ENVIRONMENTAL ASSESSMENT
LIVESTOCK GRAZING AUTHORIZATION

EA Number CA 170-02-05

Allotment Number and Name(s)

6026 Mathieu
6027 Adobe Valley
6034 Granite Mountain
6036 Adobe Lake
6037 Symons

BL M Bishop Field Office
Prepared
February 2002

CHAPTER 1:
INTRODUCTION

The Bureau of Land Management (BLM) is proposing to issue a 10 year term grazing permits on these allotments to authorize livestock grazing. The approximate allotment Public Land acreage are:

Allotment Name	Public Land acres
Mathieu	1,950
Adobe Valley	24,043
Granite Mountain	20,608
Adobe Lake	1,804
Symons	3,134

The allotments are located in the Granite Mountain Management Area of the Bishop Field Office. Their elevation range is between 5,400 and 8,900 feet. Overall, vegetation communities are a mix of Great Basin Big Sagebrush and Bitterbrush. However, the Granite Mountain allotment is comprised of Great Basin Big Sagebrush, Bitterbrush, and Pinyon Woodland communities.

Need for the Proposed Action

The proposed action is needed to authorize grazing in accordance with grazing regulation 43 CFR 4100 and consistent with the provisions of the *Taylor Grazing Act, Public Rangelands Improvement Act, and Federal Land Policy and Management Act*. Action may be required to maintain or improve resource conditions including rangeland health. Status of existing permit/lease: The grazing permits for these allotments will expire on 2/28/01. In accordance with the *National Environmental Policy Act* (NEPA), an Environmental Assessment (EA) must be prepared to analyze the affects of livestock grazing, in order to determine if reauthorizing the grazing permits is appropriate.

Plan Conformance: The proposed action is subject to the following plan:

Bishop Resource Management Plan (RMP), approved on March 23, 1993.

The proposed action has been determined to be in conformance with this plan as required by regulation (43 CFR §1610.5-3(a)).

Remarks: The proposed action will occur in an area identified for livestock grazing in the Bishop Resource Management Plan. The proposed action is consistent with the land use decisions and resource management goals and objectives of the plan, pages 8 thru 23 and 40 thru 46.

The five allotments meet all of the Secretary of Interior's Approved Rangeland Health Standards

as indicated in the BLM California Rangeland Health Environmental Impact Statement and Decisions Record of July 2000.
Rangeland Health field assessments of the allotments were completed on these dates:

Mathieu	July 2001
Adobe Valley	July 2001
Granite Mountain	July 2001
Adobe Lake	June 2001
Symons	June 2001

A database detailing the results of these assessments has been completed and is located in the resources/images/range directory.

Relationship to Statues, Regulations, and Plans

Endangered Species

Several of the allotments are within the range of federally listed threatened or endangered species. However, no Endangered Species are present or likely to occur, based on historical records, field monitoring, and/or habitat suitability in these allotments. Pursuant to Section 7 of the Endangered Species Act, formal consultation with the 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 to minimize take of listed animal species. In addition, the terms and conditions of any grazing permit may also be modified to conform to decisions made to achieve recovery plan objectives as determined through subsequent land use plan amendments or revisions. All Section 7 consultations with FWS were completed in 2000.

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 (RMP, 1993, p. 17) stipulates year-long protection of sensitive plants (Special Status Plants) and their associated habitats.

The following allotments contain these CNPS List 1B species;

Allotment	**Plant Species**	**Population Trend**
Adobe Valley	*Calochortus excavatus, Ivesia kingii var. kingii*	Stable
Adobe Lake	*Ivesia kingii var. kingii*	Unknown
Granite Mountain	*Ivesia kingii var. kingii*	Unknown

Grazing impacts to these populations have been minimized by avoidance of these sites during key reproductive periods, e.g. late June-July. Overgrazing has occurred in the past in the Adobe Valley Allotment and monitoring will be required to ensure that these populations are afforded continued protection.

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 (1998) and other internal policies.

The stipulations of any grazing permit may be modified to reflect the presence of cultural resources. Background site record and literature review are conducted as a minimum level of review as part of the permit renewal EA. Present inventory focused on known or suspected areas of historic ground disturbing activities associated with livestock grazing such as water sources, corrals, supplemental feeding areas, bedding areas, salt block stations. In general, following the Bishop Field Office research design for grazing assessments (Halford 1999), all areas with a high probability for the congregation of cattle and for the occurrence of significant cultural resources were field evaluated. The results of these analyses may be used to modify grazing permits to protect or mitigate impacts to cultural resources.

Wilderness

There are no designated Wilderness Areas within these five allotments. However, approximately 60% of the Granite Mountain allotment occurs within Wilderness Study Area (WSA) CA-010-

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

Water Quality

Direction for implementation of the Federal Clean Water Act (CWA) of 1972 (P.L. 92-500, as amended) is provided by the Code of Federal Regulations (40 CFR) and by a variety of USEPA guidance documents on specific subjects. To meet the requirements of the CWA on public lands, BLM is currently developing a state-wide water quality management plan under an MOU with the California Water Resources Control Board. As part of the water quality plan, BLM is required to submit a listing of Best Management Practices (BMPs) to the state and to the U.S. Environmental Protection Agency for approval. Pursuant to the decisions affecting water quality in the Bishop Resource Management Plan, BMPs for the Field Office have been submitted to meet the requirements under the CWA.

Section 4180.1 of the Grazing Administration Regulations (4180.1, Federal Register Vol 60, No. 35, pg.9970) directs that certain conditions of rangeland health exist on public lands which include the statement that "water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM management objectives...." The Standards and Guidelines for Rangeland Health in the Central California area, as it applies to surface and groundwater resources and their quality have as a primary objective to maintain the existing quality and beneficial uses of water, protect them where they are threatened (and livestock grazing activities are a contributing factor), and restore them where they are currently degraded (and livestock grazing activities are a contributing factor). In the following instances the objective becomes a higher priority :

(a) where beneficial uses of water bodies have been listed as threatened or impaired pursuant to Section 303(d) of the CWA;

(b) where aquatic habitat is present or has been present for Federal threatened or endangered, candidate and other special status species dependent on water resources; and

(c) in designated water resource sensitive areas such as riparian and wetland areas.

Air Quality

The Granite Mountain Management Area falls within a Federal Air Quality Non-Attainment/ Maintenance Area (Figure 1) and is subject to the following legal requirement:

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 (SIP) apply to projects within non-attainment 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:

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

The Great Basin Unified Air Pollution Control District (GBUAPCD) has state air quality jurisdiction over the Granite Mountain Management Area.

CHAPTER 2:
PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The action is to continue present management, but with revised Terms and Conditions to the expiring Grazing Permit. The completed Rangeland Health allotment assessments document that continuation of livestock grazing, in the same manner and degree, does comply with the intent of the Rangeland Health initiative and its Standards.

Terms and Conditions will be incorporated into the reissued Grazing Permits to ensure compliance with the Rangeland Health Standards and Guidelines and Bishop RMP decisions pertinent to livestock grazing.

A. Livestock Numbers and Season of Use

Allotment Name	Number	Kind	Season of Use	% Public Land	Permitted Use (animal unit months)	
Mathieu	10	cattle	6/1- 10/31	100	50	
					Total	50
Adobe Valley						
(Lone Tree)	80	cattle	6/15 - 11/15	100	408	
(Mike Johns)	196	cattle	6/15 - 11/15	100	991	
					Total	1399
Granite Mountain	180	cattle	7/1 - 10/15	94	594	
					Total	594
Adobe Lake	333	cattle	6/1 - 10/31	6	100	
					Total	100
Symons	158	cattle	6/1 - 10/31	16	127	
					Total	127

B. Range Improvements

There are no existing, nor any proposed new improvements, that need to be eliminated or constructed in order to maintain or achieve rangeland health.

C. Measures to Maintain or Achieve Standards (Revised Terms and Conditions of the Grazing Permit).

1. Grazing use is not to exceed 40% of annual growth on key forage species (all allotments) and will leave a 4-6" stubble height on riparian vegetation.

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

3. No supplemental feeding (actual forage, i.e. hay) on public land or private lands that are

unfenced from the public land at any time.

4. No trailing through a neighboring allotment without the BLM's authorization.

5. Grazing permits shall contain terms and conditions appropriate to achieve management and resource condition objectives for the public land, or to assist in the orderly administration of the public rangelands and to ensure conformance with the provisions of Subpart 4180 (Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration). This is per Subpart 4130.3 Terms & Conditions and Subpart 4130.3-2 Other Terms and Conditions.

6. The authorized officer may modify terms and conditions of the permit when the active use or related management practices are not meeting the land use plan, allotment management plan or other activity plan, or management objectives, or is not in conformance with the provisions of 4180 (Fundamentals of Rangeland Health and Standards & Guidelines for Grazing Administration). This is per Subpart 4130.3-3 Modification of permits or leases.

D. Monitoring

Monitoring will consist of documenting utilization levels to ensure that grazing use does not exceed the 40% level. This will be done annually to assure compliance with terms and conditions of the permit. No long term monitoring methods to determine condition and trend are planned. At some future date, a reassessment of rangeland health may be done using the existing methodology as comparison to current conditions.

No Grazing Alternative

This alternative would result in not reissuing a grazing permit for these allotments. As a result, grazing would be eliminated. This would be a permanent cancellation. The BLM would be required to complete an RMP Plan Amendment process in accordance with BLM Planning Regulations.

CHAPTER 3:
ENVIRONMENTAL ANALYSIS

The 18 individual resource templates below combine, by resource, the affected environment, environmental consequences, and consultation sections of required elements of the EA. They include the standard critical elements of the human environment (appendix 5, BLM NEPA Handbook, as amended) and several other resource elements commonly affected by livestock grazing.

Required Elements:

1. Air Quality

2. Areas of Critical Environmental Concern (ACEC)

3. There are no ACECs designated within these six allotments.

4. Cultural Resources

5. Environmental Justice

6. Farmlands, Prime or Unique

   The proposed action and no grazing alternatives would have no affect on Farmlands because none are present on any of the five allotments.

7. Flood plains

   The proposed action and no grazing alternatives would have no affect on flood plains because there are none on the public lands on any of the five allotments.

8. Invasive, Non-native Species

9. Native American Concerns

   The Native American Tribal Councils, for the seven tribes that reside within the Bishop Field Office jurisdiction, have been contacted and have not expressed any specific concerns relative to the affects of livestock grazing for these five allotments. There are general concerns that are addressed below.

10. Recreation

    The proposed action and no action alternative would have no affect on recreation because of the lack of proposed facilities or management practices that could potentially alter existing recreation uses or use patterns.

11. Social and Economic

12. Soil

13. Waste, Hazardous or Solid

    The proposed action and no grazing alternatives would have no affect on Hazardous or Solid Waste as there are no sites occurring on these five allotments.

14. Water Quality, Surface and Ground

15. Wetlands/Riparian Zones

16. Wild and Scenic Rivers

There are no Wild and Scenic Rivers within these five allotments. There are also no rivers that have been determined as eligible for wild and scenic river study.

17. Wilderness

These allotments do not occur within any designated wilderness area. However, proposed grazing within the Wilderness Study Areas mentioned above in Relationship to Statutes, Regulations, and Plans would not impair wilderness qualities. Wilderness values of naturalness, outstanding opportunities for solitude, and a primitive or unconfined type of recreation would remain unaffected. If ecological improvements in plant and wildlife habitat occur, then naturalness would be enhanced. For additional information regarding special features such as cultural values, wildlife, plants, etc., refer to the specific narrative addressing these values in other parts of this document. In conclusion, proposed grazing within these two allotments would conform with the BLM Wilderness Interim Management Policy (IMP).

18. Wildlife

19. Wild Horses and Burros

20. Vegetation

AIR QUALITY

A. Affected Environment

All five of these allotments occur inside a federal non-attainment/maintenance area within the Great Basin Unified Air Pollution Control District's (GBUAPCD) jurisdictional boundaries.

B. Environmental Consequences

1. Impacts of Proposed Action

Fugitive dust emissions could occur due to the soil disturbance as a result from the trampling action of the livestock when soil moisture levels are low. Support vehicle use on the access roads will generate small amounts of PM_{10} emissions throughout the grazing area and could carry soils onto the paved roads which would increase entrainment PM emissions. Ruminant

animals emit methane gas which is a precursor emission for ozone. The support vehicles emit various precursor emissions for ozone. Actual emissions amounts from this grazing activity are negligible. No offsite impacts are anticipated.

2. Impacts of No Grazing

Same as above.

3. Cumulative Impacts

The proposed action area is within the jurisdiction of the Great Basin Unified Air Pollution Control District.

The expected emission levels are within the levels in the attainment demonstrations in the SIPs and the cumulative NAAQS 24 hour and one year PM_{10} emission standards and the one hour ozone emission standards and are not likely to result in or contribute to accedences of the National Ambient Air Quality Standards. These impacts would be the same for both Alternatives.

C. Consultation Jim Parker, Great Basin Unified Air Pollution Control District (GBUAPCD)

D. Maps GBUAPCD map of PM10 non-attainment areas (Figure 1)

E. References None

CULTURAL RESOURCES

A. Affected Environment

Located on the western fringe of the Great Basin physiographic province the Owens Valley region, incorporated within the Bishop Field Area, 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 Area; "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. The general conclusion was:

> Livestock use impacts on cultural resources include: displacement (vertical and horizontal) and breakage of artifacts, and the mixing of depositional associations

> through trampling; destruction or enhanced deterioration of structures and features through rubbing; and an acceleration of natural erosional processes. Plants valued by Native American traditionalists could be trampled or consumed by livestock, adversely affecting plant availability at some locations. For purposes of analysis it is assumed that the impacts of livestock use are distributed in proportion to the actual distribution of livestock, with the most intensive impacts occurring at livestock use concentration areas. Cultural Resources located on lands having erosional or other types of watershed deterioration problems attributed to livestock use impacts are assumed to receive high impacts. Cultural resources are non-renewable, and impacts of livestock use on cultural resources are cumulative (Bodie-Coleville EIS 1982:4-92).

Using existing survey data (BLM 1978; Busby et al. 1979; Hall 1980; Kobori et al. 1980), site densities were predicted to range from 9 sites per square mile (m^2) in the Benton Planning Unit to 4 sites/m^2 in the Owens Valley Planning Unit, with an average of 9.54 sites/m^2 in the Bodie/Coleville Planning units.

Previous Research on Grazing Impacts to Cultural Resources

Relatively few studies have been undertaken to address the impacts of domestic livestock grazing to archaeological resources (Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Osborn et al. 1987; Roney 1977; Thomas D. Burke, personal communication 1998), with more emphasis being placed on the effects of human trampling in site formation processes (see Nielson 1991). Nonetheless, the same conclusions have been drawn from these studies as summed by Nielson (1991).

> Intensive trampling modifies the horizontal distribution of artifacts, it obscures patterns existing in their original deposition, and eventually introduces new trends in their spatial arrangement. By producing vertical migration of materials it also can move artifacts across stratigraphic units, and mix in the same deposits items originating in different occupations. When trodden, artifacts undergo several types of damage, like breakage, micro-chipping and abrasion. The resulting traces sometimes mimic the damage produced by use or by other post-depositional processes and therefore can lead unwittingly to erroneous functional interpretations (Nielson 1991:483-484).

Variables influencing the level of impact at any given site include: 1) soil type (e.g., hard or rocky soil substrates will lead to greater artifact damage and horizontal displacement); 2) soil moisture (e.g., wet soils will lead to greater vertical displacement and stratigraphic mixing); 3) vegetation type/ground cover (depending on site landform specifics, erosion may increase as vegetation cover decreases resulting in significant secondary impacts); and 4) intensity of grazing. In general, there are three primary mechanisms to consider when addressing the effects of livestock grazing on cultural resources: A) mechanical or physical impacts such as trampling,

wallowing and rubbing; B) chemical impacts resulting from urine and feces; and C) erosional impacts.

Experimental studies, reviewed below, have analyzed trampling impacts to archaeological resources(Archaeological Sites Protection and Preservation Notebook: Technical Notes (ASPPN) I-15, 1990; Nielson 1991; Osborn et al. 1987; Roney 1977). All of the studies found that smaller artifacts (< 2 g [ASPPN 1991]) tend to migrate vertically more readily than larger artifacts thus biasing site interpretation in cases where no subsurface analyses are involved. In a controlled experiment within a portable corral, Roney (1977) found that after 40 hours, in which 78 cows were rotated through the corral, that only (5%) of 60 flaked stone artifacts could be found on the surface. The hard soil substrate was churned to a fine dust to 5 cm, 81% of the artifacts were horizontally displaced up to .75 m and 48% were damaged and broken. Roney (1977) concluded that "...cattle do produce significant physical damage to lithic artifacts."

Nielson (1991), in his assessment of human trampling, found the same trends with top soil loosening occurring to 1-2 cm on a hard soil substrate with subsoils being compacted. Again smaller items tended to migrate downward, but were less apt to move horizontally than large specimens. Sixty percent of the lithic debitage showed damage ranging from abrasion, microflaking, and breakage. As would be expected, ceramics showed the greatest level of impact with a random distribution of sizes being reduced to a skewed, unimodal distribution dominated by smaller size classes less than 30 cm in diameter. We can predict that cattle impacts would be highly magnified over Nielson's (1991) results from his studies on human trampling, but would follow the same trends.

In field visits Tom Burke (personal communication 1998), owner and principal investigator of Archaeological Research Services, Inc., has found cattle grazing to have "substantial adverse effect to archaeological site integrity". In heavy use areas mixing can occur up to 10-20 cm in most conditions and up to 30-40 cm in wet conditions. The author's field investigations corroborate Burke's assessments. As would be expected, Burke has found impacts to be highest in areas where cattle tend to congregate such as springs, water courses, troughs, shade zones, and salt licks. The zone of impact around such features extends from 25-100 meters, with a linear pattern of roughly 25 to 50 meters following stream courses. Field assessments in the Bishop Field Area support these observations.

In summary, it can be concluded that livestock grazing can have adverse affects to archaeological resources causing artifact damage, movement, and mixing. Site integrity can be significantly effected and eligibility for the National Register of Historic Places (NRHP) compromised. In the case of standing structures, cattle rubbing or scratching can cause severe impacts causing structure degradation and collapse (Chuck Fell, Bodie State Historical Park, personal communication 1995). Intensity of grazing, soil hardness, moisture, vegetation cover, and type are factors influencing the level and types of impacts. Erosion is a secondary impact resulting from grazing that can also have negative effects to cultural sites. The areas of greatest concern are those locations where cattle congregate and tend to spend a large percentage of their

time. In zones where cattle are more dispersed, such as upland locations, it can be predicted that impacts will be mainly surficial, causing no stratigraphic mixing, but perhaps resulting in horizontal displacement of artifacts. In rocky areas and zones without sufficient feed very little to no cattle impact is expected to occur (field observations 1999).

B. Environmental Consequences

1. Impacts of Proposed Action

Site densities are significant in the Adobe Valley area. In most cases cattle use on the subject allotments is generally highly dispersed across thousands of acres, but heavy congregation occurs around existing water improvements or springs.

The most heavily impacted areas containing known cultural resources are found within the Adobe Valley Allotment. One new site was found at the North Adobe Well (well #7530). The site does not appear to be eligible for listing on the NRHP but has been significantly impacted by cattle congregation in the area and site integrity has been compromised. The Antelope Springs area has been fenced to protect the spring, but concentrated cattle and wild horse use occurs in the area. Eight known sites occur within 1/4 mile of the spring. Two sites, MNO-174 and MNO-205, are within 100 meters and are being heavily impacted. MNO-174 in particular has been disturbed by cattle bedding in the big sage within the site. The top 20-30 cm of the site have been physically and chemically impacted. At current it is not known if the site retains enough integrity and data potential to be eligible for listing on the NRHP. Full recordation and a testing program at the site is needed to determine its eligibility.

Mitigation Measures:
1) To curtail impacts to MNO-174 and MNO-205 the spring exclosure fence could be extended to encompass these site locations.

2) The trough, located on the southwest portion of the protective fence could be relocated at a remote location to reduce cattle and wild horse congregation near the spring and the site(s).

3) Grazing activities could be removed from this area of the allotment.

4) The site(s) could be tested to determine eligibility and a data recovery program instituted if found to be eligible for listing on the NRHP.

2. Impacts of No Grazing

This alternative would eliminate all threats of damage to cultural properties that could result from the proposed action.

3. Cumulative Impacts

Cultural resources would be cumulatively affected from a variety of actions including livestock grazing. Continued trailing through a site may cause horizontal movement of artifacts, including artifact damage and wear. These types of impacts will be, generally, highly localized and would not adversely affect those properties of a given site which may make it eligible for listing on the National Register of Historic Places. Areas of continual cattle congregation and those where wallowing is prevalent can result in significant cumulative impacts to a cultural property, causing both horizontal and vertical mixing of deposits, artifact damage, and negative impacts to features such as living floors, hearths, and house structures. At MNO-174 continued degradation of the site area will occur and any integrity compromised as a result of the proposed action if the appropriate measures are not taken to address cattle and wild horse use of the area.

C. Consultation

Thomas D. Burke, personal communication 1998, concerning grazing impacts to archaeological resources.

Chuck Fell, Bodie State Historical Park, personal communication 1995, concerning impacts to historic buildings and resources.

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

E. References

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ENVIRONMENTAL JUSTICE

A. Affected Environment

There are no low-income or minority populations living on any of the allotments.

There are seven Native American communities in the Eastern Sierra which are near allotments. Members of these communities do some hunting and subsistence collecting of materials from public lands on various allotments – pinyon nuts, basket weaving materials, medicinal plants, etc.

There may be some low-income Hispanic or other ethnic minorities working on various

allotments, working for some of the cattle and sheep operations. Depending upon actual decisions made, there may be some impacts to certain individuals.

B. Environmental Consequences

1. Impacts of Proposed Action

Continued livestock grazing would have no affect upon any low-income or minority populations. If any changes in grazing operations 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. Any such impacts would be limited to a single job here or there and there would not be a disproportionate impact, either negative or positive, to such a group.

2. No Grazing

If there were no grazing allowed on public land, 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 and would not be a disproportionate impact to such a group.

There might be a slight positive impact to some groups through increased availability of some resources that are collected on public lands. This would however vary by area and type of resource, and would probably be minimal.

3. Cumulative Impacts

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 be disproportionate to impacts on other segments of the population under any of the alternatives. A "no grazing" scenario would potentially have the most negative impact, but again, would not be disproportionate to the low income or minority population.

C. Consultation

There are seven Native American communities in the Eastern Sierra which are near allotments.

When we began the allotment assessment process in 1999, these communities were all 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 FY99)

Each of the 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. Again, they stated that there are no impacts to their communities by the grazing program that could be construed as disproportionate impacts under the Environmental Justice criteria. (Consultation log available for FY2001)

A couple of the communities expressed some specific concerns that are addressed in the Native American Consultation section of the document.

INVASIVE, NON-NATIVE SPECIES

A. Affected Environment

Allotment	Invasive Species	Estimated % Cover
Mathieu	None Present	
Adobe Valley	None Present	
Granite Mountain	None Present	
Adobe Valley	None Present	
Symons	None Present	

Currently, the density of invasive, non-native plant species is low and is not affecting native species composition or vigor on these allotments or contributing to other environmental impacts, such as fire hazard, increased erosion, or large-scale reductions in mychorrhizal densities (Bethlenfalvay and Dakessian 1984). Periodic monitoring (1-3 years) of the allotments will facilitate documenting changes in site composition and density of any non-native species.

B. Environmental Consequences

1. Impacts of Proposed Action

Provisions for grazing before seed set of these species has been included in allotment grazing stipulations. Early season grazing, normally before seed set, of these annual grasses may help reduce the spread of these invasives (Olson 1999) by reducing inputs into the seed bank of particular sites. Other potential long-term 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) , and a reduction in mychorrizal populations. Currently, the cover values for these species is low which will likely reduce the chance for rapid spread of these species if grazing timing stipulations are judiciously complied with.

2. No Grazing

No grazing before seed set of these invasive species could increase the seedbank inputs into particular sites over time and potentially increase the density of some of these invasive, non-native species. However, no grazing would also reduce the chances that residual weed seed from sites is spread to new areas and would minimize the likelihood that the other long-term impacts discussed above would occur.

3. Cumulative Impacts

Cumulative impacts under the Proposed Action and No Grazing alternatives would include Off-highway vehicle (OHV) use that would exacerbate the spread of invasive weeds. However no unregulated OHV use was identified during the allotment assessments.

C. Consultation

Coordination with the Eastern Sierra Weed Management Area and California Native Plant Society, Bristlecone Chapter

D. References

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

Bethlenfalvay, G.J., and S. Dakessian. 1984. Grazing effects on mycorrhizal colonization and floristic composition of vegetation on a semiarid range in norther Nevada. Journal of Range Management 37: 312-316

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NATIVE AMERICAN CONCERNS

A. Affected Environment

There are seven Native American communities in the Eastern Sierra. All of the communities are near, and in some cases even surrounded by, one or more allotments. None of the communities are living on an allotment. There are no treaty rights (hunting, fishing, etc.) associated with any of the communities or any of the allotments.
Some members of these communities hunt and some do some subsistence collecting of materials

from public lands – pinyon nuts, basket weaving materials, medicinal plants, fire wood, etc. However, this is general use and there were no specific "traditional use areas" identified by any of the Tribes on any of the allotments. Any other traditional uses or use areas have not been divulged to this office.

Some general concerns mentioned by the Tribes are:

- They have general concerns with overgrazing and want us 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

All project development proposals are examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat and cultural resources. This practice will continue under all alternatives.

Herbicides are used very sparingly and only in certain very restricted circumstances. Any potential application is examined for potential impacts prior to approval. This includes potential impacts to water sources, streams, wildlife habitat and cultural / traditional uses. This practice will continue under all alternatives.

Prior to any vegetative manipulation of pinyon we will consult with the Native American community. There is no pinyon treatment planned at this time.

B. Environmental Consequences

1. Impacts of Proposed Action

The Assessment showed that there is no overgrazing in these allotments, that they are in proper functioning condition. The intent is to keep the ecosystem functioning properly.

A cultural inventory and assessment is being done as part of the allotment assessment process. This cultural inventory and assessment will identify any current problems (water projects, fences, livestock bedding areas) causing impacts to cultural sites, including burials, so that they may be corrected.

2. No Grazing

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

3. Cumulative Impacts

The cumulative impacts of doing the allotment assessments and of issuing grazing permits within the requirements of the standards and guidelines will result in the long term protection and improvement of the ecosystems found within the jurisdiction of the Bishop Field Office – better habitats for plants and animals, protection of cultural sites, etc. These improvements, coupled with continued coordination and consultation with the Tribes, should result in BLM addressing the Tribes' concerns in a manner agreeable to the Tribes.

C. Consultation

All seven Native American communities – Bridgeport, Mono Lake, Benton, Bishop, Big Pine, Ft. Independence, and Lone Pine – were contacted in January 1999 by letter, 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. (Consultation log available for FY99)

Each of the tribal offices was contacted 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 above; 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)

SOCIAL AND ECONOMIC VALUES

A. Affected Environment

Regionally livestock operations involve use of BLM, Forest Service (USFS), or City of Los Angeles Department of Water & Power lands. These six allotments have three permittees. Lone Tree Cattle Company (50 AUMs) has permitted use for the Mathieu allotment. Lone Tree Cattle Company (408 AUMs) and Mike Johns (991 AUMs) both contain permits for the Adobe Valley allotment. Finally, Cora Maxine Paesano holds the grazing permits for Granite Mountain (594 AUMs), Adobe Lake (100 AUMs), and Symons (127 AUMs) allotments. There is a careful balance of head numbers and seasons of use for grazing these allotments, such that any substantial change of use, would negatively affect their overall operation. Having other permits or lease land available does not in itself lead to increased flexibility.

The local economy is benefitted by these grazing operations from monies spent to establish and maintain a ranching operation and contributes to the labor force. This is true of any privately owned business. In Mono County for year 2000, livestock production accounted for 47% of a 100% total in agricultural values. This amounted to $ 9,980,350 or 47% of the total $ 21,153,050 agriculture production. On a state-wide average, for every $1.00 in agricultural production, there is a $3.00 value to the economy.

B. Environmental Consequences

1. Impacts of Proposed Action

The local economy is benefitted 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. Sustaining these operations, from continued use of BLM allotments, would have a positive economic affect on the stability of their overall livestock operation. The social value of retaining a rural, agricultural lifestyle would be preserved and would be in keeping with the public's perception of the eastern Sierra's western culture. The proposed action will not impact the social and economic stability of these ranching operations

2. No Grazing Alternative

If grazing were terminated on these BLM allotments, there would be slight to moderate impacts to the operators. The grazing capacity of their Forest Service and DWP leases may not accommodate the increased use or meet Forest Service or DWP's management requirements of those lands. The permittees may be forced to stock fewer numbers of livestock. The BLM may experience criticism resulting from this decision from its local constituency.

3. Cumulative Impacts

There will be no cumulative impacts from the proposed action.

C. Consultation

George Milovich, Agricultural Commissioner Inyo-Mono Counties (personal communication).

D. Maps

None

E. References

1999 Annual Crop and Livestock Report, Inyo- Mono Counties (prepared June 1, 2000)

SOILS

A. Affected Environment

The soil classification of the allotments have been mapped in detail by the Natural Resource Conservation Service (NRCS). Two general soil types exist on the five allotments. The first soil type is soils of the mountainous region which are shallow to very deep, well drained sandy loams to loams. The second soil type is soils of the intermountain valleys which are moderate to very deep, well to somewhat excessively drained ashy loamy sands. Soils of the mountainous regions tend to limit the establishment of seeds and seedling development because of the sand to cobble structure. Furthermore, the very shallow soils may restrict water infiltration and plant rooting. These soils primarily occur on slopes and ridges. Ash loamy sands are inclusions occurring within depressions or valleys between the slopes. These soils are well drained, which provide a more favorable habitat for both grasses and mixed desert shrub species.

Erosion potential of these soils range from slight to moderate on the valley floor due to wind erosion and can be somewhat attributable to the effects of cattle grazing and hoof action which disturbs the soil surface. Valley floor soils may also have inclusions of calcareous loam along remnant river terraces that exhibit duripans which inhibit water infiltration and restrict shrub rooting depths. The erosion potential on the alluvial fans is low due to the gravelly surface texture and low occurrence of cattle use compared with the valley floor. There are no identified erosional problems on the allotments.

BLM assessed these allotment in 1999 and 2000 to determine if the rangeland health standards were being met. Specific soils standards relate to permeability and infiltration. All sites examined were found to meet the standards for soils.

B. Environmental Consequences

1. Impacts of Proposed Action

The proposed action will result in no new impacts. The allotments will contiue to meet the standards for soils.

2. No Grazing

The proposed action will reduce the few minor impacts from livestock grazing. The allotments will meet the standards for soils.

3. Cumulative Impacts

There will be no cumulative impacts from the proposed action.

C. Consultation

Reference to Benton Owens Valley Soil Survey as updated by NRCS.

D. Maps

None

E. References

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

WATER QUALITY, SURFACE, AND GROUND WATER

A. Affected Environment

Naturally occurring perennial water sources are extremely limited within the 5 grazing allotments. Only the Adobe Valley and Granite Mountain allotments contain natural free flowing sources of water. Antelope Spring in the Adobe Valley allotment produces a very minor amount of water; less than 5 gallons per minute. There are no known water quality problems with Antelope Spring. The outflow has been designed to place water onto a small alkaline meadow for the sustainment of vegetation and to provide habitat for small mammals and aquatic invertebrate species. A portion of the flow also supplies a nearby water trough for livestock and feral horses.

Adobe Creek is a perennially flowing stream emanating from the combined flows of Dexter Creek and Taylor Canyon Creek which have their watersheds on the north aspect of Glass Mountain on the Inyo National Forest. Adobe Creek typically has a summertime flow of between 10 and 15 cubic feet per second (cfs). There are no known water quality problems with Adobe Creek. A substantial amount of the original meandering channel on public land was altered sometime after 1954 by straightening and narrowing the channel. This and other more recent alteration of the channel by unknown persons has caused erosion of streambanks on most of the public land segment. Despite this alteration, the stream is generally stable in the amount of sediment moving through the water column.

B. Environmental Consequences

1. <u>Impacts of Proposed Action</u>

Water quality in Antelope Spring will not be affected since the source and major component of the outflow are within a livestock exclosure fence. Adobe Creek water quality will be maintained or slightly improved with the improvement in bank stubble height. Residual stubble height improvement should have the affect of diminishing soil movement into the channel and potentially improving water quality.

2. No Grazing

Water quality would remain the same at Antelope Spring for the reason mentioned above. Adobe Creek water quality would be improved over the long term as complete restoration of riparian vegetation occurred.

3. Cumulative Impacts

Adobe Creek has been susceptible to complete dewatering in the previous 15 years due to actions on private land at Adobe Reservoir. While similar actions are not likely in the future, the landowner may in the future conduct activities detrimental to Adobe Creek without prior warning to downstream water users. Drying and potential loss of riparian vegetation may occur under those conditions.

C. Consultation

No consultations were conducted with any person, group or agency.

D. Maps

None

E. References

Adobe Creek Stream Survey, file, June 1978.

WETLANDS/RIPARIAN ZONES (CRITICAL ELEMENT)

A. Affected Environment

The Adobe Valley Allotment contains extensive wetlands (600 acres) which include the following plant communities (Barbour 1977): 1) Transmontane Freshwater Marsh (permanently flooded), Freshwater Seep, Transmontane Alkali Marsh (seasonally flooded), Alkali Seeps, and Alkali Meadow (saturated soils). The wetland community types integrate following a gradient of moisture and alkalinity.

Transmontane Freshwater Marsh/Freshwater Seep

Transmontane Freshwater Marsh is a Rare Natural Community, State-ranked S2.2(threatened). Marsh vegetation is dominated by bulrush (*Scirpus americanus*), (*Juncus* spp.), sedge *(Carex aquatilis* and *C. nebrascensis*), and spikerush (*Eleocharis* spp.). Common perennial wetland forbs include marsh speedwell (*Veronica scutellata)*, monkeyflower (*Mimulus guttatus*) and arrow grass (*Triglochin concinna*).

Transmontane Alkali Marsh

Transmontane Alkali Marsh is a rare natural community, State-ranked S2.1 (very threatened). As the wetland system shifts away from its freshwater source, marsh and seep vegetation shift to a more alkaline community type dominated by saltgrass (*Distichlis spicata*).

Alkali Meadow

Alkali Meadow is a Rare Natural Community, State-ranked S2.1 (very threatened) and it is the most extensive wetland vegetation type within the allotment. This community type also occurs in the Adobe Lake and Granite Mountain Allotments. Dominant species include a variety of perennial grasses such as salt grass (*Distichlis spicata*), alkali cordgrass (*Spartina gracilis)*, Great Basin wild rye (*Leymus cinereus*), alkali sacaton (*Sporobolus airoides*), bluegrass (*Poa secunda* ssp. *juncifolia)* and meadow brome (*Hordeum brachyantherum*). Commun rushes include baltic rush (*Juncus balticus*) and perennial forbs include *Crepis runcinata* ssp. *hallii*, *Ivesia kingii* var. *kingii* and *Pyrrocoma racemosa* var. *sessilifolia*, alkai peppergrass (*Lepidium montanum* var. *nevadense*) and blue-eyed grass (*Sisyrinchium halophytum)*

Adobe Creek

Adobe Creek channel is approximately 1.5 miles in length on public land. Most of the channel has been altered in the past 40 years (see discussion under the Water Quality section, above). Only 0.1 miles of the channel remain in a natural unaltered state on public land. The riparian vegetation within the 0.1 mile segment consists mostly of baltic rush (*Juncus balticus*), willows (*Salex* spp.) and wild rose (*Rosa* spp.). Stream bank conditions are stable with a meandering channel in the 0.1 mile segment. Riparian vegetation in the remaining altered channel is of poor quality with a few willows and banks that are near vertical and from 2 to 3 ft. in height. Due to the pumice soil type, banks in this altered area are susceptible to erosion from any natural or man caused force.

B. Environmental Consequences

1. Impacts of Proposed Action

Impacts of the Proposed Action on the wetland vegetation within these allotments is directly effected by grazing timing, intensity, and stocking rates. Isolated impacts continue to occur within alkali meadow and spring (Antelope Spring) communities of the allotments including overuse of wetland vegetation, soil compaction and bank chiseling. Continued grazing under the Proposed Action will reduce soil compaction (Clary 1995), changes in site hydrology, and increase in the overall ecological function of these plant communities. Impacts to rare species such as *Calochortus excavatus* and *Ivesia kingii* var. *kingii* will also be reduced under the Proposed Action by increasing the availability of flowers for pollinators, therefore enhancing long-term reproductive vigor for these species. Muir and Moseley (1994) documented that livestock grazing was most detrimental to a rare alkali meadow species (*Primula alcalina*) at the time of plant anthesis and seed dispersal.

Some improvement to streambank (i.e. riparian) condition may occur in the altered segment of Adobe Creek.

2. No Grazing

No grazing would accelerate the recovery of wetland areas currently impacted by livestock grazing and the severely altered portion of Adobe Creek.

3. Cumulative Impacts
Cumulative impacts would include wild horse use of the Adobe Valley and Granite Mountain Allotments. Dewatering of the public land portion of Adobe Creek as has occurred in the recent past (see discussion above in Water Quality section) and if conducted in the future for a sufficient time period could negatively impact the small component of the stream in a natural state.

C. Consultation

California Department of Fish and Game

D. Maps

List any maps included as part of this EA - See Allotment Maps

E. References

Adobe Creek Stream Survey, file, 1978

Barbour, M.G., 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: Poceedings of the Symposium on Plant-Herbivore Interactions. General Technical Report INT-222. U.S. Forest Service, Intermountain Research Station, Ogden, Utah.

Elmore, W. and B. Kauffman. 1994 Riparian and Watershed Systems: Degradation and Restoration IN: Ecological Implications of Livestock Grazing in the West. Edited by M. Vavra, W. Laycock and R. Pieper. Society for Range Management. Denver, CO.

Muir, P.S., Moseley, R.K.1994. Responses of *Primula alcalina* a threatened species of alkaline seeps, to site and grazing. Natural Areas Journal 14:269-279

WILD HORSES AND BURROS

A. Affected Environment

Approximately 14,000 acres (6.7%) of the Montgomery Pass Wild Horse Territory (MPWHT) occur within the Adobe Valley, Adobe Lake, and Granite Mountain allotments. In the mid- to late- 1970's the wild horses occupying these three allotments were considered a peripheral group of a larger herd proposed for management as part of the Montgomery Pass Wild Horse Management Area (draft plan, May 20, 1979). At that time, these 14,000 acres were not considered key habitat for the horses, however this area was recognized as part of their entire territorial use area.

A Coordinated Resource Management (CRM) Plan was approved in June 1988 which documented present and potential issues, identified management objectives (habitat and wild horse) and monitoring needs. Rather extensive censusing has been conducted annually which also documents use areas at the time of the census, as well as population dynamics (adults, yearlings and foals). John W. Turner, PhD, has been the principal researcher of this censussing.

The 2001 Census and Comments Report of Mr. Turner states several important changes that have occurred since 1988. Important excerpts include the following:

"Another measure of predation we have used is the yearling:foal ratio. The herdwide ratio has gone from 0.34 to 0.59 during the past 10 years, indicating increased foal survival herdwide. However, the ratio in common lion-use areas is 0.7, above the herd average."

"Consistent with this observation is the fact that, since 1992, horse numbers have steadily increased in non-lion areas and have gradually decreased in lion-use areas. This redistribution may also have been influenced by other factors, including changes in availability of water and preferred feed, climatic changes and intensive outfitter presence in the summer range area in May/June (foaling/breeding period) since 1986. The latter may be of little current consequence,

since the horse bands intolerant of human presence vacated these areas years ago. A potential benefit of these changes is the habitat/feed recovery in the key summer range area, which has historically experienced some overgrazing. A potential disadvantage is that some recently established areas of at least seasonal (spring, summer) horse use lie outside of the designated MPWHT. " (Emphasis added)

"In summary, changes in MPWHT M horse distribution have occurred during the past 9 years, and assessment of how this will influence the future of horse numbers, distribution, range utilization and the predator-prey relationship is warranted. The ratio of summertime horse numbers in historic summer range vs. other range areas has shifted from approximately 1.5 to 0.8 across the past 9 years. This is a very large shift." (Emphasis added)

This shift in spring/ summer use areas refers to the Adobe Valley, Adobe Lake and Granite Mountain allotments, almost exclusively. Although authorized livestock grazing use of all three allotments is much reduced since 1992, due primarily to permittee requested non- use, there has been increased forage consumption by wild horses.

The BLM's Management Framework Plan, signed in June 1982, set aside forage in animal unit months(AUMs) for wild horses amounting to 21for Adobe Lake, 98 for Adobe Valley and 0 for Granite Mountain (total = 119 AUMs).

The acknowledged shift in use areas, period of use, and number of wild horses observed by Turner, as well as BLM Range staff poses a significant potential for overgrazing and reduced ecological condition on these three allotments.

B. Environmental Consequences

1. Impacts of Proposed Action

There would be no negative impacts to wild horses by implementation of the proposed action. However, should wild horse numbers, period of grazing use or expansion of their use within these allotments occur, there would likely be a reduction in the amount of forage available to livestock and wild horses and a degradation of ecological condition of the vegetation communities.

There are no impacts to wild horse distribution or numbers from the existing range improvement projects.

Although there has been no formal request by the three grazing permittees for the BLM and Forest Service to remove some number of wild horses, this could change as BLM regulations became stricter for grazing permittees to comply with since July 2000.

2. No Grazing

No livestock grazing would potentially have a positive affect on the wild horse herd by eliminating a competitor of forage. Currently horses roam at will, utilize steeper, more remote areas, travel greater distances to water than livestock and are able to use the rangeland at any time of their choosing.

There is the potential for wild horses to expand their use areas beyond what has occurred since 1992. This could pose some negative impacts to other resources and permittees. Their population number may potentially increase as additional amounts of forage become available to them and the in avoidance of mountain lion key use areas reduces the opportunity for predation.

3. Cumulative Impacts

The MPWHT population and historic use areas (especially the "key summer range") have expanded from that recognized in 1971 (passage of the Wild Free Roaming Horse and Burro Act). Grazing by wild horses occurs unregulated as to basic principles of range management i.e. proper time/season , amount of use, duration of use and area of use. Livestock grazing is regulated and more closely follows acknowledged principles and practices of the science/art of rangeland management.

Given the increased wild horse population and their expansion of use areas, it is reasonable to conclude that rangeland vegetative resources have been negatively impacted /exacerbated by horse use over time on the Adobe Lake, Adobe Valley and Granite Mountain allotments . That is not to say that livestock grazing has also not been a factor, however the livestock grazing use of these three allotments has diminished considerably from 1992 to the present.

The permittee for the Adobe Lake allotment, which also contains some 2,000 acres of private land has been impact by increased horse numbers grazing his forage, that would otherwise be available to his livestock. This is also the case for the 900 acres of California Dept. of Fish and Game land at River Springs, although livestock grazing has been eliminated there.

If a reduction of wild horses numbers, through capture and subsequent adoption or placement in a wild horse sanctuary, does not occur in the near term, the overall condition and amount of range vegetation will diminish which would negatively affect both wild horses and livestock grazing in the future.

C. Consultation
None

D. Maps
None

E. References -
Benton-Owens Valley Planning Unit (Draft Environmental Impact Statement) 1981.

Montgomery Pass Wild Horse Territory (Coordinated Resource Plan) June, 1988.
2001 MPWHT Wild Horse Census Summary and Comments

WILDLIFE

A. Affected Environment

Uplands

For wildlife habitat identification purposes the following vegetation types are found in the proposed action area: valley bottom sagebrush, sagebrush/bitterbrush, pinyon woodland, burned areas, and sprayed sagebrush. Common small mammals, reptiles and birds are distributed throughout these habitat types. The 1978 wildlife inventory included sampling stations in some of these habitat areas.

A sprayed sagebrush/bitterbrush area undergoing recovery from herbicide application in the early to mid 1960's was sampled for small mammals with the following species documented: Great Basin pocket mouse (*Perognathus parvus*), Ord kangaroo rat (*Dipodomys ordii*), Panamint kangaroo rat (*D. panamintinus*), deer mouse (*Peromyscus maniculatus*), and dark kangaroo mouse (*Microdipodops megacephalus*). A sprayed valley bottom sagebrush site undergoing recovery from a similar herbicide application provided the following species: pygmy rabbit (*Sylvilagus idahoensis*), least chipmunk (*Eutamias minimus*), dark kangaroo mouse (*M. megacephalus*), Great Basin pocket mouse (*P. parvus*), deer mouse (*P. maniculatus*), pinyon mouse (*P. truei*), and sagebrush vole (*Lagurus curtatus*). An assortment of carnivore predators also occur within all habitats mentioned and include those from the small bodied long-tailed weasel (*Mustela frenata*) to the bobcat (*Lynx rufus*).

Reptiles found in one or more of these habitat types would include sagebrush lizard (*Sceloporus graciosus*), desert horned lizard (*Phrynosoma platyrhinos*), western fence lizard (*S. occidentalis*), gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), and western rattlesnake (*Crotalus viridis*).

Birds likely to be found and/or breed in the shrub habitat types are sage sparrow (*Amphispiza belli*), vesper sparrow (*Pooecetes gramineus*), Brewer's sparrow (*Spizella breweri*), horned lark (*Eremophila alpestris*) and sage thrasher (*Oreoscoptes montanus*). The sage sparrow and Brewer's sparrow are species of special interest because they are considered sagebrush obligates and may be declining range-wide due to the loss of sagebrush habitat.

The area is hunted by Cooper's hawk (*Accipiter cooperi*), red-tailed hawk *(Buteo jamaicensis*), prairie falcon (*Falco mexicanus*), barn owl (*Tyto alba*) and great-horned owl (*Bubo virginianus*) to name only a few of the resident or migrant raptorial species.

Mule deer (Odocoileus hemionus) primarily use the entire proposed action area as a migration route to and from the Sierra Nevada for summer and winter habitats. The sagebrush/bitterbrush areas within these allotments provide critically important forage along with thermal and hiding cover as they move to and from the Sierra Nevada. Since water sources are very unevenly distributed across these allotments and in combination with deep snow conditions in some winters, deer are forced to concentrate in limited sagebrush/bitterbrush sites, particularly in the Granite Mountain and Benton Range areas. Ensuring sufficient forage is maintained on bitterbrush after livestock grazing is essential for migrating and some resident mule deer.

There are no substantive livestock grazing use practices known to be causing a measurable problem with habitat conditions for the species mentioned above.

Riparian

Since the amount of actual riparian habitat is extremely limited (e.g. along Adobe Creek), no inventories of wildlife species diversity was undertaken during the inventories in the late 1970's. However, some of the songbird species found along riparian sites like nearby Marble Creek (see EA # 170-02-04) would be expected to occur along the limited riparian habitat on Adobe Creek.

Ephemeral Alkali Pools (Adobe Valley allotment)

In the years when these alkali lowland pools have sufficient water from snowmelt, shore birds like the American avocet (*Recurvirostra americana*) will breed and raise young birds among the adjacent alkali meadows. The alkali pools provide a rich source of invertebrate species (e.g. fresh water shrimp) as food for the avocets and other passing shore bird species for several weeks in the spring and early summer.

Threatened or Endangered Species: No threatened or endangered species are known to occupy habitat within these allotments.

B. Environmental Consequences

1. Impacts of Proposed Action

The overall habitat quality, reflected in the condition of vegetation communities, should be improved from their current conditions with implementation of the proposed terms and conditions. Species guilds within the rodent and songbird groups should gain the most immediate benefit from improvement in the availability of food and cover. Mule deer habitat should receive some improvement in the availability of current year leader growth (forage) for migrating mule deer in the Granite Mountain allotment. The overall effect on the very limited amount of riparian habitat would be positive but likely not measurable.

2. No Grazing

Overall wildlife habitat conditions would be improved, particularly in the immediate effect to species guilds within the rodent and songbird groups. Many rodent species would benefit over a relatively short period of time due to an increased food base, particularly from graminoid plant species. Increased populations of rodents should benefit predatory species groups like canids and raptors. Songbirds, like Brewer's and Vesper sparrows, should benefit from the improved condition and availability of graminoid plant species, also. Mule deer habitat conditions would eventually attain their potential level of productivity as a food resource and for cover. Riparian habitat on Adobe Creek would be improved, but, again, the change would likely not be measurable.

3. Cumulative Impacts

Improved condition in the native bunch grasses should provide an increased forage base for rodents and passerine birds across all allotments. Populations of these smaller animals should be positively influenced and in some years provide an improved food base of predators.

C. Consultation

No consultations were conducted with any person, group or agency.

D. Maps

None

E. References

Bishop Field Office, Benton Unit Resource Analysis, Step II and Step III, 1979.

VEGETATION

A. Affected Environment

Uplands

A baseline range inventory for these allotments was completed in 1977 and correlated to the recently completed 1999 NRCS soil/vegetation inventory to document plant cover and composition as well as develop updated ecological site descriptions. The allotments occur in the Great Basin and Northern Mojave Floristic Provinces. The dominant plant communities are sagebrush/bitterbrush and pinyon woodland. The sagebrush/bitterbrush communities are dominated by sagebrush (*Artemisia tridentata* ssp. *vaseyana*, *A. tridentata* ssp. *wyomingensis* and *A. tridentata* ssp. *parishii*), bitterbrush (*Purshia tridentata* var. *glandulosa* and *P. tridentata*

ssp. *tridentata)*. Understory grasses such as indian rice grass (*Achnatherum hymenoides*), desert needlegrass (*Achnatherum speciosum*), needle and thread (*Hespirostipa comota*), western needlegrass (*Achnatherum occidentalis*), and Thurber's needlegrass (*Achnatherum thurberianum*) can make up 15-20% of the cover at the higher elevations of the allotments (Barbour and Major 1977). Additional species include, but are not limited to: hop sage (*Grayia spinosa),* horsebrush (*Tetradymia canescens),* Nevada and green ephedra (*Ephedra nevadensis.* and *E. viridis),* and yellow and curly-leaved rabbitbrush (*Chrysothamnus nauseosus and C. viscidiflorus).* During years of high precipitation annual forbs are abundant and include species from the following genera: Astragalus, Cryptantha, Eriogonum, Phacelia, as well as genera in the Asteraceae Family.

The pinyon woodland communities are dominated by an overstory (15-20% cover) of singleleaf pinyon pine (*Pinus monophylla)* with a sagebrush/bitterbrush understory. Perennial forbs include species from the following genera: Astragalus, Cryptantha, Eriogonum, and Phlox.

The majority (80-90%) of the upland plant communities within these allotments have been moderately impacted by livestock grazing. Generally, utilization of key forage species, e.g. needlegrass species and bitterbrush is slight to moderate and occurs between spring and summer. Forage capacity on these allotments is moderate and the plant communities are incapable of sustaining large numbers and frequent livestock use which has been shown to be detrimental to the various attributes of ecological function including plant vigor, seedling recruitment and recovery (Clary and Holmgren 1987; Holcheck 1983; Sneva 1980)

B. Environmental Consequences

1. Impacts of Proposed Action

Impacts of the Proposed Action on the vegetation within these allotments is directly affected by grazing timing, intensity and stocking rates. Current stocking rates are moderate and do not greatly impair the large-scale ecological function of these plant communities during non-drought years. The key forage species which receive the most use are the perennial bunch grasses and bitterbrush. Continued grazing at current levels will affect small portions (in the vicinity of water troughs and mineral blocks) of the allotments and not contribute to reductions in overall plant community ecological function as long as current Rangeland Health Guidelines are adhered to, e.g. 40% utilization. There may be increases in invasive weeds in proximity to high concentration use areas, e.g. watering facilities and mineral blocks.

2. No Grazing

Under the No Grazing alternative no impacts to the ecological function of these plant communities will take place.

3. Cumulative Impacts

Cumulative impacts may include changes in Department of Water and Power allotment management which could prompt permittees to seek out more grazing opportunities on Public Land. Wild horse use will also increase impacts on the vegetation communities where herd numbers are increasing.

C. Consultation

Coordination with the California Native Plant Society, Bristlecone Chapter

D. Maps

See GIS Allotment Maps

E. References

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

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.

BLM 1998 2. Rangeland health standards and guidelines for California and northwestern Nevada: Final EIS. California State Office, U.S. Department of the Interior, Bureau of Land Management, Sacramento, CA.

Holechek, J.L. Stephenson, T. 1983. Comparison of big sagebrush vegetation in northcentral New Mexico under moderately grazed and grazing excluded conditions. J. Range Management 35, 455-456.

Sneva, F.A. 1980. Crown temperature of Whitmar wheatgrass as influenced by standing dead material. J. Range Management 33, 314-315.

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	Kirk Halford	Archeologist
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Date: _____

Received by: _____ **Date:** _____
Environmental Coordinator

FINDING OF NO SIGNIFICANT IMPACTS

I have reviewed this environmental assessment including the explanation and resolution of any potentially significant environmental impacts. I have determined that the proposed action will not have any significant impacts on the human environment and that an EIS is not required.

There will be no effect on threatened or endangered species as a result of the action.

I have determined that the proposed project is in conformance with the Bishop Resource Management Plan, which was approved March 25, 1993. This plan has been reviewed, and the proposed action conforms with the land use plan terms and conditions as required by 43 CFR 1610.5.

It is my decision to implement the proposed action and issue 10-year grazing permits with the currently used standard grazing stipulations to the grazing operators for the five allotments. Livestock grazing management on these five allotments will remain unchanged from past use, but subject to adherence with the Central California Rangeland Health Standards and Guidelines and RMP decisions pertaining to livestock use. The Rangeland Health Assessments conducted, indicate that there are no significant environmental impacts from current use and the allotments all meet the Rangeland Health Standards..

Authorized Official:

Steve Addington
Field Manager, Bishop Field Office

Date: _____