AMERICAN CULTURAL VALUES

1. Affected Environment

There are 11 Native American communities who reside in or in close proximity to the eastern Sierra region administered by the Bishop Field Office. None of these communities are living on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments. There are no treaty rights (hunting, fishing, etc.) associated with any of the communities or any of these allotments.

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

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

- They have general concerns with overgrazing and want BLM to control overgrazing to protect the ecosystem and ensure that it is functioning properly.
- They have concerns that water (or other) developments not impact cultural sites and that they not affect deer habitat (through de-watering streams / springs, or trampling of habitat around new troughs, etc.).
- They do not want cattle grazing on top of individual burials or grave sites or within known Native American cemeteries.
- They do not want sheep bedding on top of cultural sites.
- They do not want BLM to use herbicides on plants that they might collect.
- They do not want BLM to cut / remove pinyon for grazing habitat improvement.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action is not expected to have any impacts to Native American concerns described above. The rangeland health assessment showed these allotments currently meet rangeland health standards. Although, the proposed terms and conditions are designed to help protect and sustain rangeland health, keep the ecosystem functioning properly, and thereby maintain or improve the natural environment that Native American cultural values depend on. Monitoring would continue and any impacts that affect Native American sites from high congregation and concentration of livestock use would be corrected.

b. Impacts of No Action

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

c. No Grazing

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

K. RECREATION

1. Affected Environment

Recreation activities and facilities on these five allotments are essentially non-existent. There are no roads accessing the Dry Canyon, Koenig Ranch, Aristo Ranch, and Sarman Ranch allotments which are also adjacent to private property. There is approximately 10 miles of primitive 4 wheel drive road accessing Slinkard Valley allotment. However, public access is restricted by a locked gate. Lack of access, coupled with no developed recreational facilities currently precludes motorized recreation activity in the area.

2. Impacts of Alternatives

The proposed action, no action, and no grazing alternatives would have no effect on recreation because proposed facilities or management practices that could potentially alter existing recreation uses or use patterns do not exist in these allotments.

L. SOCIAL AND ECONOMIC VALUES

1. Affected Environment

Regionally, livestock operations involve use of BLM, Forest Service (USFS), and/or private lands. The Dry Canyon, Aristo Ranch, and Slinkard Valley allotments have three permittees. Due to recent fires in and around Slinkard Valley and due to a major type conversion of vegetation communities from perennial natives to exotic species (e.g. cheatgrass), these allotments have been infrequently used in the last ten years. However, in the last two years, a local Coleville sheep operator has been helping the BLM with controlling exotic species by use of sheep. The sheep operator has been timing sheep grazing to trample and/or remove parts of the exotic species prior to seed set. This range management tool is intended to reduce the exotic species seed bank and competition from established native perennial plants. In addition, by reducing exotic species which are considered to be fine annual fire fuel loads located in and around the Walker/Coleville area, fuel breaks will help with fire protection for the local communities.

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

2. Environmental Consequences

a. Impacts of Proposed Action

When in full operation, these operators would further benefit the Mono County economy from monies spent to establish and maintain a ranching operation and by contributions to the labor force. Furthermore, grazing will help reduce the established exotic species that add to the fine fire fuel loads located in and around the Walker/Colville area. The social value of retaining a rural, agricultural lifestyle would be preserved and would keep with the public's perception of the eastern Sierra western culture. The proposed action would not adversely impact the social and economic stability of these ranching operations.

b. Impacts of No Action

Same as the proposed action.

c. No Grazing

If grazing were terminated on the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments, there would be slight to moderate impacts to the operators. The grazing capacity of their other federal permits or private leases may not meet land management requirements. There would be a loss of a range management tool by livestock grazing to control exotic species that have become well established in the Walker/Coleville area. The BLM may also receive criticism of this decision from its local constituency because of potential agricultural economic losses.

3. References

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

M. SOILS

1. Affected Environment

The soil information for the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments was gathered by the Order 3 Soil Survey of the Bodie-Coleville Planning Units. These soils were grouped into two major areas. The first soil type is dominantly nearly level to gently sloping cool soils in closed basins that are undrained to well-drained. The second type is dominantly moderately to steeply sloping (30-70% slopes) cold soils on Sierra Foothill-slopes and glacial deposits; mostly very gravelly.

Soils that are very gravelly may tend to limit the establishment of seeds and seedling development. Furthermore, the very shallow soils may restrict water infiltration and plant

rooting. These soils primarily occur on slopes and ridges. There is potential water erosion mainly along stream banks, in meadows, at springs, and on steep slopes that lack native vegetation due to recent fires.

According to the soil and vegetation Map 2 of the Order 3 Soil Survey of the Bodie-Coleville Planning Units and prior to multiple fires that have recently occurred in the area, single leaf pinyon, Utah juniper, mountain mahogany, Great Basin big sage, bitterbrush, and needlegrass were the dominant vegetation types throughout the allotments. Unburned areas still remain; however, the majority of Slinkard Valley has burned creating potential threats of natural erosion processes (e.g. water and wind). In the burned areas, large communities of exotic species (e.g. cheatgrass) became established. These exotic species often have shallow root systems that are weak in binding the top soil in place. Also, these exotic species will often out-compete native plant species for available soil water and nutrients. Following the different fires, various restoration treatments (e.g. straw waddle traps, contour-felling of pinyon pine and drill and broadcast seeding) were implemented in high to moderate intensity burned areas to reduce the soil erosion risks and enhance recovery of native plant species. The interactions between the physical, chemical, and biological properties of soils and plants strongly influence soil stability and watershed function (BLM 1998). Reestablishment of native plant species will help maintain soil stability with extensive root systems and provide protection from strong precipitation events. Plant production will in-turn provide plant litter which plays an important role in soil stability by providing surface cover.

BLM assessed the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments in 2003 to determine if the rangeland health standards were being met. Specific soils standards relate to permeability and infiltration. Slinkard Creek was determined to be functioning at risk due to the recent fires in Slinkard Valley. All other sites examined on the three allotments were found to meet the standards for soils and no identified erosional problems were identified.

2. Environmental Consequences

a. Impacts of Proposed Action

The proposed action would create no new impacts on the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments because the proposed terms and conditions are designed to help maintain, protect, or sustain rangeland health including soils, and to keep the ecosystem functioning properly. For example, improvements in ecological attributes would be a result of less intensive forage utilization levels (< 40% on key species on average across the allotment) which would lead to increases in plant biomass production resulting in adequate soil protection (e.g. water erosion).

b. Impacts of No Action

The no action alternative would result in no new impacts on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, or Sarman Ranch allotments. There is potential with higher

utilization standards (e.g. 60% on key species) that interactions between physical, chemical, and biological properties of soils can be affected compared to the proposed action. For example, with more intense livestock grazing there will be less standing plant biomass and therefore, there will be less plant litter which provides surface cover protecting soils from wind and water erosion.

c. No Grazing

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

3. References

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

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

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

N. VEGETATION/THREATENED AND ENDANGERED

Plant Communities

1. Affected Environment

Uplands

A baseline range inventory for these allotments was completed in 1984 using the BLM Site Inventory Method (SVIM). The allotments occur in the Great Basin Floristic Province. The dominant plant communities in the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments prior to the Slinkard Fire in 2003 were sagebrush/bitterbrush and pinyon woodland. Sagebrush/bitterbrush communities were dominated by sagebrush *A. tridentata* ssp. *vaseyana*, *A. tridentata* ssp. *tridentata*, and *A. tridentata* ssp. *Wyomingensis*, and bitterbrush (*Purshia tridentata* var. *tridentata*). Understory grasses such as Indian rice grass (*Achnatherum hymenoides*), desert needlegrass (*Achnatherum speciosum*), needle and thread (*Hespirostipa comota*), western needlegrass (*Achnatherum occidentale*), Thurber's needlegrass (*Achnatherum thurberianum*) and squirrel tail (*Elymus elymoides*) made up to 15-20% of the cover at the higher elevations of the allotments (Barbour and Major 1977). Additional upland and montane shrub communities include, but are not limited to; elderberry (*Sambucus*

mexicana), oceanspray (*Holodiscus discolor*), snowberry (*Symphoricarpus rotundifolius*), currant and gooseberry species; (*Ribes cereum*, *R. inerme*, *R. velutinum*), tobacco bush (*Ceanothus velutinus*), service berry (*Amelanchier utahensis*), bittercherry (*Prunus emarginata*), spiny hop sage (*Grayia spinosa*), horsebrush (*Tetradymia canescens*), Nevada and green ephedra (*Ephedra nevadensis* and *E. viridis*), desert peach (*Prunus andersonii*) and yellow and curly-leaved rabbitbrush (*Chrysothamnus nauseosus* and *C. viscidiflorus*). During years of high precipitation, annual and perennial forbs are still abundant and include, but are not limited to, species from the following genera; Astragalus, Arabis, Cryptantha, Eriogonum, Gilia, Lupinus, Onagraceae, Phacelia, Phlox as well as genera in the Asteraceae Family.

The pinyon woodland communities were dominated by an over-story (20-25% cover) of singleleaf pinyon pine (*Pinus monophylla*) with a sagebrush/bitterbrush understory. Other conifer species include; western juniper (*Juniperus occidentalis* var. *australis*), Utah juniper (*Juniperus osteosperma*), and isolated stands of Jeffrey pine (*Pinus jeffreyi*), ponderosa pine (*Pinus ponderosa*), and old-growth white fir (*Abies concolor*) which is restricted to the western portion of the Slinkard Valley allotment.

A small eastern portion of the Sarman Ranch has not been burned and still supports isolated stands of Jeffrey Pine and pinyon with a sparse understory of relatively intact sagebrush-steppe species. However, cheatgrass is still prevalent in the understory.

Based on a five-year post-fire monitoring project in cooperation with Claremount McKenna College, 158 plant species from 42 genera have been identified and recovery of perennial bunch grass, and annual and perennial forb component of the sagebrush-steppe community has been well documented (Morhardt 2006). The key compositional and structural vegetative components missing from the target allotments are the sagebrush and bitterbrush stands.

The Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments all support non-native invasive species, such as cheatgrass and tansy mustard. Cover values vary throughout the allotment based on elevation, edaphic, and hydrologic gradients. Generally, higher cover values of target weed species occur on the lower elevations of these allotments, and in association with roads. Current densities of these weed species do pose an ecological risk to the recovery of the native vegetation by increasing the likelihood of re-occurring fire and reducing the recruitment of native grass, forb, and shrub species.

Prior to the Slinkard fire, the majority (80-90%) of the upland plant communities within these allotments had been slightly to moderately impacted by livestock grazing. Generally, utilization of key forage species, e.g. perennial bunchgrass species and bitterbrush was slight to moderate and occurred between summer and early fall. Current forage capacity on these allotments is low due to the reduction of native species.

2. Environmental Consequences

a. Impacts of Proposed Action

Under the proposed action, early, short-duration grazing would likely increase the recovery of native species by reducing weed cover on portions of the Dry Canyon, Aristo Ranch, and Slinkard Valley allotments. Under the proposed terms and conditions, ancillary impacts such as localized soil disturbance would be reduced because no new camps, bedding grounds, and watering sites would be developed. It is also anticipated that the 40% use level on native perennial species would sustain current vigor and production of these species. However, periodic (2-5 years) monitoring would be necessary to corroborate such impact thresholds.

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

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

Such improvements in floristic and ecological attributes would be a result of less intensive forage utilization levels and range treatments (weed control) 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 Dry Canyon, Aristo Ranch, and Slinkard Valley allotments would enhance and sustain the large-scale ecological function of these plant communities especially during years of above average precipitation which is generally related to increased weed recruitment.

b. Impacts of No Action

The impacts of the no action alternative would allow a 60% versus 40% utilization threshold on native perennial bunch grasses that are still recovering from post-fire effects. Sustained spring use of perennial bunch grasses at and above the 60% level has been shown to decrease plant vigor and long-term survivorship (Laycock 1967, Vallentine 1990). This reduction in native plant vigor and cover would increase the risk of weed invasion by decreasing the competitive abilities of the recovering native species on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

Commensurate impacts associated with reductions in native plant vigor and production would include decreased;

- Cover of perennial grasses
- Root distribution
- Species diversity
- Photosynthetic period
- Vegetation structure

c. No Grazing

Under the no grazing alternative, native plant communities would continue to incur impacts from invasive weed species such as decreased recruitment, risk of recurrent fire, and loss of ecosystem resiliency. The no grazing alternative would remove the opportunity to use livestock in a targeted short-duration manner to control invasive species before seed set. Under the no grazing alternative, impacts from invasive weed species on native plant communities would be higher than the proposed action by increasing weed seed bank densities cover and density.

Impacts to the native plant community under the no grazing alternative would include but not be limited to;

- A reduction in native plant recruitment due to competition with invasive weed species,
- Reductions in plant productivity and resiliency,
- Increased risk of re-current fire which would impact recovering native plants.

3. Maps

Allotment Assessment Maps, CNDDDB GIS coverage (not included in EA).

4. References

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

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

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

- Department of Interior, BLM. 1998. Rangeland health standards and guidelines for California and northwestern Nevada: Final EIS. California State Office, U.S. Department of the Interior, Bureau of Land Management, Sacramento, CA.
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- Department of the Interior, BLM. 1999, 2000. Rangeland Health Assessments. Technical Reference 1734-6, 2000, Interpreting Indicators of Rangeland Health (Version 3).
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- 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.
- Morhardt, E.J. 2006. Cannon and Slinkard Fire Recovery Study. Annual Report. Roberts Environmental Center, Claremont McKenna College, Claremont, CA.
- Mosley, J.C. 1996. Prescribed sheep grazing to suppress cheatgrass: A review. *Sheep and Goat Research Journal* 12:74-80.
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- Van Poollen, HW, Lacey, JR. 1979. Herbage responses to grazing systems and stocking intensities. *J. Range Management* 32, 250-253.

Threatened and Endangered Plant Species

The proposed action, no action, and no grazing alternatives would have no effect on threatened or endangered vegetation species because no federally listed threatened or endangered plant species are present on the Dry Canyon, Koenig Ranch, Aristo Ranch Slinkard Valley, and Sarman Ranch allotments based on historical records, field monitoring, and/or habitat suitability.

Special Status Plant Species

1. Affected Environment

The Slinkard Valley allotment contains two populations of a special status plant species called Shevock's bristlegrass (*Othotrichum shevockii*) which is growing on rocky, steep granitic outcrops alongside and above Slinkard Creek. These are confined populations that have not been or will not be areas grazed. Invasive weed species are also not present within this habitat type.

2. Impacts of Alternatives

The proposed action, no action, and no grazing alternatives would have no effect on the special status species and impacts would be the same because of the inaccessibility of the populations to livestock.

3. Maps

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

4. References

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

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

O. WASTE, HAZARDOUS OR SOLID

The proposed action, no action, and no grazing alternatives would not generate hazardous or solid waste on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

P. WATER QUALITY, DRINKING-GROUND

1. Affected Environment

Perennial surface water occurs in all of the allotments, except Dry Canyon, in the form of numerous small springs, seeps and streams (Slinkard Valley) and as a constructed irrigation ditch along the west side of Highway 395 (Koenig Ranch, Aristo Ranch, and Sarman Ranch). The irrigation ditch is supplied by Slinkard Creek near the juncture of the Monitor Pass road and Highway 395. During the 1979 resource inventory for this field office, water quality for Slinkard Creek and Tributary 1 of Slinkard Creek was sampled once with limited on-site tests at one location on each stream. The field exam on both streams measured temperature (°F), turbidity, dissolved oxygen, alkalinity, pH, CO₂, and total dissolved solids. The value of this data is limited since variations in water quality occur over time in response to management changes or stochastic variability which is not reflected in the data. None of the water sources are tributaries to a California State 303d listed water quality limited segment.

The 1979 stream survey found levels of iron and manganese that exceeded desirable limits for Secondary Drinking Water Standards in Slinkard Creek, likely due to basic soil chemistry rather than any management variables. Water chemistry was otherwise good for the 33 measured constituents for both Slinkard Creek and Tributary 1 of Slinkard Creek. The contribution of nutrients and sediment to Slinkard Creek was noted in the upper segments of the stream on California state lands in the initial survey. As the stream courses through the narrow canyon along the Monitor Pass road to discharge in to the Antelope Valley, water quality has improved to where sediment and nutrient loads have been filtered from the water column. The Monitor Pass road does contribute small amounts of sediment and pollutants (runoff from the asphalt road) that may occasionally enter the stream along with some sediment entering the stream from the steep embankment off the road in Section 11 near the mouth of the canyon.

A total of 21 natural springs have been identified on public land in the Slinkard Valley allotment. The majority of the springs are located on the west side of Slinkard Valley in the various drainages oriented in an east to west aspect that drain from the ridgeline separating Slinkard Valley and Bagley Valley to the west. Very little data on the springs was collected at the time of their inventory in 1985. Spring discharge was either measured or estimated and flows from approximately 0.5 to 100 gallons per minute (gpm) were recorded. Water quality information on seven springs measured temperatures ranging from 49 °F to 67 °F and electrical conductivity ranging from 75 to 275 µmhos. Electrical conductivity (which estimates the amount of total dissolved salts/solids, or TDS, of water) within the measured levels are well within the Secondary Drinking Water Standard for dissolved solutes. The same springs were given ocular ratings for turbidity, eutrophication, and compaction at the source location and overall were rated at the lowest level for these properties.

Livestock have contributed to some degradation of water quality in Slinkard Creek where they graze on California state lands. Cattle have not substantively contributed to diminished water quality conditions on public land. For both streams and the springs, water quality is good,

overall. The unknown factor in present water quality conditions is the degree to which recent wild land fires in the northern portion of the Slinkard Valley allotment and the entire Dry Canyon allotment may have caused changes in some water quality constituents, like TDS, pH, temperature and dissolved oxygen. Type conversion of the entire native vegetation communities to an annual invasive grass species in the allotments has created a potential for soil movement into the streams and increased water temperatures until adequate riparian vegetation is reestablished.

2. Environmental Consequences

a. Impacts of Proposed Action

Water quality should be maintained, at a minimum, with implementation and monitoring of the proposed terms and conditions. Improvement in such parameters as water temperature, sedimentation, turbidity, and pH should occur to the extent and at the natural rate that native vegetation communities reestablish over time. The temporary suspension of grazing on the allotments would ensure livestock related effects, like nutrients from cattle, sediments contributed by eroding banks due to grazing, and runoff from grazed wet meadows and stream side vegetation, on water quality parameters would be eliminated. Resumption of grazing would occur when the benchmarks for native perennial vegetation species have been attained and vegetation biomass along both streams and the affected springs provides the necessary protection for water quality constituents.

b. Impacts of No Action

Under this alternative, livestock grazing would continue on the allotments. Water quality conditions along both streams in the northwest part of the Slinkard Valley allotment would be degraded due to cattle trampling unstable areas of the recovering stream banks, nutrient input to channels and removal of up to 60% or more of the riparian vegetation allowing sediment transport in to the streams. Water quality parameters that would likely be affected include TDS, turbidity, pH, temperature and dissolved oxygen. Springs in the same part of the allotment would incur soil trampling and removal of a similar volume of riparian vegetation. Effects on water quality would occur from nutrient deposition, increased turbidity, and movement of unprotected soil at the source locations.

c. No Grazing

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

3. References

Bishop Field Office, 1978. Slinkard Creek Stream Inventory. File

Bishop Field Office, 1978. Slinkard Creek, Tributary 1, Stream Inventory. File

Bishop Field Office, 1986. Spring Inventory, Files.

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

Q. WETLANDS/RIPARIAN ZONES

1. Affected Environment

Riparian vegetation for Tributary 1 of Slinkard Creek upstream of the Monitor Pass road consists mainly of large trees including white fir (*Abies concolor*), Jeffrey pine (*Pinus jeffreyi*) and aspen (*Populus tremuloides*) with aspen and willow (*Salix lutea*, *S. exigua*) being the predominant vegetation for approximately one-half mile below the road. Downstream of this area, generally in the SE¼ of Section 5, the vegetation takes on a more wet meadow graminoid community type with grasses and diverse forb species becoming more prevalent along the banks. A wildfire burned over this entire tributary downstream from the Monitor Pass road crossing in 2002 and the riparian vegetation is robustly recovering from that event. Slinkard Creek on public land in the canyon along the Monitor Pass road was also burned in the same wildfire with some willow and cottonwood trees (*Populus sp.*) affected. At the spring sites, the vegetation is represented by the wet phase of the montane meadow. Riparian vegetation cover is usually over 85% and is generally dominated by Nebraska sedge (*Carex nebraskensis*). Other species within the composition are baltic rush (*Juncus balticus*), horsetail (*Equisetum laevigatum*), bluegrasses (*Poa spp.*) and clover (*Trifolium sp.*). Some of the spring sites along the Monitor Pass road and in the drainage immediately south of the Slinkard Creek tributary were also burned over in the same fire, but have recovered their riparian vegetation biomass, predominantly.

The nature and degree of impacts of grazing on riparian vegetation are directly affected by grazing timing, intensity, and stocking rates. Impacts such as bank sloughing, lack of post-grazing residual plant biomass, bank chiseling, and soil compaction occurred to a slight degree on limited areas of Slinkard Creek Tributary 1, and generally, not at all along Slinkard Creek on public land where it meanders through the canyon adjacent to the Monitor Pass road. A few springs along the Monitor Pass road in Section 5 have historically been grazed by cattle, but with no deleterious long term affect on the riparian composition and site potential. The majority of the springs are located on the west side of Slinkard Valley in the various drainages oriented in an east to west aspect that drain from the ridgeline separating Slinkard Valley and Bagley Valley to the west. These springs have not been accessible to livestock grazing and are affected only by the dynamics of local environmental conditions.

2. Environmental Consequences

a. Impacts of Proposed Action

Implementation of the proposed action would ensure that grazing does not occur along both streams and at the accessible springs until the native vegetation communities have recovered to provide sufficient forage for livestock across the allotments. In addition, ensuring the availability of a 4 to 6 inch residual herbaceous vegetation stubble height at the end of the growing season will aid in maintaining long term stream bank integrity, dissipating energy of high flows and entrapping sediment for floodplain development.

b. Impacts of No Action

Under this alternative, livestock grazing would continue on the allotments. Due to the removal of native perennial bunch grass and the sagebrush/bitterbrush dominated shrub community from the majority (Slinkard Valley) or all of the allotment areas (e.g. Dry Canyon) as a result of recent wildfires, riparian vegetation conditions along both streams would be degraded due to cattle focusing their grazing activity in the riparian zones. This focused use along the channels would result in trampling unstable areas of the recovering stream banks, nutrient input to channels and removal of up to 60% or more of the riparian vegetation allowing sediment transport in to the streams. Springs in the same part of the Slinkard Valley allotment would incur soil trampling and removal of a similar volume of riparian vegetation. The effects of livestock concentrating their use on the small spring associated meadows would result in nutrient deposition, increased water turbidity and movement of unprotected soil at the source locations. The vegetation community for these physically limited areas would likely be kept at less than their potential composition for species like Nevada bluegrass (*Poa pratensis*) and tufted hairgrass (*Deschampsia caespitosa*).

c. No Grazing

Under this alternative, livestock grazing on all allotments would cease. All potential for livestock related affects along the two streams and the accessible spring associated meadows would be eliminated. The composition, vigor, and seral state of riparian vegetation would be determined by the natural dynamics of the local environment.

3. References

Bishop Field Office, 1978. Slinkard Creek Stream Inventory. File.

Bishop Field Office, 1978. Slinkard Creek, Tributary 1 Stream Inventory. File.

Bishop Field Office, 1986. Water Supply (Springs) Inventory. File.

Bishop Field Office, 1981. Coleville Planning Unit. Unit Resource Analysis. Step II.

R. WILD AND SCENIC RIVERS

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 or eligible river segments on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

S. WILDERNESS

1. Affected Environment

The Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments do not occur within any congressionally designated Wilderness Area. In addition, the Dry Canyon, Koenig Ranch, Aristo Ranch, and Sarman Ranch allotments do not occur within any designated Wilderness Study Area. However, 100% (3,886 acres) of the Slinkard WSA (CA-010-105) occurs within the Slinkard Valley 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.

Grazing existed on the Slinkard Valley allotment at the time the WSA was designated by BLM in the 1980's and is a use grandfathered by Section 603(c) of FLPMA. Grazing may continue to the same manner and degree as took place in 1976. The IMP provides specific guidance for implementation of grazing systems.

Historically, sheep and cattle have used the Slinkard WSA very little and mostly in the very low reaches of the WSA. The Slinkard Valley allotment, which includes the entire WSA, was last authorized for use in 2002 (cattle). Since 2002, non-use has been taken on the allotment because of recent fires and fluctuations within the ranching operation. Any future livestock authorizations within the WSA would be required to operate under standard terms and guidelines to maintain rangeland health as described in Chapter 2 above.

2. Environmental Consequences

a. Impacts of Proposed Action

Future grazing authorizations under the proposed action would benefit the Slinkard WSA's wilderness values of naturalness. The proposed terms and conditions (e.g. 40% proposed use level) on native perennial species would sustain the vigor and productive capability of the vegetation communities and sustain rangeland health over time. Wildlife species largely dependent on riparian vegetation to complete all or some of their life cycle requirements would benefit from retention of a higher residual stubble height and overall less use of riparian habitat through livestock grazing. This would enhance the naturalness of Slinkard WSA by allowing natural processes to occur.

Wilderness values of outstanding opportunities for solitude and a primitive or unconfined type of recreation would remain unaffected. For additional information regarding special features such as cultural values, wildlife, plants, etc., refer to specific narratives addressing these values in other sections of this document.

The proposed action alternative would conform with the BLM IMP and would not impair Congress's ability to designate the Slinkard WSA as Wilderness should they choose to do so. Additionally, since grazing was occurring at the time the WSA was inventoried, and those impacts did not disqualify the area or any portion of the area from being designated as a WSA, they would not do so now.

b. Impacts of No Action

The impacts of the no action alternative would allow for higher use thresholds (60% versus 40%) for native plant species of bunch grass that are still recovering from post fire effects. Long term this would reduce plant species vigor and survivorship as compared to the proposed alternative. Continuation of livestock grazing at the 60% use threshold would lengthen the recovery period for native vegetation with resultant delayed recovery for numerous wildlife species populations.

Wilderness values of outstanding opportunities for solitude and primitive or unconfined types of recreation would remain unaffected.

c. Impacts of No Grazing

The density and cover of native plant communities would improve in the lower reaches of the Slinkard WSA. Cessation of livestock grazing would allow any currently existing native vegetation to recover more quickly than if it were utilized by livestock, allowing it to be available for wildlife species that are dependent on native habitat for their activities. This could potentially allow for more natural processes occur. Wilderness values of outstanding opportunities for solitude and primitive or unconfined types of recreation would remain.

3. Maps

Overview of Allotments (Map 1) and Proposed Action (Map 2)

4. References

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

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

Bureau of Land Management, Final Intensive Inventory, 1979

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

T. WILDLIFE/THREATENED AND ENDANGERED

Wildlife

1. Affected Environment

The wildlife habitat described for the allotments is presented in terms of dominant upland vegetation types that are identified as pinyon, sagebrush/bitterbrush, and mixed coniferous forest. A fourth major wildlife habitat type, riparian, is associated with the streams (Slinkard Creek and Slinkard Creek Tributary 1) and spring dominated meadows which are very limited in the amount of habitat they individually provide. These different vegetation zones occur within one another and thus provide ecotones that themselves may be described as distinct habitat types, like pinyon/juniper/mountain mahogany, and pinyon/juniper/mountain scrub. The Slinkard Fire in 2003 and other recent wildland fires involving the other allotments have dramatically changed the extent of these habitats. As a result, the diversity and abundance (the total number of individuals of a particular species) of wildlife using the allotments has likely been dramatically altered.

Prior to these wildfire events, the diversity of vegetation types mixed with the topography in the allotments provided for the necessary requirements to support high wildlife species diversity and large substantial populations for individual wildlife species. The initial inventory of wildlife habitats and the species occurring in them found over 265 species of mammals, birds, reptiles, and amphibians. This is an unusually large number of species, given the relatively small land area. The high number of individual species is attributed to the complexity of habitat types represented within the dominant vegetation communities.

The allotments provide a vital migration corridor for thousands of mule deer (*Odocoileus*

hemionus) of the West Walker herd and also provide winter range for part of the herd. Migration of deer through the allotments generally begins in mid October and may continue through early January. Browse species, especially bitterbrush (*P. tridentata*), are important during the fall migration and on winter range. Hiding and thermal cover adjacent to adequate forage is critical in severe winters. Pinyon-juniper and mountain mahogany (*Cercocarpus ledifolius*) provided most such cover on the west and east sides of Slinkard Valley. Spring migration occurs through the allotments and begins in March or April. Mule deer have historically used Slinkard Valley as a holding area during migration in both the fall and spring. Although, most of the fawning occurs at higher elevations in Alpine County, on Forest Service lands. A few small areas in the east aspect drainages on the west side of Slinkard Valley associated with lush vegetation have served as fawning habitat. In the Slinkard Valley allotment, the only unburned habitat on public land is now found in Sections 18, 19, and 30 on the west side of Slinkard Valley and the southern one-half of Section 34 on the east side of the valley. Most or all of the pinyon and sagebrush/bitterbrush vegetation communities serving as transitional habitat or winter habitat for the West Walker deer herd was eliminated in the Dry Canyon, Koenig Ranch, Aristo Ranch, and Sarman Ranch allotments from recent wildfire events.

The other large mammal inhabiting the Slinkard Valley allotment is the black bear (*Ursus americanus*). The preponderance of suitable habitat for this species was located in the deep drainages on the west side of Slinkard Valley where the pinyon and mixed coniferous forest vegetation communities formed a complex association of habitats attractive to bears. Bear constructed “day-beds”, scat, tree markings, and individual sightings in the west side drainages over the past 15 years have indicated a steady presence for this animal in the Slinkard Valley allotment. The degree to which wildfires have altered the ability of bears to inhabit Slinkard Valley is currently unknown, however, as an omnivore this animal is capable of adapting to most changes in its environment and is likely utilizing substantial portions of the valley west side.

Two small mammal species, pygmy rabbit (*Sylvilagus idahoensis*, likely present), and mountain beaver (*Aplodontia rufa*, confirmed present) are somewhat rare in their occurrence in the field office area due to very specific and narrow habitat requirements. The pygmy rabbit likely occurs within the sagebrush/bitterbrush community, where it remains, while the mountain beaver is known to occupy some of the more mesic spring dominated riparian areas in the west side drainages of Slinkard Valley. The pygmy rabbit is a BLM sensitive species. Other small upland herbivores occurring in one or more of the vegetation types include Beechey ground squirrel (*Spermophilus beecheyi*), golden-mantled ground squirrel (*Spermophilus lateralis*), least chipmunk (*Eutamias minimus*), Great Basin pocket mouse (*Perognathus parvus*), northern grasshopper mouse (*Onychomys leucogaster*), mountain meadow mouse (*Microtus montanus*) and western jumping mouse (*Zapus princeps*), to name a few.. These are mainly granivorous and depend upon good seed production. Canid species occurring in these habitats that would prey on the smaller mammals include coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), marten (*Martes Americana*), long-tailed weasel (*Mustela frenata*), and badger (*Taxidea taxus*).

Bird species that have not been recorded in other locations of this field office area are the blue grouse (*Dendragapus obscurus*) and the band-tailed pigeon (*Columba fasciata*). The blue grouse

is a bird associated with the distribution of the mixed coniferous forest habitat type. The species depends on coniferous cover for winter while also using habitat comprised of deciduous tree species, shrubs and forbs. Aspen, the foremost among the broadleaf trees and a variety of shrubs, provide food and escape cover for these birds. Plant species of higher importance as food for blue grouse are snowberry (*Symphoricarpos spp.*), brome grass (*Bromus sp.*) and groundsel or vetch (*Senecio hydrophilus*). Of particular note is the ability of blue grouse to subsist almost entirely on coniferous needles in the winter. There is little available information on the ecology of the band-tailed pigeon for this area. It has been recorded in the mountain scrub and mixed coniferous forest areas during the initial 1979 breeding bird census. Very few band-tailed pigeons were observed and none were encountered during a fall census in the mountain scrub habitat. The bird may only use the habitats for breeding purposes.

Other species of game birds encountered in several of the habitat types are the California quail (*Callipepla californica*), mountain quail (*Oreortyx picta*) and the non-native chukar (*Alectoris chukar*). These species seek out the more mesic habitats like meadows and riparian along the two streams. The complex of vegetation communities, as mentioned above, provide all the essential elements for food, cover and reproductive sites necessary for these species to be found across all allotments.

A non-game bird (breeding bird) census in 1979 of 9 different habitat types ranging from willow riparian to mountain scrub to subalpine white fir/Douglas fir was undertaken to learn the degree and extent to which avifauna were using the allotments. A total of 77 bird species were recorded on all transects. The number of individual species by transect ranged from 11 bird species in the big sagebrush burned habitat to 37 species in the mountain scrub habitat. The habitats with the greatest number of individual birds (density) per 100 acres were the aspen willow, sub alpine white fir/Douglas fir/Jeffrey pine and mountain shrub types. Individual bird species recorded in the various habitat areas spanned the breadth of family groups in the predatory and non-predatory species. The allotments support many species of songbird during the breeding season, including those which are considered to be sagebrush obligates – that is, using only sagebrush habitats – and are susceptible to population declines as the quality and quantity of sagebrush habitats decline range-wide. Sage thrasher (*Oreoscoptes montanus*), sage sparrow (*Amphispiza belli*) and Brewer's sparrow (*Spizella breweri*) breed in these allotments and are identified by Partners in Flight (PIF, of which BLM is a partner) as sagebrush obligate species of concern. Other PIF sagebrush shrubland species of concern found here during the breeding season are green-tailed towhee (*Pipilo chlorurus*), vesper sparrow (*Pooectes gramineus*), lark sparrow (*Chondestes grammacus*) and loggerhead shrike (*Lanius excubitor*). PIF Coniferous Forest focal species for pinyon-juniper habitats recorded here include dark-eyed junco (*Junco hyemalis*), Cassin's finch (*Carpodacus cassinii*), gray flycatcher (*Empidonax wrightii*) and chipping sparrow (*Spizella passerina*). Several other upland species breed here and many more appear as spring and fall migrants (CalPIF 2002, Heath et al. 2001, Paige and Ritter 1999, Weston and Johnston 1980).

Some reptiles and amphibians, such as western terrestrial garter snake (*Thamnophis elegans*, primarily riparian) and Pacific tree frog (*Hyla regila*), are dependent upon riparian areas in the

allotments, where they occur. Small mammals that require riparian or wet meadow habitats in this area include vagrant shrew (*Sorex vagrans*), water shrew (*Sorex palustris*), western jumping mouse (*Z. princeps*), and meadow mice (*Microtus sp.*).

There is a federally listed threatened fish species, Lahontan cutthroat trout (*Salmo clarki henshawi*), on State of California land within the Slinkard Valley allotment. Potential habitat for this trout does exist along Slinkard Creek where it flows along the Monitor Pass road in the canyon near Highway 395 and the lower segment of Slinkard Creek Tributary 1 on public land in Section 5 also retains some suitable areas for this trout. The species is not known to occur in any public land stream segments, currently.

Prior to the series of wildfires occurring in the allotments beginning in 2002, the habitat conditions for wildlife species was little affected by livestock grazing. As mentioned previously, focal areas of livestock effects were evident in and around the more moist soil habitats like some natural spring dominated meadows and along Slinkard Creek Tributary 1, particularly along some segments of the stream in the SE ¼ of Section 5. These localized affects likely caused some negative change to habitat conditions and a corresponding influence on species capability to carry out breeding, foraging or other components of their life cycle. There is no historic evidence to indicate that livestock grazing was deleteriously affecting species demes or guilds to the extent individual species populations were negatively affected.

2. Environmental Consequences

a. Impacts of Proposed Action

The attributes of the vegetation communities defining wildlife habitats in the allotments should be improved from their historic conditions with implementation of the proposed action. Suspension of the AUM's on all allotments would ensure the temporal span of the native vegetation community recovery period is largely determined by the stochastic events in the local environment. It is also anticipated that the 40% use level on native perennial species would sustain the vigor and productive capability of the vegetation communities. Attributes in the improvement of the vegetation communities that would benefit species demes and guilds would include; increased cover of perennial grass and shrub species, increased vegetation structure in the form of vertical layering and horizontal cover and a reduction in weed species. Seed eating species guilds of rodents and birds should gain the most immediate benefit from improvement in the availability of food resources and cover. Species largely dependent on riparian vegetation to complete all or some of their life cycle requirements, like the western jumping mouse (*Z. princeps*) and the red-winged blackbird (*Agelaius phoeniceus*) would benefit from retention of a higher residual stubble height and overall less use of riparian habitat improving vegetation species richness and biomass which over time has the affect of improved flood plain conditions. Mule deer habitat quality for thermal and hiding cover and the biomass of available bitterbrush forage would be substantively improved with retention of 80% of current year growth. Mule deer would likely benefit to some degree from improved fawning habitat in the less used riparian communities.

b. Impacts of No Action

The impacts of the no action alternative would allow a 60% versus 40% use threshold on native perennial bunch grasses and bitterbrush that are still recovering from post-fire effects. Due to the removal of native bunch grass and the sagebrush/bitterbrush dominated shrub community from the majority (Slinkard Valley) or all of the allotment areas (e.g. Dry Canyon) as a result of recent wildfires, continuation of livestock grazing will protract the recovery period for native vegetation with resultant delayed recovery for numerous wildlife species populations dependent on upland habitat for all or a portion of their life cycle activities. The moist soil habitats (meadows and riparian along streams) will be the most negatively affected due to livestock typically concentrating their use in these sites and would be especially exacerbated during the recovery period for the upland vegetation types.

c. No Grazing

Under this alternative, livestock grazing on all allotments would cease. Barring a catastrophic event (e.g. wildfire), the total annual production of the plant communities would be available and habitat conditions for all wildlife species would change with the natural interaction of the local climate, soil, water, and vegetation.

3. References

Bishop Field Office, 1978. Slinkard Creek Stream Inventory. File.

Bishop Field Office, 1978. Slinkard Creek, Tributary 1 Stream Inventory. File.

Bishop Field Office. 1981. Coleville Planning Unit. Unit Resource Analysis. Step II.

Bishop Field Office. 1981. Coleville Planning Unit. Unit Resource Analysis. Step III.

Weston, H.G. and D. Johnston. 1980. Summer and Fall Censusing of Bird Populations in the Bodie/Coleville Region. Harvey and Stanley Associates, Inc. 85pp.

Threatened or Endangered Species:

No Threatened or Endangered Species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability on BLM managed lands in the Dry Canyon, Koenig Ranch, Aristo Ranch, and Sarman Ranch allotments. However, Lahontan cutthroat trout, a federally threatened species, are located in the upper reaches of Slinkard Creek on Fish and Game State Land within the Slinkard Valley allotment. Grazing management on the Fish and Game Land is permitted and managed by the Fish and Game.

U. WILD HORSE AND BURROS

The proposed action, no action, and no grazing alternatives would have no effect on wild horses and burros as there are no wild horse and burro populations or designated wild horse herd management areas occurring on the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments.

V. CUMULATIVE IMPACTS

Introduction

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

Past and Present Grazing Actions/Impacts

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

After the enactment of the Taylor Grazing Act in the 1934, BLM began taking an active role in managing public lands in the Owens Valley, creating allotment boundaries and developing grazing management systems.

Over the last twenty years, grazing on public lands in the eastern Sierra region has generally

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

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

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

Regional Impacts

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

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

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

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

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

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

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

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

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

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

Site Specific Impacts

For the Dry Canyon, Koenig Ranch, Aristo Ranch, Slinkard Valley, and Sarman Ranch allotments in this assessment, grazing issues and impacts have been minimal due to low livestock use and few facilities to attract and concentrate livestock use. The low occurrence of sensitive resources such as threatened and endangered plant/animal species, cultural resources, riparian areas, etc., reduces the likelihood of future adverse impacts as well.

The allotments have been affected by a series of recent wildfires in the Walker/Coleville area. These fires have eliminated native plant communities which made room for exotic species (e.g. cheatgrass) to become established. Early season grazing, trampling, and/or removal of parts of the exotic species will reduce the fine fire fuel loads that will annually build. By reducing the fuel loads in and around the Walker/Coleville area, fuel breaks would help with fire protection for the local communities.

Prior to the series of wildfires occurring in the allotments, the habitat conditions for wildlife species was little affected by livestock grazing. The recent wildland fires in the Slinkard Valley area involving the allotments have dramatically changed the vegetation communities and the extent of wildlife habitats. As a result, the diversity and abundance (the total number of individuals of a particular species) of wildlife using the allotments has likely been dramatically altered. By using livestock grazing to target exotic plant species (e.g. cheatgrass) which is intended to reduce exotic species seed bank and competition from established native perennial plants, overtime, native plant communities should reestablish providing habitat for the native wildlife.

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

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

Since no congregation zones occur on the subject allotments, no significant cumulative effects to cultural resources are predicted to occur from the proposed action.

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

Conclusion

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

1. References

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

Chapter 4: CONSULTATION AND COORDINATION

Livestock Operator Consultation, Cooperation, and Coordination

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

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

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

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

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

Personal Communication

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

Borda, Ted. 2006 and 2007. BLM arranged with Ted, under a Free-Use-Grazing Permit, an appropriate time period to graze exotic species (e.g. cheatgrass) on public land.

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

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

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

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.

Summers, Marlin. 2006 and 2007. BLM and Marlin discussed using sheep as a range management tool to control exotic species (e.g. cheatgrass) around Slinkard Valley, including the Dry Canyon allotment. Marlin would also like to sell and transfer the Dry Canyon allotment to Ted Borda.

Native American Communities

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

During the initialization of the allotment assessment process in FY 1999, seven Native American communities residing within the area administered by the Bishop Field Office– Bridgeport, Mono Lake, Benton, Bishop, Big Pine, Ft. Independence, and Lone Pine – were contacted by letter (January 11, 1999), with a follow-up phone call, to determine if there were any Native American concerns with the grazing program and if they would like to participate in the allotment assessment process. The communities either said that there were no impacts or

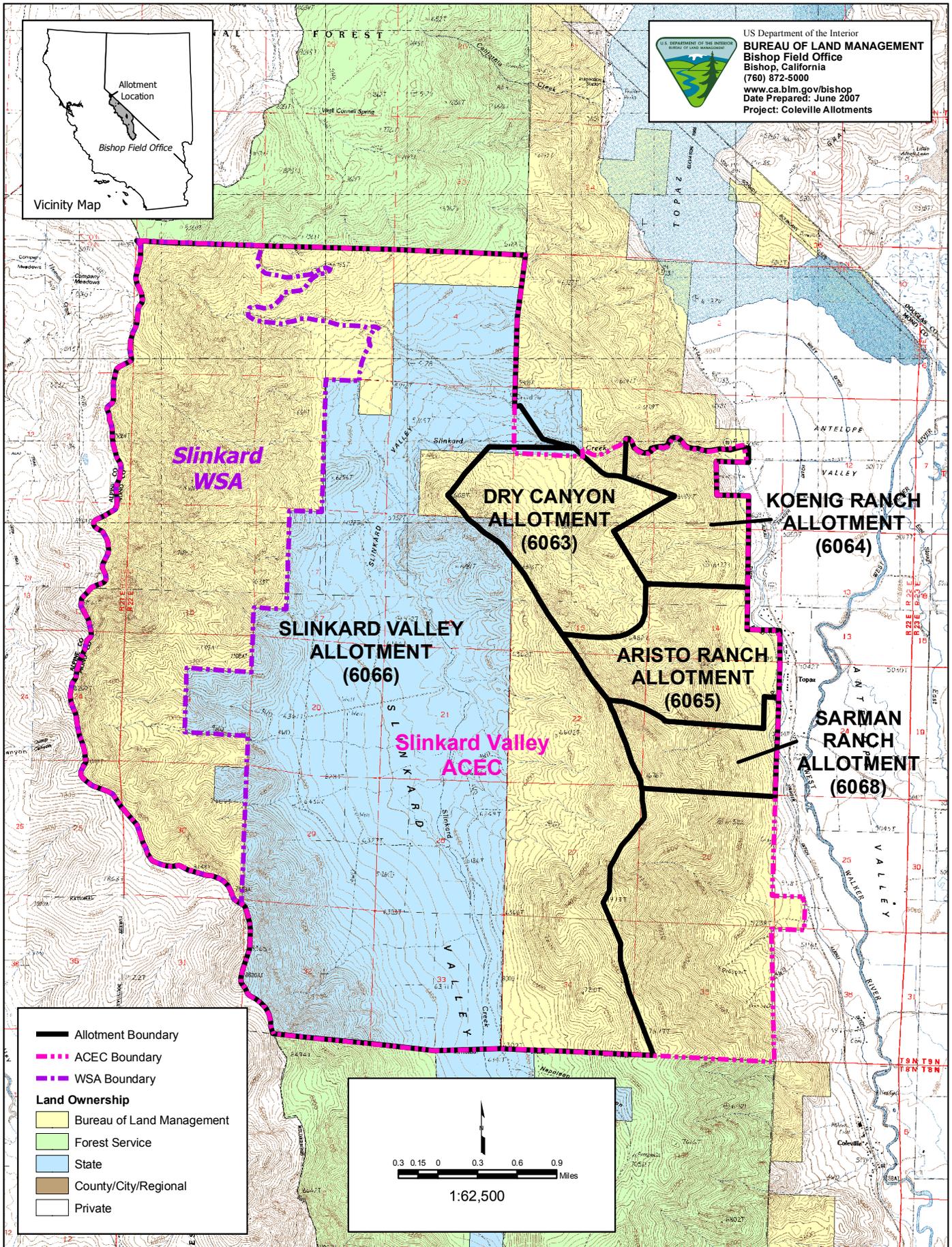
decided not to comment/participate. None indicated a desire or need to participate in the assessment process. (Consultation log available for FY 1999)

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

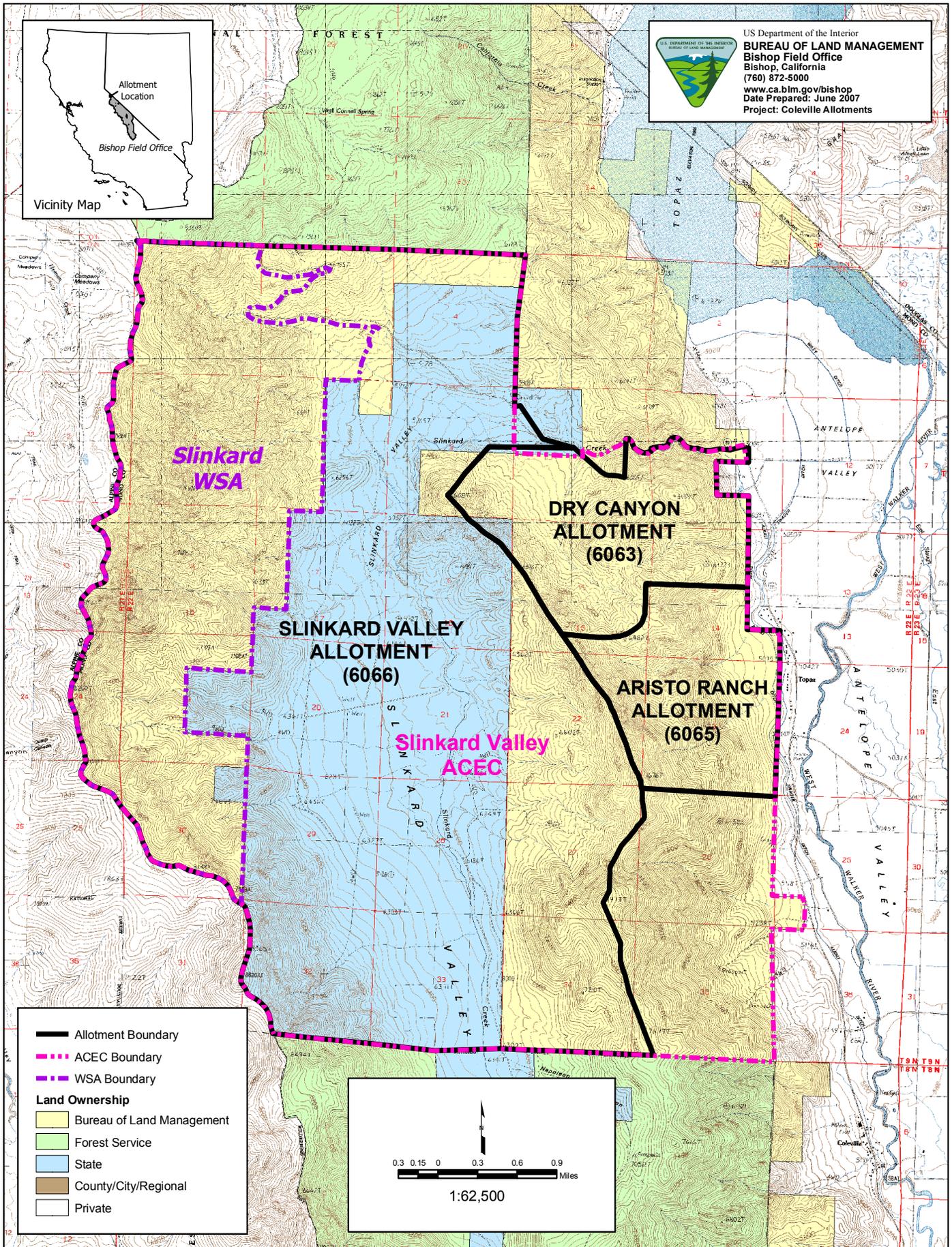
Environmental Assessment Preparers

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**Chapter 5:
APPENDICES**



Map 1. Overview of the Dry Canyon, Aristo Ranch, Slinkard Valley, Koenig Ranch and Sarman Ranch Allotments, Mono County, California. Bureau of Land Management, Bishop Field Office, Coleville Management Area.



Map 2. Proposed Boundaries for the Dry Canyon, Aristo Ranch and Slinkard Valley Allotments, Mono County, California. Bureau of Land Management, Bishop Field Office, Coleville Management Area.