General Management Plan
and
Environmental Impact Statement

Lava Beds National Monument
Siskiyou and Modoc Counties, California

This General Management Plan and Environmental Impact Statement presents a proposed plan and three alternatives for the management, use, and development of Lava Beds National Monument. The proposed plan provides for staffing, facilities, and boundary changes to provide for long-term resource protection, and facilities and programs to provide for essential visitor services. Physical features of the plan include boundary additions at Petroglyph Point, improvements at that area to reduce damage to the petroglyphs from wind erosion and vandalism, a small-scale research facility to support the recruitment of volunteers for cost-effective research and resource-management projects, improvements at the existing visitor center, and minor increases in administrative support facilities.

Alternative A: No Action, would continue the current situation at Lava Beds. Lands at Petroglyph Point would not be acquired, resources would not be adequately protected, and no additional steps would be taken to accommodate visitor interest and use. Resource quality and visitor use experience quality would decline.

Alternative B: Minimum Requirements, is similar to the proposed plan except that it includes development of a contact station in the north end of the monument, provides for road relocations at Petroglyph Point and at the north end, and provides for paving Medicine Lake Road. This plan also includes some staff increases over and above the proposal.

Alternative C: Enhanced Visitor Experience, would be similar to Alternative B in terms of resource management and protection, but would provide a broader range of visitor service. Increased interpretive and law enforcement staffing would allow a wider range of interpretive programs and faster response to emergency situations. A visitor center at the north end of the monument and a new and larger visitor facility at the Indian Well area would increase the range of exhibits and visitor services. Additional administrative facilities would be needed to support the greater staffing.

The environmental consequences of the alternatives are documented. No significant adverse impacts are anticipated.

The no-action period for this document will end 30 days after the Environmental Protection Agency has accepted the document and published a notice of availability in the Federal Register. Any comments on the document should be addressed to the Superintendent, Lava Beds National Monument, P.O. Box 867, Tulelake, Ca. 96134. The monument’s telephone number is (916) 667-2282.
This document includes a proposed general management plan and a final environmental impact statement. The proposed plan and three alternatives, including No Action, Minimum Requirements, and Enhanced Visitor Experience are evaluated.

The Proposed General Management Plan would provide staffing and resource management to adequately protect the monument’s natural, historic and prehistoric features and ensure visitor awareness of all of the monument’s major features of significance.

Resource protection would be enhanced by the acquisition of additional lands at Petroglyph Point. The new lands would facilitate the elimination of parking on the east side through the placement of barriers. The current parking situation there encourages vandalism.

Resource protection would also be strengthened by the addition of staff to complete needed inventory work and to oversee resource management projects, including those aimed at restoring native wildlife and vegetative species. A modest research facility/dormitory would be developed to attract volunteers capable of contributing on a cost-effective basis to research and resource management needs.

An entrance station would be located between Gillem's Camp and the Hill Road/Dike Road intersection to facilitate fee collection and dissemination of visitor information.

Improvements would be made at the Indian Well visitor center to add a modest amount of space to better accommodate the lantern dispensing function and provide an expanded range of exhibits, especially those related to caves. Additional parking would be provided in the vicinity to relieve the existing near-gridlock parking problem.

Other visitor service actions would include added picnic facilities in several locations, orientation kiosks (unstaffed) at all entrances, winterization of one campground loop, and a new parking area with restrooms and interpretive media at the Petroglyph Point area.

The group campground would be improved with water supply, restrooms, and parking.

Support facilities would include one additional duplex to house seasonal employees, rehabilitated water and sewer systems in the Indian Well area, a new
maintenance building to house heavy equipment, and an additional structure to house fire vehicles.

No significant adverse environmental impacts would be expected as a result of the proposal. All proposed developments are located in or adjacent to already-developed areas. Beneficial impacts would accrue in the area of cultural resource protection and visitor use. Minor adverse impacts would result from the added structures' visual disruption of the natural and historic scene, and some vegetation would be removed in development areas, with consequent minor impacts on wildlife.

Capital costs of this alternative are estimated at $3,710,000 while annual operation and maintenance would approximate $1,200,000.

**Alternative A: No Action** would continue the existing level of programs at the monument. Current staffing is inadequate to provide for long-term resource protection, maintain current standards of visitor service in the face of increasing use pressure, and maintain the existing structures and infrastructure. Resource quality and visitor experience quality will inevitably decline under this alternative.

Capital costs of this alternative are estimated at $895,000 based on health and safety requirements for water and sewer systems and for closure of the park landfill pursuant to NPS policy and state requirements. Annual operation and maintenance costs would approximate $775,000.

**Alternative B: Minimum Requirements,**

This alternative would be similar to the proposed action except for the following differences:

The existing county road at Petroglyph Point would be relocated to pass to the south of the formation. The existing road contributes to the blowing soil which is scouring away the rock art, provides ready access to the petroglyphs for vandals, and to some degree adversely affects the visitor experience at the area.

Visitor use and experience at the monument would be enhanced by the development of a new contact station at the monument's north end, where the great majority of visitors enter the park. Visitors entering at the north end currently receive little orientation until arriving several miles later at the Indian Well area. At this point they have already driven through most of the park. Exhibits and basic visitor services would be provided, along with needed administrative space for staff.
The existing road system in the north end of the monument would be realigned to funnel travelers on both Hill and Dike Roads through the entrance station.

Medicine Lake Road would be paved for the 2.5 miles of its alignment within the monument.

Capital costs of this alternative are estimated at $7,330,000, while annual operation and maintenance would approximate $1,500,000.

**Alternative C: Enhanced Visitor Experience** would be similar to Alternative B in providing resource management and protection, although some additional resource management staffing would be provided and a somewhat larger research facility would be developed. An architectural/engineering study would also be undertaken to rigorously evaluate potential methods of shielding the petroglyphs at Petroglyph Point from wind erosion.

The primary differences in this alternative are in the area of visitor service, which would allow the monument to serve a broader spectrum of visitors. A visitor center would be developed at the north end, providing a broader range of exhibits and an expanded capacity for audio-visual presentations. Also, the existing structures at the Indian Well visitor center would be demolished and a new and larger structure developed to provide expanded exhibits and integrate controlled access to Mushpot Cave.

The currently minimal group campground would be significantly improved with water supply, flush restrooms, ramadas, cooking facilities, and other improvements needed to facilitate use by the annual Modoc Gathering and the numerous other groups attracted to the monument.

Other visitor service programs and facilities described under Alternative B would also be provided.

As in the case of Alternative B, minor adverse environmental impacts would accrue to visual quality and wildlife while significant beneficial impacts would be realized in the area of cultural resource protection.

Capital costs for this alternative would be approximately $9,530,000 with annual operation and maintenance costs of about $1,950,000.
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INTRODUCTION

The 46,560 acre Lava Beds National Monument is located in northeastern California, approximately 155 miles northeast of Redding, California, and 50 miles southeast of Klamath Falls, Oregon. Ninety-four percent of the monument lies within Siskiyou County in the 2nd Congressional District. The remaining six percent is in Modoc County in the 14th Congressional District. See Map 1.

Established by Presidential Proclamation in 1925, the monument preserves for public enjoyment the dramatic volcanic geology represented by lava tubes, cinder cones, spatter cones, lava flows, and other volcanic phenomena. The monument also preserves the sites of the most significant battles of the Modoc War of 1872-73, and a rich assemblage of prehistoric features, including petroglyphs.
The monument was first managed as part of Modoc National Forest. The National Park Service assumed responsibility for management of the unit in 1933. A second Presidential Proclamation in 1951 transferred lands at Petroglyph Point to Lava Beds National Monument from the Bureau of Land Management. This detached unit is approximately 2 miles east of the main body of the monument.

The monument is located on the margin of the Cascade Range and the Great Basin Geologic Provinces. Situated on the lower northern flanks of the Medicine Lake shield volcano, Lava Beds contains examples of recent lava flows, cinder and spatter cones, lava tube caves, collapsed tubes, rifts and craters. The northern margin of the monument is essentially defined by the limits of the lava flows and the corresponding historic shoreline of Tule Lake. A critical stop on the Pacific Flyway, Tule Lake has been reclaimed and its environment significantly altered by water resources development activities initiated in 1905.

Volcanic phenomena are major interpretive features in the monument. Lava tube caves, in particular, draw many visitors and substantial efforts are made by the staff to facilitate the safe and non-destructive exploration of these caves by visitors.

The monument contains a range of Great Basin vegetation communities, including ponderosa pine forest, mountain mahogany/juniper community, Great Basin sagebrush/bunchgrass steppe community, and the Tule Lake riparian zone.

Human occupation of the Klamath and Tule Lake basins is estimated to extend back over 11,500 years. The Tule Lake shoreline and nearby areas provided permanent village and seasonal encampment sites for the Modoc tribe and their ancestors, whose subsistence was dependent on hunting and gathering of lacustrine and montane animal and plant species. The westward reach of fur trappers, followed by white settlers, precipitated land claim conflicts with resident, but highly mobile American Indians. By the early 1870’s, hostilities in the region escalated into armed conflict, culminating with the Modoc War. After the Modoc War, some of the Modocs were relocated to Oklahoma. Most remained in northern California and southern Oregon among tribal neighbors such as Klamaths and northern Paiutes. Descendants of the Modocs are now members of the multicultural, federally recognized Klamath Tribe which has tribal offices in Chiloquin, Oregon.
Purpose & Need
PURPOSE AND NEED FOR THE PLAN

A master plan for the monument was approved in 1965. A 1978 Visitor Use and Development Plan, was subsequently developed cooperatively with the U.S. Fish and Wildlife Service. Neither plan has been implemented and both are obsolete.

MONUMENTWIDE ISSUES

Monument Staffing- Current monument staffing is inadequate to protect resources, provide for quality visitor experience, and meet the mandates of many Park Service programs. The shortage of ranger staff means that wildlife poaching and cultural resource vandalism and artifact theft are not adequately covered, and general patrol standards are well below desirable levels. Effective and popular visitor programs, including highly successful environmental education programs, have had to be eliminated. Finally, NPS-mandated natural and cultural resource management programs cannot be fully implemented.

The plan needs to consider options for management consistent with reasonable expected staffing over the next fifteen years.

Visitor Experience- Provision of a low-key and low-volume traditional park visitor experience continues to be appropriate based on comments offered by the public in the course of a visitor survey conducted in 1989. These comments indicated a high level of satisfaction with the type of visitor experience offered and many respondents expressed the desire that the monument remain primitive and rustic.

Consideration needs to be given to means of retaining this type of experience in the face of inevitable growth in visitation.

Visitor Orientation- Visitors do not receive information on the monument's resources and facilities in a timely fashion. This has implications both for resource protection and for visitor enjoyment of the range of cultural and natural opportunities offered by the monument. This is a particularly serious problem at the north end, where three-fourths of the visitors enter the monument and travel through much of the unit before arriving at the visitor center, but it is also a problem at the south end. A number of respondents on the 1989 survey indicated the need for earlier information for visitors entering from the north.

The depth of visitor orientation is also a problem, primarily because of the lack of staff and the lack of space for orientation exhibits. More thorough cave orientation, in particular, is needed before visitors begin to explore the lava tubes on their own.
Consideration needs to be given to means, through staffed or unstaffed facilities at both north and south entrances, of better informing the public of monument opportunities and regulations.

Interpretive Exhibits and Waysides- The exhibit space currently available in the visitor center is insufficient to adequately deal with the range of resources and resource management issues that can and should be made available to the visiting public.

A substantial increase in exhibit space is needed, and options for more appropriately locating the exhibits need to be considered. The location and subject matter of waysides needs to be reviewed and wayside planning needs to be coordinated with options generated for indoor exhibit space.

Parking and Circulation- Visitor parking is adequate in most areas of the monument but a major problem at a few locations such as the visitor center, where even moderate visitor pressure can produce gridlock. Parking for large recreational vehicles and trailers is also problematic at Merrill Cave, Skull Cave, and Schonchin Butte.

Remedies need to be considered for these parking problems.

The future disposition of Forest Highway 10, which enters the monument from the southeast, is uncertain. NPS maintained this route for over 30 years under agreement with Modoc National Forest but has recently relinquished maintenance to the Forest Service.

An assessment of access and circulation for both existing and proposed facilities is needed.

The need for additional trails also needs to be considered.

Utilities- The capacity of the existing water system to meet current and future needs for domestic use and fire protection will be evaluated. Expansion will be considered as needed to support any new proposed facilities.

Expansion of electrical and communication system to support new development will be considered as needed to support proposed facilities. The need and provision for emergency power will be evaluated.

The capability of the existing sewer and waste disposal system to support future needs will be evaluated. Sewage treatment needs will be assessed for any new sites proposed for development under the alternative plans.
**Visitor Facilities**- The existing campground reaches capacity frequently during the peak season, and there is public demand for additional individual and group camp sites. There is also public interest in improved campground services for larger RV's, and proposals for separate loops for RV and tent campers.

The potential for development of additional sites and for redesign and redesignation of the existing campground, need to be considered.

Facilities needed to provide for safe and satisfactory cave exploration by visitors should be evaluated.

Potential opportunities for encouraging and facilitating primitive back-country camping in designated wilderness need to be considered. Potential uses and facility requirements for mountain bikes and equestrians also need to be evaluated.

Picnicking facilities, particularly for school groups, are needed in the vicinity of the visitor center, and additional units may be appropriate at other locations in the monument. Additional restrooms may also be needed in some locations.

Accessibility for the disabled needs to be ensured at all visitor use facilities, and consideration given to making one or more caves accessible.

**Administrative Requirements**- Workspace and storage are insufficient even at current minimal staffing levels. In addition to workspace for monument and cooperating association employees, research facilities would be desirable to attract private and university researchers to the monument. The plan needs to review the condition of existing administrative facilities, consider the amount of workspace and storage that will be required in future years and determine the most appropriate location for such space.

Accessibility of support facilities for disabled employees needs to be considered.

Existing maintenance facilities are insufficient and inefficient. Significant deficiencies in particular relate to winter operations because of the lack of shelter for equipment. The plan should review and provide recommendations on the type and quantity of space required to provide year-around maintenance support to existing and proposed facilities.

The need for additional housing for permanent and seasonal staff and to support short-term research projects should be evaluated.

Improved fee-collection facilities need to be considered.
Cultural Resource Programs- There are substantial gaps in cultural resource analyses and inventories and the need for an expanded information base needs to be considered.

The available facilities for treating and storing museum objects are limited and the future need either for expanded facilities onsite or storage offsite needs to be explored.

Management of historic buildings, structures, sites, objects and landscapes needs to be considered in the plan.

The parking lot at Gillem's Camp intrudes on the historic scene. Options for reducing impacts on the historic scene while maintaining access need to be considered.

Modoc people have a significant cultural affiliation with the area of Lava Beds NM as a result of historical occupancy and use, and the area includes a number of spiritually important sites. This affiliation needs to be recognized and provision made for the Modocs' uses, for resource protection, and for the general public's understanding and appreciation of this relationship. In recent years, the park staff has assisted in the conduct of an annual Modoc Reunion at the site, involving from 150-300 participants. Opportunities to improve communication with Modoc people and to further support and enhance the annual reunion through the provision of additional, appropriately located facilities need to be considered.

Natural Resource Programs- Natural resource management is hampered by the lack of monumentwide baseline data on natural resources, and by the lack of staff to implement the program. Many of the programs, such as prescribed fire management, cave resource preservation, and backcountry management are inherently controversial. Public outreach is needed to explain and garner support for these and other programs. There are significant problems with alien plant species invading native plant communities, causing an increased wildfire potential and negatively impacting natural systems present within the monument.

The opportunity to attract and encourage quality researchers willing to help meet the numerous research needs of the monument should be pursued through various programs and by providing research accommodations.

Modoc Volcanic Scenic Byway- This multiagency project, involving cooperative interpretation, route signing, and public information, has recently been approved and will be implemented over the next few years. This project may increase overall use in the monument, affect visitor circulation patterns, and increase maintenance requirements, particularly during winter months.
External Conflicts- A number of activities immediately outside the boundary have the potential for affecting resource protection and visitor experience. These include farming activities (especially relating to pesticide use and periodic burning), hunting, and housing developments. In addition, there are plans for logging activities on private lands to the south which may conflict with important eagle roosting areas, and concerns about the impact of adjacent development on the night skies.

There is currently some concern about impending development of the energy potential of the Medicine Lake and Glass Mountain Known Geothermal Areas, lying immediately to the south of the monument. Extensive exploration is underway in this area with the forecast of commercial power production prior to the turn of the century. This project has the potential to adversely affect the monument through visual impacts from routing transmission lines in visually sensitive areas. E.G. vistas from the monument south toward the Medicine Lake/Glass Mountain areas are important components of the visitor experience. Geothermal projects also have the potential for adversely affecting air quality. Environmental analyses for these projects are expected to be available for review late in 1996.

Strategies are needed to minimize adverse impacts and maximize positive effects of activities on adjacent lands.

PETROGLYPH POINT ISSUES

As a detached unit, Petroglyph Point has a number of its own specific issues as outlined below.

Erosion of Petroglyphs- During windy conditions, frequent in the area, unconsolidated lake bed sediments and exposed topsoil are lofted and scour the petroglyph-bearing surfaces. This has significantly affected the appearance of the petroglyphs over recent years. Means of eliminating or reducing the wind-blown scouring materials and/or shielding the petroglyphs from this erosive action need to be identified.

Vandalism- The petroglyphs are particularly vulnerable to vandalism because of the presence of adjacent informal parking areas on both the east and west sides of the formation, the "abandoned" appearance of the area, and the fact that the monument lacks the staff to provide frequent routine patrols. The distance of monument headquarters from Petroglyph Point impedes timely response to reports about suspicious activity.

Those petroglyphs not protected by the existing chain-link fence are vulnerable to graffiti and to chemical deterioration from visitors touching the rock art, or abrasion resulting from the collection of rubbings.
Raptor Colony Protection- During the nesting season, from March through June, raptor chicks are prone to injury or death due to falls from their nests over the cliff edges when disturbed by visitors hiking along the summit rim of the mountain. This use occurs despite the placement of temporary signs that close the rim to foot traffic during those critical months. Remedies, ranging from better direction of visitors through trail construction to increased ranger patrols, need to be considered.

Visitor Facilities and Experience- The visitor experience available at this unit is not of a high quality. The chain-link fence erected in front of the west-side rock art obstructs visibility of the petroglyphs and makes photography difficult.

The absence of shade on the site makes even brief visits during the summer uncomfortable, and the absence of sanitary facilities leads either to discomfort or to the use of rock shelters and rockfalls containing rock art and other cultural artifacts as outdoor privies. There is no potable water available.

A recently prepared brochure, available at a visitor register, provides up-to-date information on the area and its resources. Accurate and informative wayside exhibits are needed as well.

Boundary- Petroglyph Point includes most but not all of the cliff formation. Adjacent lands administered by the BLM and USFWS also contain known related cultural and natural resources. Consolidated administration of these lands may provide enhanced resource protection and public use values.

RELATIONSHIP TO OTHER PLANS

The Modoc National Forest Land and Resource Management Plan was approved in 1991. This document will guide multiple use management on forest lands adjacent to much of the park's boundary.

The Modoc Volcanic Scenic Byway plan calls for consistently signing and publicizing a system of rural roads through a wide range of volcanic phenomena on lands administered by several different agencies. The byway plan does not impose any management requirements or road standards on the cooperating agencies.

The recently approved Resources Management Plan provides guidance for the protection and management of park natural and cultural resources through inventory, resource management projects, and monitoring.

The monument has an approved Cave Management Plan, which provides direction for preservation and management of visitor use at these important monument resources.
A Fire Management Plan was approved in 1992. The plan provides for fire management to achieve resource management and safety objectives.
Alternatives
ALTERNATIVES

The basic mission of the Park Service in managing Lava Beds National Monument is to protect the area's nationally significant resources in perpetuity, passing them on intact to future generations, and to make them available for the use and enjoyment of visitors from across the country and around the world. In working to achieve these primary objectives, the Park Service is also committed to cooperation with adjacent public land managers, landowners, and nearby communities.

The alternatives presented below use different approaches and different levels of staffing and financial resource commitments to achieve the legislated objectives of the unit. The plans incorporate the range of feasible and acceptable proposals and suggestions surfaced during the scoping process and the public review of the draft general management plan and environmental impact statement. They were developed by an interdisciplinary team of planners, resource management specialists, park managers, and interpretive specialists.
THE PROPOSED GENERAL MANAGEMENT PLAN

The proposed general management plan is a composite of features from Alternatives A, B, and C as presented in the draft general management plan. It was formulated based on review and consideration of comments by members of the general public, various private organizations, and other government agencies. In general, the plan is aimed at improving resource protection and visitor service at the monument while recognizing the need to restrain capital and operations expenditures.

Maps 2 through 4 show the major features of this alternative at the main monument area and at Petroglyph Point.

Park Boundary

The park boundary at Petroglyph Point would be expanded as generally shown on Map 4. It is noted that all lands to be added are federal lands currently managed by the Bureau of Land Management, and there would be no cost associated with the transfer of jurisdiction. No private lands would be acquired. While detailed delineation of lands to be transferred has not been completed, it is estimated that the added lands would total approximately 120 acres. As further discussed below, addition of these lands would facilitate NPS management and protection of the natural and cultural resources of the Petroglyph Point area and allow for a substantially improved visitor experience. (See Appendix F for evaluation of tract in terms of NPS boundary criteria.)

No boundary changes would be made to the main section of the monument.

Development Design Standards

Design standards would be developed to ensure that new and replacement construction is consistent in design throughout the monument, has minimal impact on natural and cultural resources, and is visually compatible with natural and cultural landscapes to the extent practical and economically feasible. These standards would guide construction of buildings, roads, trails, parking lots, and other minor built features in the monument.

Resource Management

Staff capability would be substantially improved with the addition of an archeologist, Geographic Information System specialist, cave management specialist, and additional seasonal help. This level of staffing would allow
MAP 2
LAVA BEDS NATIONAL MONUMENT
GENERAL MANAGEMENT PLAN

LEGEND:
Main Roads
Secondary Roads
4WD Roads
Trails
Wilderness

Scale in Miles

0 1 2

Entrance Station

Tule Lake

National

Wildlife

Captain Jack's Stronghold

Fern Cave

Three Sisters

Realign intersection

See Map 3
completion of needed inventories, development of monitoring programs, and undertaking of programs needed for long-term protection of park resources.

This increased level of staffing would also allow the park to increase contacts to some extent with neighboring public and private land managers in the Klamath Basin toward broader and more inclusive ecosystem-wide management, which in the long-term will be needed to preserve the monument's natural resources.

A small lab/research facility with attached dormitory would be constructed as shown on Map 3. This 1500 SF building would serve as a work site for volunteer groups such as the Cave Research Foundation and others to conduct projects which have been determined to be useful in the resource management program. It will allow the park to cost-effectively leverage its limited financial and personnel resources. It is expected that all or a substantial portion of the cost of this facility will be covered by donations from private sources.

Curatorial workspace of about 300 SF would be provided in the visitor center complex. This would free up sufficient space in the existing storage facility to meet storage needs through the 15-year life of the plan.

The prescribed treatment and use for National Register properties would be as follows:

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TREATMENT</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Captain Jacks Stronghold</td>
<td>Preservation</td>
<td>Interpretation</td>
</tr>
<tr>
<td>Hospital Rock</td>
<td>Preservation</td>
<td>Interpretation</td>
</tr>
<tr>
<td>Thomas-Wright Battlefield</td>
<td>Preservation</td>
<td>Interpretation</td>
</tr>
<tr>
<td>Fern Cave</td>
<td>Preservation</td>
<td>Guided Interpretive Tours</td>
</tr>
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<td>Petroglyph Point</td>
<td>Preservation</td>
<td>Interpretation</td>
</tr>
<tr>
<td>Modoc Lava Beds Archeological District</td>
<td>Preservation</td>
<td>Research/Interpretation</td>
</tr>
<tr>
<td>Gillems Camp (Nominated)</td>
<td>Preservation</td>
<td>Interpretation</td>
</tr>
</tbody>
</table>

A number of these properties have traditional cultural significance and would be used in this context by American Indians.

The National Register nomination for Gillems Camp would be completed, including reevaluation of the property boundary to include sentry posts recently located to the east of the main camp area. A revised nomination would also be prepared for Canbys Cross.
Several projects would be carried out at Petroglyph Point to improve resource protection. These include:

1. Experimentation with cost-effective options for reducing the scouring of the rock face by wind-blown particulates. Prospective projects would include the placement of dust blocking snow fences and/or vegetated berms to trap and reduce wind borne abrasives from the south and southwest, and placement of solid waist-high barriers at the existing chain link fence to block the blowing of soil against the cliff face while retaining visibility of the petroglyphs. Other experimental techniques for reducing scouring may be tried in this area as well, the key limitation being that all projects will be reversible.

2. Development of a parking pulloff and a trail to the top of the Petroglyph Point formation. (See Map.) This trail, ascending the north end of the formation via an existing unimproved route, would route visitors away from sensitive cultural and natural locations and reduce vegetation trampling and erosion. Interpretive signing would provide information about resources and protection needs.

3. Placement of a chemical or vault toilet for visitors.

4. Upgrading and extension of the existing fence to protect additional petroglyphs and prevent access to an eroding talus slope.

5. Establishment of a regular program of monitoring to assess the effectiveness of the action plan and provide the basis for adjustments as needed.

6. Blocking of vehicle access to lands on the east side adjacent to the east cliff face through fencing or rock placement. This action should reduce the area's use for gatherings.

7. Funding of an engineering and architectural study to identify and evaluate methods of providing positive and permanent physical protection from the erasing forces of erosion.

8. Completion of archeological surveys for the entire Petroglyph Point area, including lands to be added.

The monument has a number of buildings and other structures on the List of Classified Structures (LCS). The following table indicates the prescribed management treatment and use for each of the entries.
<table>
<thead>
<tr>
<th>BUILDING/STRUCTURE</th>
<th>TREATMENT</th>
<th>USE</th>
<th>NATIONAL REGISTER STATUS</th>
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</thead>
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<td>Hospital Rock Army Camp Site</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>Listed</td>
</tr>
<tr>
<td>Captain Jacks Stronghold</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>Listed</td>
</tr>
<tr>
<td>Superintendents Residence</td>
<td>Preserve/Maintain</td>
<td>Original Use</td>
<td>Determination of Eligibility (DOE) to be prepared.</td>
</tr>
<tr>
<td>Garage/Shop</td>
<td>Preserve/Maintain</td>
<td>Adaptive Use: Fire Cache/Offices</td>
<td>DOE to be prepared</td>
</tr>
<tr>
<td>Service Station</td>
<td>Preserve/Maintain</td>
<td>Adaptive Use: Storage</td>
<td>DOE to be prepared</td>
</tr>
<tr>
<td>Indian Well Pump House</td>
<td>Preserve/Maintain</td>
<td>Original Use</td>
<td>DOE to be prepared</td>
</tr>
<tr>
<td>Schonchin Butte Fire Lookout</td>
<td>Preserve/Maintain</td>
<td>Original Use/Interpretation</td>
<td>DOE to be prepared</td>
</tr>
<tr>
<td>Rustic Picnic Tables (18)</td>
<td>Preserve/Maintain</td>
<td>Original Use</td>
<td>DOE to be prepared</td>
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<td>Gillems Camp</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>DOE to be prepared</td>
</tr>
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<td>Gillems Camp Cemetery Wall</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>DOE to be prepared</td>
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<td>Gillems Camp Rock Circle</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>DOE to be prepared</td>
</tr>
<tr>
<td>Canbys Cross Memorial</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>Ineligible-Managed as cultural resource</td>
</tr>
<tr>
<td>Thomas/Wright Battle Site</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>Listed</td>
</tr>
<tr>
<td>Devils Homestead CCC Memorial</td>
<td>Preserve/Maintain</td>
<td>Interpretation</td>
<td>Not eligible</td>
</tr>
</tbody>
</table>

A number of these listed structures have traditional cultural significance and may be used in this context by American Indians.

The recently completed Resources Management Plan (RMP) provides more specific direction on achieving resources management objectives. Its provisions are consistent with and a part of this alternative plan. Significant features of the RMP include completion of a parkwide archeological survey, an Ethnographic Overview and Assessment, Historic Resources Study, parkwide vegetation survey, and a
number of other surveys, inventories and studies to advance the knowledge of park resources facilitate resource management.

Visitor Services and Facilities

The park would continue to provide a traditional national park experience, emphasizing visitor contact with the resources, providing for basic visitor needs with soundly constructed but rustic facilities, and offering visitor interaction with rangers and interpreters.

Initial visitor orientation would be improved through the placement of unstaffed information kiosks with pullout parking at the Hill Road, Dike Road, and FS 10 entrances, and at the relocated intersection of Medicine Lake Road and the park road. These kiosks would provide overview maps of the park and adjacent area showing key visitor facilities and attractions, and also information on park regulations. Kiosks placed at the north end would be designed and located cooperatively with the Fish and Wildlife Service to cover both park and refuge visitor information.

The visitor center complex near Mushpot Cave would be improved to better provide general park orientation, and to provide the primary location for dispensing lanterns and information on park caving opportunities. The complex would include space for exhibits, information counter, book sales, audio-visual presentations, park library, curatorial storage and workspace, and offices for rangers and interpreters. Approximately 3000 square feet of space is needed in this complex.

Improvement of the visitor center complex would ideally be achieved through complete replacement of the complex with a single structure designed to fit the site. This would be undertaken if line-item funding could be obtained within a reasonable period of time, and would include integrating the new structure with access to Mushpot Cave and redesign of the adjacent parking lot. However, if line-item funding prospects for a new structure are not promising, the park would undertake instead to acquire a modular building to replace the existing trailer which now serves as the visitor center. If this option is pursued, the existing administration building, curatorial building and restroom would remain.

The estimated costs for the visitor center shown in Appendix C are based on replacement of the complex. If the more limited option of acquiring the modular structure is pursued, costs will be substantially less.

In either case, the exterior would be treated to exhibit the architectural themes identified in the development design standards to be prepared for the park.

Additional visitor center parking for autos and RV’s would be provided in the area south of the VC entrance road and adjacent to the main park road. Approximately
Map 4
Petroglyph Point Section
General Management Plan

- Existing Boundary
- Added Lands (Approximate)
- Petroglyphs
half an acre of land would be affected. An integral part of the design would involve the relocation of the intersection to simplify circulation.

Additional environmental compliance would be required for the visitor center project to ensure full consideration of visual, cave resource, and cultural resource consequences.

Primary interpretive themes would be addressed through improved informational materials in the visitor center and updated waysides throughout the park and the park would expand its efforts in both in-park and outreach educational programs. Additional in-depth interpretive planning would be needed to support, facilitate, and coordinate these actions.

A historic handbook on the Modoc War would be prepared to provide historic context and guide visitors to sites both within the park and on adjacent lands. Preservation of culturally sensitive sites would be a major factor in determining the sites to be interpreted.

Major efforts would be made to improve interpretation of natural resources and management issues, particularly the phenomenon of fire as a factor in natural systems.

Efforts would also be made to expand treatment of themes dealing with Modoc culture. Informational material and programs would be developed with the assistance of Modoc people. The park would continue to cooperate with the organizers of the annual Modoc Gathering in planning and conducting this event. The group campground would be made available for the Gathering and the park would remain open to suggestions for improving facilities to better serve the function.

Visitor facilities would be improved at the Petroglyph Point area. A trail to the top of the formation would be marked and developed, with access from pull-off parking adjacent to the road. A chemical or vault toilet would be provided, and an unstaffed information kiosk would supply information on both Petroglyph Point and the monument as a whole. Wayside exhibits on cultural and natural resources would be updated and improved.

New interpretive trails would be developed at Gillems Camp and Gillems Bluff, and a self-guiding nature trail would be provided at the visitor center to provide an introduction to vegetation and other immediate phenomena of interest.

Backcountry management planning would be completed. Several backcountry trails would be marked and improved as needed, including the trail to Hidden Valley, and a loop from the campground to Skull Cave and Symbol Bridge.
Disabled accessibility planning would be integrated into any new facilities developed. Efforts would continue to make existing facilities and interpretive programs and materials more accessible, and to provide an expanded range of visitor experiences for disabled persons. A design analysis would be undertaken to evaluate possibilities for making Mushpot Cave wheelchair accessible.

The monument would develop additional capability to serve international visitors through preparation of visitor materials in major foreign languages.

The campground would continue to provide a rustic setting serving tent and small-RV users. Because of space limitations, the goal of retaining its rustic appeal, and the proximity of designated wilderness, the campground would not be expanded. The campground water system would be improved, and heat supplied to the Loop A restroom so that water supply and the flush restrooms would be available in winter months. The amphitheater located in the campground would be rehabilitated and reoriented to function more effectively in audiovisual presentations.

The park would encourage the development of additional camping facilities in adjacent public and private areas to serve persons who cannot be accommodated at the monument in peak periods and for those using large RV’s that cannot be accommodated.

The designated group camp area would be improved through the addition of water and restrooms, and clear delineation of parking areas. Attention would be given to improvements which would facilitate conduct of the annual Modoc gathering, e.g. dance area, cooking facilities, etc.

Picnic facilities would be improved at Captain Jacks Stronghold, where 2-3 additional sites would be provided, and at the visitor center, where several tables would be provided for casual picnicking. Because of potential fire hazards, grills would not be provided in the picnic areas.

Law Enforcement and Emergency Services

Law enforcement staffing would be somewhat increased to provide for more frequent patrols parkwide. Protection for Petroglyph Point and other areas with sensitive resources would be given higher priority.

The park would continue the arrangement with the Siskiyou County Sheriff for 24-hour dispatch to speed emergency responses. Other agreements would be pursued with adjacent law enforcement operations to ensure timely and coordinated response in emergency situations.
The park would continue its participation with the Forest Service, Fish and Wildlife Service, and Bureau of Land Management in the interagency effort to protect archeological resources as outlined in the Northeast California Archeological Task Force Agreement.

Fire Program

The current approved Fire Management Plan would provide direction for this program in the areas of fire prevention, presuppression, suppression, management ignited prescribed fire, and prescribed natural fire. In addition to implementing the approved management ignited prescribed fire program within the Fire Management Plan, monument staff will examine the potential use of management ignited fire in maintaining or restoring historic scenes in and around Modoc War battlefield areas. Work will involve determining desired future condition of treatment areas and minimizing fire’s effects on archeological resources.

Additional staffing would expedite implementation.

The monument would continue to explore opportunities for cooperative projects with the adjacent public land managers.

Rehabilitation of and addition to the fire cache building and construction of a new 1500 SF structure adjacent to it would provide bays for storage of fire engines and tenders, storage for other fire equipment, and office and training space for fire program staff.

The park would continue the interagency agreement with the Modoc National Forest which provides for joint monument-based operations during the primary fire season.

Administrative Facilities

One additional duplex would be constructed within the housing loop to provide seasonal quarters. The footprint of the existing housing area would not increase, and no additional units would be provided for permanent employees. Housing would be maintained and upgraded as needed, and modified as needed to better serve seasonal employee use.

Office and administrative storage space would be provided to support staffing levels in the existing headquarters area, and in the rehabilitated visitor center at Mushpot Cave.
Local area networks (LANS) would be developed to connect computers among the diverse park functions, provide connections with the servicewide CC:Mail system, and provide access to the Internet.

**Maintenance**

Maintenance efficiency would be improved through construction of a multi-bay structure west of the existing maintenance building to provide covered storage and workspace for park machinery and vehicles. This increased storage will particularly facilitate winter snow removal operations. Improved storage for hazardous materials such as paint, solvents, and petroleum products would also be developed in this area.

**Utilities**

Existing utilities serving the headquarters area would be upgraded as needed to improve reliability.

**Circulation**

No major changes would be made in the monument road system.

The northernmost section of Medicine Lake Road would be slightly realigned to provide for a safer intersection with the main road. Medicine Lake Road would remain unpaved for the foreseeable future, although paving would be reconsidered in the event the adjacent National Forest section is paved.

As discussed above, options for improving vehicle circulation in the Indian Well area would be considered in conjunction with design and construction of a new parking area to serve the visitor center.

An entrance station for 2-way fee collection would be located at the north end between the Hill/Dike Road intersection and Gillem's Camp. Minor road widening would be required to accommodate this facility. Electricity is already available.

The road transition from the county Dike Road to the park road at the north end is a safety hazard and needs to be redesigned. NPS would work with Modoc County in improving the transition.

Parking lots at Merrill Cave, Skull Cave, and Schonchin Butte would be redesigned to improve circulation, with special care to avoid damaging cave and other resources.
NPS would work with state and county agencies to improve road signs directing visitors to the monument, with the goal of making Hill Road the primary entrance to the monument from the north.

Wilderness

A wilderness management plan would be completed, and monitoring of backcountry conditions and visitor use would be improved, providing the basis for decisions on any needed regulation or additional management activity to protect wilderness conditions.

Staffing

Staff would be increased over existing levels as indicated below:

<table>
<thead>
<tr>
<th>FUNCTION</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Law Enforcement</td>
<td>4.8</td>
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<tr>
<td>Resource Management</td>
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<tr>
<td>Interpretation</td>
<td>4.5</td>
</tr>
<tr>
<td>Maintenance</td>
<td>9.0</td>
</tr>
<tr>
<td>Administration/Superintendent</td>
<td>5.2</td>
</tr>
<tr>
<td>Fire Program</td>
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</tr>
<tr>
<td><strong>Total Staffing</strong></td>
<td><strong>38.0</strong></td>
</tr>
</tbody>
</table>

This staffing level does not include personnel for special non-base funded term projects under the cyclic maintenance and repair/rehab programs, and those often undertaken in the resource management program.

Adjacent Lands Activities

The park would work with Modoc National Forest to deal proactively with boundary issues and other joint management concerns, including fire operations, wildlife reintroduction projects, cooperative interpretation of Modoc War sites, and joint interpretation on the Modoc Volcanic Scenic Byway.

The monument staff would work closely and proactively with the Forest Service, BLM, and private interests to ensure that park concerns about impending
geothermal development in the Medicine Lake and Glass Mountain area are surfaced early and fully considered in plans for tapping this valuable energy resource. Visual impacts from transmission lines and air quality impacts from project operations are of primary concern.

A cooperative management agreement would be negotiated with the USFWS and Bureau of Reclamation to provide for resource protection and other management issues on the north boundary such as agricultural uses, burns, pesticide application, and reflooding.

The park would coordinate with BLM and USFWS in management of the Petroglyph Unit.

Park staff would maintain contact with Modoc and Siskiyou County governments to ensure mutual awareness of and participation in land use planning and regulation activities with implications for the monument.

The park would maintain contact with private landowners with lands adjoining the monument to minimize conflicts.

**Carrying Capacity**

Carrying capacity has two dimensions, physical carrying capacity which relates to the ability of the park resources to sustain given levels of visitor use without damage, and sociological carrying capacity, which addresses the ability of visitors to enjoy and appreciate those resources while confronted with the presence of other visitors. These are complex and dynamic concepts, subject to management intervention through placement of physical facilities, operational activities, and information services.

To ensure that carrying capacity is not exceeded, the park has a long-term two-part strategy to ensure that resources remain intact and visitor satisfaction remains high in the face of increasing visitor pressures.

1. **Implementation of the actions proposed in this general management plan.** The actions provide for added facilities, improved dissemination of information, and expanded staffing to protect resources and continue to provide for a quality visitor experience.

2. **Implementation of a Visitor Experience and Resource Protection (VERP) process.** This process provides a means of dealing systematically with protection of resource and visitor experience quality. It basically involves goal setting for resource protection and visitor experience, the selection of practical quality indicators, the implementation of a management program
aimed at achieving the quality goals, and systematic monitoring to ensure that goals are being met. If goals are not met, the management program is revised as needed.

While funding will be sought for a complete VERP analysis, in the event that funding for a complete VERP analysis is not available in the near term, it may be possible to apply the concepts more specifically to those discrete resources at Lava Beds NM where visitor use pressures are focused and where the potential for resource and experience impacts are highest, e.g. some of the more popular and accessible caves and Modoc War sites:

Costs

Capital costs to implement all the actions outlined in this alternative would total approximately $3,710,000. A breakdown of the estimated capital costs is presented in Appendix C.

Annual operations costs for the alternative are estimated at $1,200,000.

Management Zones

As with the no-action alternative, most of the monument would remain within an overlapping natural/historic zone, with substantial portions further overlapped by a wilderness subzone and an eagle habitat management subzone. A minor addition to the development zone would occur in the visitor center area, where parking would be expanded. Other proposed developments are located within areas already designated as development zone.
ALTERNATIVE A: NO ACTION

The concept of this alternative is that the park would continue on its existing course, in accordance with existing plans and programs. In this planning context, "no action" does not mean that management activity would come to a halt.

Park Boundary

The park boundary would be unchanged.

Resource Management

With continued lack of staffing, resource management activities would necessarily deal reactively with the most pressing issues, rather than developing and pursuing a comprehensive and research-based program for resource management. The lack of basic resource data would continue to impede the development of responsive management, and cave resources, flora/fauna, rock art, and other natural and cultural resources would continue to deteriorate, while alien species would increase their foothold on the monument.

Although the monument contains major and nationally significant cultural resources, there is no professional cultural resources support staff. This gap and the consequent lack of a cultural resources management program which meets NPS requirements/guidelines would continue.

At the current level of operation, the monument would be unable to meet interagency resource management agreements, and resource managers would be unable to communicate adequately with peers in universities and other agencies.

The lack of management personnel and support facilities would continue to hinder the recruiting of volunteer support groups such as the Cave Research Foundation. These groups have the potential for producing significant and very useful research but require some level of direction and some facilities to accomplish their work in an organized manner.

Curation of portions of the park’s collection would continue to not meet climate control requirements, leading to accelerated deterioration of some objects.

There would be continued significant voids in required resource planning and management documents.
Law Enforcement and Emergency Services

Resource and visitor protection capabilities would remain the same, with increasingly limited emergency response in the face of increasing visitor use, external pressures, and law enforcement incidents, including those related to archeological and ethnographic resources. The increasing costs for required specialized law enforcement training would have to be absorbed.

The existing dispatch agreement with the Siskiyou County Sheriff would be continued.

Visitor Services and Facilities

Lack of orientation services and facilities for visitors arriving from the north would continue to cause visitor frustration and exacerbate law enforcement problems as a result of visitors not being adequately informed of park regulations. Visitors would continue to pass up significant Modoc War sites and enter caves without proper information on resource protection and personal safety.

The interpretive services available per visitor would shrink as this program is frozen and the number of visitors increases. Over time, lack of traditional NPS/visitor contact would change the character and diminish the quality of a visit to Lava Beds.

The minimal existing space for exhibits would continue to leave significant gaps in coverage of important park themes.

The lack of an outreach program in local schools may well result in less appreciation of park values, and consequently more youth vandalism.

Trails, cultural sites, and cave-related physical improvements would continue to deteriorate, with consequent increased potential for visitor accidents or inconvenience.

The park would continue to find it difficult to meet mandated visitor accessibility requirements, and provisions for the growing numbers of international visitors would remain very limited.

Fire Program

Current lack of field positions hinders implementation of the approved fire management plan and the pursuit of a more extensive prescribed fire program. Problems with lack of proper storage for fire engines and tenders would continue, resulting in accelerated wear and increased maintenance requirements. Office
space for staff would continue to be substandard and inefficient. Fire response during winter months would remain minimal.

Administrative Facilities

The inadequate supply of seasonal housing would continue to hinder the recruiting of the most highly qualified personnel for some seasonal positions, and further limits the monument in obtaining the assistance of visiting researchers and other professionals. Housing and trailer pad shortages also limit recruitment of volunteers and students under ongoing programs.

The existing administrative space deficiencies, including storage requirements, would continue to cause inefficiencies. The existing office space, which is scattered among several facilities, hinders effective communication among the various divisions.

Maintenance

Maintenance capabilities would be further stretched and stressed as visitor use and resulting wear-and-tear increases, buildings and infrastructure age, and the complexity of regulations and training requirements makes new demands on staff. The lack of enclosed space for vehicles and equipment would continue to hinder maintenance operations, increase staff requirements, and cause additional wear on machinery. Inadequate staffing would make it impossible to accomplish regular preventive maintenance on a timely basis, resulting in increased rates of facility deterioration and difficulty in meeting basic safety requirements.

Circulation

Circulation in the Indian Well visitor center/headquarters area would continue to be confusing to visitors and would become more troublesome and dangerous as use levels increase. Gridlock in the parking lot at the visitor center, already a problem during the peak use period, would become a regular occurrence as use levels at the park increase.

RV traffic in the visitor center area would continue to be a major problem in heavy use periods because of limited parking.
### Staffing

Monument staffing would be as follows:

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>FULL-TIME EQUIVALENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law Enforcement</td>
<td>2.8*</td>
</tr>
<tr>
<td>Resource Management</td>
<td>2.0</td>
</tr>
<tr>
<td>Interpretation</td>
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</tr>
<tr>
<td>Maintenance</td>
<td>6.8**</td>
</tr>
<tr>
<td>Administration/Superintendent</td>
<td>4.2</td>
</tr>
<tr>
<td>Fire Program</td>
<td>4.5</td>
</tr>
<tr>
<td><strong>Total Staffing</strong></td>
<td><strong>23.2</strong></td>
</tr>
</tbody>
</table>

* Includes .8 FTE funded by ARPA and fee-collection sources.
** Includes 1.7 FTE funded by cyclic maintenance.

Existing authorized staffing is recognized as inadequate to achieve the park’s minimum mandated functions. Deficiencies in staffing would have implications in all operations.

Staff would continue to be stressed by being required to work outside of their normal position responsibilities. Excessive overtime would be required to meet essential demands, and some needs would not be met.

### Carrying Capacity

With the shortage of interpretive and law enforcement staffing, and the inadequate orientation and information services available to the visitor, the carrying capacity of the monument is relatively low—i.e., resources are subject to damage and the quality of the visitor experience is subject to erosion. Unfortunately, because of the monument’s inadequate resource inventories and the limited capability for monitoring, such adverse physical and social impacts may not be readily detected.

### Adjacent Lands Activities

The park would continue to cooperate and coordinate with adjacent public land managers and private land owners on a case-by-case basis to the greatest extent
possible. Staff limitations and data gaps would make it difficult to effectively coordinate the monument’s interests in some external activities.

Management Zones

Most of the monument is within an overlapping natural/historic zone, with substantial portions further overlapped by a wilderness subzone and an eagle habitat management subzone. Only those small areas currently in use for roads, visitor facilities, and administrative support facilities are zoned for development.

Costs

Some capital costs would have to be incurred in order to continue basic operations. Included would be upgrades of the sewer and water system, and closedown of the park landfill pursuant to NPS policy and state regulations. Together the costs of these actions would approximate $895,000.

Operation and maintenance costs would continue at approximately $775,000.
ALTERNATIVE B: MINIMUM REQUIREMENTS

This alternative would be focused on fully but economically achieving the dual legislative mandates of resource protection and visitor use. Resource protection would be adequately provided for in this alternative to ensure that resources are handed down unimpaired to future generations. A lesser emphasis would be placed on visitor use. The visitor use objective would be to ensure visitor contact with and appreciation of the primary resources for which the unit was established.

Park Boundary

Same as proposed plan.

Development Design Standards

Same as proposed plan.

Resource Management

Similar to the proposed plan. However, at Petroglyph Point, the existing unpaved road passing immediately to the west of the cliff face would be closed and a new road constructed to pass south of Petroglyph Point. This would eliminate one major source of erosive agents for the petroglyphs, the dust raised by passing vehicles. The land traversed by the road, and adjacent areas extending to the face of the cliff, would be planted as feasible with natural vegetation in order to better hold the soil.

Visitor Services and Facilities

Similar to the proposed plan. However, visitor orientation would be improved through construction of a new contact station at the north end. The facility would be located on previously disturbed land near the intersection of Hill and Main Roads and would provide exhibits, staffing, and informational materials to allow visitors to plan their stay in the park and find out about park regulations. Public restrooms and water would be provided, along with a cooperating association book sales area. A short nature trail in the area would introduce visitors to regional vegetation types and discrete volcanic features. Office space would be provided for law enforcement, fee collection, and interpretive functions. Maintenance storage and workspace would also be provided to facilitate routine maintenance activities at the contact station and at Petroglyph Point. The contact station would be about 3000 square feet, with adjacent parking to serve approximately 60 vehicles, including RV's and buses. Design would be intended to serve up to 900 persons per day, based on relatively rapid visitor turnover.
A trail between the contact station and Gillems Camp would provide visitor access to that historic location and would connect with interpretive trails to be developed at Gillems Camp and up to Gillems Bluff. Completion of this trail access should ultimately allow a substantial reduction in size of the parking lot at Gillems Camp, significantly reducing impacts on the historic scene.

Design and final location of this facility would require additional environmental and cultural resources compliance to ensure that design alternatives consider options for maximizing efficiency and visitor service while minimizing adverse impacts on cultural resources, including both the historic scene related to the Modoc War and archeological phenomena.

Law Enforcement and Emergency Services

Similar to proposed plan with minor increases in staffing.

Fire Program

Same as proposed plan.

Administrative Facilities

Similar to proposed plan except that additional office space would be provided in the contact station developed at the north end.

Maintenance

Same as proposed plan.

Utilities

Same as proposed plan for existing developed areas. New water and sewer systems would be developed to serve the north end contact station. Electric power is already available in this area.

Circulation

Similar to the proposed plan except for the north end and Medicine Lake Road, as discussed below.

Improvements would be made in the Medicine Lake Road to facilitate its function as an element of the Modoc Volcanic Scenic Byway. The gravel roadway would be paved within the park and the northernmost section would be slightly realigned to provide for a safer intersection with the main road.
Improved circulation would be integral with planning for the new north end contact station, where parking would be provided for both the contact station and for trailhead access for the short interpretive trail to the Gillems Camp area. This approach would allow reduction of the size of the parking lot at Gillems Camp. Map 5 shows one possible circulation scheme for this area. A comprehensive design for this area would integrate vehicle flow at the contact station with location of the entrance station.

Wilderness

Same as the proposed plan.

Staffing

Staff would be increased generally across the board to meet minimum requirements as indicated below:

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>FULL-TIME EQUIVALENTS</th>
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</thead>
<tbody>
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<tr>
<td>Interpretation</td>
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</tr>
<tr>
<td>Maintenance</td>
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<tr>
<td>Administration/Superintendent</td>
<td>6.2</td>
</tr>
<tr>
<td>Fire Program</td>
<td>7.0</td>
</tr>
<tr>
<td>Total Staffing</td>
<td>42.0</td>
</tr>
</tbody>
</table>

This staffing level does not include personnel for special non-base funded term projects under the cyclic maintenance and repair/rehab programs, and those often undertaken in the resource management program.

Adjacent Lands Activities

Same as proposed plan

Carrying Capacity

Same as proposed plan.
Costs

Capital costs to implement all the actions outlined in this alternative would total approximately $7,330,000. A breakdown of the estimated capital costs is presented in Appendix C.

Annual operations costs for the alternative are estimated at $1,500,000.

Management Zones

Same as proposed plan, except that minor additions to the development zone would occur in the north end to accommodate the contact station and parking.
ALTERNATIVE C: ENHANCED VISITOR EXPERIENCE AND RESOURCE PROTECTION

This alternative would provide for resource management and protection basically as outlined in Alternative B, but would add resources to increase the rate of progress in achieving resource management and protection objectives. In addition, it would provide increased ranges of visitor opportunities and experiences, enhancing the monument’s appeal to a broader spectrum of the public. It would further facilitate a visit to Lava Beds NM by improving initial orientation, expanding the range of exhibits, providing a wider range of visitor facilities, offering a wider range of interpretive programs and providing a faster response to visitor emergencies.

Park Boundary

Same as the proposed plan.

Development Design Standards

Same as the proposed plan.

Resource Management

Same as the purposed plan, except:

A full-time curator, employed on a term basis, would bring the monument’s collection and collection planning and management documents up to standard so that it can ultimately be maintained by a collateral duty curator.

The lab/research facility proposed in Alternative B would be enlarged by from 300-500 square feet to allow for somewhat larger volunteer groups, and more space for storage and equipment.

Law Enforcement and Emergency Services

Additional clerical staff in the law enforcement function would free up additional ranger time for improved emergency response and more frequent patrols.

A ranger residence to be constructed at Petroglyph Point would increase after-hours protection for the resource.

Visitor Services and Facilities

Similar to the proposed plan with the following exceptions:
Instead of the north boundary contact station proposed under Alternative B, a visitor center of about 4000 SF would be developed in the same site. The VC would have a wider range of exhibits and, with an auditorium and up-to-date audiovisual capability, would have greater effectiveness in educational functions for school and other groups. Additional sales area would also be provided.

The existing visitor center complex near Mushpot Cave would be obliterated and replaced with a new structure of about 2800 SF in the same vicinity. The VC would be designed and located to improve vehicle circulation and control access to Mushpot Cave by routing visitors first through the visitor center. The functions and scale would be similar to the visitor center improvements in Alternative B, but this approach would provide improved visitor orientation on caves and increased protection for Mushpot Cave.

Interpreter-conducted tours and programs would be increased to include additional and more specialized tours on a more frequent basis, e.g. cave trips, wildflowers, birds, etc.

The popular environmental education outreach program for 4th and 5th grades at local schools would be restored, along with the highly successful adopt-a-cave program.

Mushpot Cave would be made accessible to the mobility-impaired through provision of an elevator and at least one additional cave, probably Valentine, would be made accessible to disabled visitors. Selection of the cave would be based on the capability of the cave to provide a quality experience and the potential for making needed improvements with minimal resource damage.

Winter camping use would be enhanced through the improvement of the water system and restrooms in both Loop A and Loop B to allow use during the winter months.

Trail quality would be improved and maintenance would be scheduled on a regular basis.

Petroglyph Point would be staffed during heavy visitor use periods by a roving interpreter who would answer questions and provide additional background color and information for visitors. Drinking water and flush toilets would also be provided for visitor use.

NPS would actively work with Modoc Indian groups toward the design and interpretation of a Modoc Village at an appropriate site within the
monument. Additional NEPA and NHPA compliance would be required to locate this facility in the monument.

Administrative Facilities

Same as Alternative B, except that more office and work space would be required to accommodate additional staff. Approximately 2400 SF of new space would be needed. In addition, park housing would be increased through the construction of a single housing unit at Petroglyph Point.

Fire Program

Same as the proposed plan, except that staffing would be increased to include a fire effects monitor, and a larger wildland fire engine would be acquired. These additions would enhance the monument’s ability to conduct an effective prescribed fire program and to respond to wildfires.

Consideration would need to be given to improved structural fire fighting capability in the north end for faster response at the new visitor center and Petroglyph Point facilities.

Maintenance

Same as the proposed plan.

Utilities

Same as Alternative B, except that water and sewer systems would be needed to serve the residence at Petroglyph Point, and to provide flush restrooms and drinking water for visitors.

Circulation

Same as Alternative B.

Wilderness

Same as the proposed plan.
Staffing

Staff would be increased generally across the board to meet plan requirements as indicated below:

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<thead>
<tr>
<th>FUNCTION</th>
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<tbody>
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</tbody>
</table>

Total Staffing 53.5

Adjacent Lands Activities
Same as the proposed plan.

Carrying Capacity
Same as the proposed plan.

Costs

Capital costs to implement all the actions outlined in this alternative would total approximately $9,530,000. A breakdown of the estimated capital costs is presented in Appendix C.

Annual operations costs for the alternative are estimated at $1,950,000.

Management Zones

Same as Alternative B.
ALTERNATIVES CONSIDERED BUT REJECTED

Camping

The concept of upgrading the campground to serve the larger RV’s was considered but rejected because this change would adversely affect the rustic nature of the campground, and because there are opportunities outside the park in nearby areas to accommodate these vehicles in private commercial facilities. The concept of providing additional sites in the campground was considered but rejected because this change would also adversely affect the rustic nature of the area and because the area feasible for development for camping use is constrained by the wilderness boundary.

Provision of an overflow camping area was evaluated, with sites under consideration limited to those with existing road access and a history of ground disturbance. No fully acceptable sites were located, and based on this unpromising site search plus the potential of adjacent public and private areas to accommodate overflows, the development of an overflow area was rejected.

Boundary

Several potential boundary changes, in addition to the Petroglyph Point proposal, were considered but were rejected because the subject lands are not essential to achieving the monument’s purpose and because they are already managed by public agencies with the capability and expertise to protect resources. It was concluded that park objectives relating to most boundary areas can be adequately achieved through coordination and cooperation with the adjacent agencies.

New Roads

Development of a road to enhance access to the Thomas/Wright Battlefield area was considered but rejected, based on the existence of a good quality trail which is usable by most visitors, and concerns about the environmental impacts of additional improved roads in the monument.
The Affected Environment
THE AFFECTED ENVIRONMENT

SOCIOECONOMIC SETTING

Lava Beds National Monument is located in northeastern California, approximately 50 miles southeast of Klamath Falls, Oregon, and 30 miles from Tulelake, California. The Petroglyph Point section of the monument is located approximately 2 miles east of the main unit (see map).

Population in the park’s vicinity is modest. Total 1990 Modoc County population was 9,678 while Siskiyou County had a population of 43,531, most of which is located well to the west of the park on the Interstate 5 corridor. Population in the two counties increased nearly 13% between 1980 and 1990 largely as a result of immigration from urban areas. However, population is expected to grow more slowly in future years in the two counties, at a rate of about 1% per year. Local population centers include the small towns of Tulelake and Merrill. The nearest city is Klamath Falls, with a surrounding-area population of approximately 40,000.

Major components of the local economy include timber harvest and processing, livestock production, irrigated farming, public land management, and tourist services.

Much of the land in the Klamath Basin is federal, with national forest lands predominating but with substantial acreages also administered by the Fish and Wildlife Service, National Park Service, Bureau of Land Management, and Bureau of Reclamation.

The monument is largely adjoined by lands administered by other federal agencies, including the Forest Service, Fish and Wildlife Service, and Bureau of Land Management. Private lands adjoin the monument on the northeast and south boundaries of the main unit and on the west and north sides of Petroglyph Point.

Forest Service and BLM administered lands are managed for multiple uses, including forest products, mineral resources, grazing, and recreation. The Fish and Wildlife Service manages the Klamath National Wildlife Refuge as an important link in western waterfowl migration routes.

Private and leased public lands in the vicinity of the monument are used primarily for irrigated agriculture, with water supplied by the Bureau of Reclamation’s Klamath Project. Principal crops include grains, hay, sugar beets, potatoes and horseradish.

State highways provide good access to the monument from the north and east. Access from the south and west is via slow speed rural roads. The Modoc Volcanic
Scenic Byway, which incorporates some of these roads, has recently been designated and will be publicized as a tourism route through the area.

The nearest commercial air service is in Klamath Falls. AMTRAK provides rail service to Klamath Falls.

Commercial services including gas, groceries, restaurants, motels, and RV parks are available in nearby communities in close proximity to the monument.
CULTURAL ENVIRONMENT

PREHISTORY

Eleven and a half thousand years of human occupation throughout the Klamath Basin has provided an extensive array of cultural resources associated with Lava Beds National Monument. The Modocs, their ancestors, and the predecessors of their ancestors were hunters and gatherers, living in semi-permanent villages along the shores of the ancient lake. At sacred sites, they painted pictographs and carved petroglyphs. Their hunting forays and vision quests took them into every part of their territory where their routes are marked today by obsidian chips, projectile points, and various stone tools.

HISTORY

As European settlement moved westward into the Klamath Basin, conflicts between cultures escalated, culminating in the Modoc Indian War of 1872-1873. During the war, a small band of Modoc Indians successfully held off an Army twenty times their strength because of their detailed knowledge and use of natural fortifications formed by the lava flows just south of Tule Lake. These flows provided rifle pits, connecting trenches, shelters from mortar fire, and finally, a natural escape from encirclement. Occurring only seven years after the end of the Civil War, it was the only Indian war on record in which the army used mortars to assault an Indian stronghold. The war was characterized by embarrassing reversals for the military and it incurred significant costs. It culminated with the only death of a General officer at the hands of Indian warriors.

Before the creation of Modoc National Forest, the area which now encompasses the monument was grazed by large numbers of wild horses, left in the area after the Modoc War of 1872-73. After the Modoc War, cattle raising was the chief industry, and thousands of these animals were grazed in this general vicinity. About 1900, sheep were brought in, and gradually the cattle industry decreased. By 1920 the only grazing within present day boundaries was by sheep. Many sheep grazing allotments remained valid even after the monument management was handed over to the National Park Service in 1933, and grazing continued within the monument to some extent until 1974.

The monument hosted a Civilian Conservation Corps (CCC) camp from 1933 to 1942. Initially located at Bearpaw, the camp was moved in 1935 to the Gillem's Camp area. The corps contributed significantly to the monument during its period of operation, constructing a number of sturdy and rustic structures which remain in the monument today, included on the List of Classified Structures.
CONTEMPORARY TRIBAL INTERESTS

Lava Beds National Monument encompasses lands long inhabited and used by Native Americans. The Modoc people retain strong spiritual ties to these lands and continue to visit the area on quests, adding rocks to ancient cairns, and recording their prayers alongside those of their ancestors.

The monument staff maintains regular contact with Modoc interests through the Klamath Tribe, with headquarters in Chiloquin, Oregon. (Descendants of the Modocs are now members of the multicultural, federally recognized Klamath Tribe.) The monument also maintains contact with the organizers of the annual Modoc Gathering, and with individual Modocs regarding traditional interests in the park.

In 1988, Lava Beds National Monument consulted with the Klamath Tribes and repatriated all of the human remains contained in the monument collections. More recently, in the spring of 1995, monument staff assisted Modoc representatives from the Klamath Tribes in reinterment of remains illegally removed from Petroglyph Point several months earlier. NPS action in apprehending the perpetrators of the illicit excavation made the reinterment possible.

CULTURAL RESOURCES

Lava Beds National Monument contains numerous, significant cultural resources including archeological sites, rock art, ethnographic sites, historic structures, Modoc War fortifications, cultural landscapes and objects. Nearly all of the monument’s archeological sites and Modoc War fortifications are included in the Modoc Lava Beds Archeological District, listed on the National Register of Historic Places. The boundaries of this district include the entire monument and some U.S. Fish and Wildlife lands along the south shore of Tule Lake. In addition, five other monument properties, three associated with the Modoc War and two rock art sites, are also listed on the National Register of Historic Places.

Because of the long history of preservation, the cultural resources of Lava Beds National Monument exhibit an exceptional level of integrity and lack of disturbance.

Archeological Sites - Although only approximately 5 percent of Monument lands have been included in cultural resources inventories which meet current professional standards, over 200 sites are recorded. It is estimated that hundreds if not thousands of additional sites exist within the monument.

Archeological sites include domestic, trade, subsistence, processing, funerary, religious and defense sites. These cultural resources are significant under a number of National Register of Historic Places criteria: in the area of military history and architecture; for their traditional cultural significance to contemporary
Modoc; for the association with Captain Jack, the principal Modoc leader during the 1872-3 War; and for their potential to yield information important to a range of prehistoric, ethnohistoric and historic research domains.

Three archeologically sensitive environmental zones are identified in the Modoc Lava Beds Archeological District. The most archeologically sensitive zone is the lakeshore zone. Sites are heavily concentrated in this zone and most of the sites represent multi-activity use. The second most sensitive area is the ice cave zone. Since the only sources of water in the monument are Tule Lake and ice caves, these were intensively used by prehistoric peoples. Almost all ice caves have associated prehistoric archaeological sites. Last, the least archeologically sensitive area in the monument is the intermediate zone. Archeological sites in this zone are likely to be task-specific sites characterized as lithic scatters. As noted above, archeological sites within the monument are listed on the National Register of Historic Places as the part of the Modoc Lava Beds Archeological District.

**Modoc War Era Fortifications**- Many of the Modoc War era fortifications are included in the Modoc Lava Beds Archeological District. In addition, three Modoc War era fortifications/sites, because of their size and importance during the conflict, were listed previously on the National Register of Historic Places. These include Captain Jacks Stronghold, where Modocs took advantage of the rugged topography to hold off a much larger U.S. Army force for several months, Hospital Rock, which served twice as an encampment for U.S. troops attacking the Stronghold, and Thomas-Wright Battlefield, where a surprise attack by Modocs soundly defeated a detachment of U.S. Army troops. A separate nomination for Gillems Camp has been initiated, but is not yet completed. Gillems Camp is now included in the Modoc Lava Beds Archeological District.

**Rock Art**- Lava Beds National Monument contains exceptional examples of rock art. Petroglyph Point, separated from the contiguous boundary of the unit, is approximately 200 acres in size and contains more than 5,000 petroglyphs, the largest concentration of rock art in California. (The point also contains a number of archeological sites.) Petroglyph Point was listed on the National Register of Historic Places in 1975.

A number of the monument’s caves, included in the Modoc Lava Beds Archeological District, also contain extensive rock art.

**Ethnographic Sites**- A number of the cultural resources in Lava Beds National Monument, i.e. archeological and historic sites, hold traditional significance for contemporary Modoc who are now primarily affiliated with the Klamath Tribe of Oregon, the Modoc Tribe of Oklahoma and the Confederated Modoc and Paiute Tribes. Monument sites serve as one of the tangible links for the Modoc with their ethnic heritage. The significant population decline and cultural disruption after
historic contact, coupled with dispersal of the remaining Modoc population after the war of 1872-3, led to fragmentation and dissipation of knowledge of the Modoc culture. Today there is a revitalized interest among Modoc about their traditional culture, and the Modoc Lava Beds District serves as one of the foci of this interest.

Specific sites within the monument that are of importance to the Modoc include Captain Jack's Stronghold and vicinity, Petroglyph Point, Fern Cave and Juniper Cave. These places are used for spiritual purposes and for the Return to the Stronghold Gathering which has been held annually for the last several years.


**Structures**- The List of Classified Structures (LCS) identifies a number of Modoc War related structures which are listed on the National Register of Historic Places. These include Hospital Rock Army Camp Site, Captain Jack's Stronghold, and the Thomas-Wright Battlefield. Additional war related sites on the LCS which may qualify for the National Register are Gilems Camp and prominent features of the camp such as the cemetery wall and the rock circle.

The LCS also identifies a number of structures associated with or constructed during the Civilian Conservation Corps (CCC) era. Several of these structures may prove to be eligible for the National Register. Likely candidates include the Superintendent's Residence, Service Station, Indian Well Pumphouse, Schonchin Butte Fire Lookout, and 18 Rustic Picnic Tables.

**Objects**- There are a total of 7,963 cataloged objects in the museum collection in the following classifications:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archeology</td>
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<td>Ethnology</td>
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<tr>
<td>Biology</td>
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<td>Paleontology</td>
<td>6</td>
</tr>
<tr>
<td>Geology</td>
<td>25</td>
</tr>
</tbody>
</table>

Items include historic objects from the Modoc War era, prehistoric objects from Native American occupation, and specimens of the area's plants and animals are available as reference.

**Cultural Landscapes**- A formal National Register oriented cultural landscape study of Lava Beds National Monument has not been done, but it is likely that certain
specific areas of the monument such as Captain Jacks Stronghold could be documented from a cultural landscape perspective.

Additional professional analysis of this potential resource is needed.
NATURAL ENVIRONMENT

TOPOGRAPHY AND GEOLOGY

The main section of the monument is of recent geologic origin. Situated on the eastern slope of the Medicine Lake volcano, the monument has elevations ranging from about 5,000’ at the south end to about 4,000’ at the extreme north end. Topography, shaped by extensive lava flows, is generally flat to gently sloping but dotted with numerous cinder cones rising 200-500 feet.

The Petroglyph Point formation is a maar volcano, a cinder cone that was formed under the ancient lake. Centuries of the undercutting action of waves allowed huge sheets of rock to fall, forming sheer cliffs. Wave action eroded them away until the area appears to have had a huge wedge cut from it. The inner construction of the volcano is seen both longitudinally and in cross section. The cavities left by gas bubbles provide nesting sites for hundreds of raptors today. Wave cuts at different elevations reveal great fluctuations in Lake Modoc. In recent history the lake was much lower and became known as Tule Lake.

The monument contains more than 300 caves. The caves are notable in their abundance, length of passage, and excellent representation of primary volcanic features. Many also contain resources such as ice formations, pictographs, or unusual biotic communities or populations.

The monument has an approved Cave Management Plan which facilitates cave exploration opportunities, while controlling impacts to the cave environment. The plan also provides for scientific research, limits development, and outlines management responsibilities.

Because of a lack of inhouse funding and personnel, the park has in recent years depended heavily on the Cave Research Foundation (CRF) to identify, map, inventory, monitor, and recommend cave protection techniques.

HYDROLOGY

Lava Beds National Monument has only a few intermittent surface water resources in the form of seeps at some caves.

Groundwater provides domestic water for the monument. The monument has a 758’ well that provides the only source of water to visitors and employees in the Indian Well developed area. The recent drought experience has caused local basin farmers to drill wells into the aquifer for irrigation. Excessive draw-down of the sub-surface water table could affect the monument’s water supply.
VEGETATION

The monument’s arid environment, with an average annual precipitation of 13.26"", is host to a diverse group of plant species. The monument has three major vegetation associations, 38 plant communities, and approximately 283 species of plants.

The monument has a serious problem with alien plant invasions. The lands within the monument were heavily grazed by livestock until 1974. This continuous grazing of the monument had a significant impact on the native vegetation and fragile soils. Most of the native bunchgrass stands were selectively grazed out from the northern one-half of the monument with non-native plants filling the niche. The intrusion of exotic plant species such as cheatgrass (Bromus tectorum) is well integrated within the system. In addition, because of the monument’s location adjacent to agricultural lands within the Klamath Basin, other aggressive exotic plant species have been very successful in colonizing disturbed areas within the monument.

The monument has identified six primary non-native plants of concern. They are, in addition to the cheatgrass, Russian thistle (Salsola iberica), bull thistle (Cirsium vulgare), sweet clover (Melilotus sp.), woolly or common mullein (Verbascum thapsus), and several mustards (Cruciferae).

A unique vegetative feature of the monument is the occurrence of ferns within and around caves. A study of these plants was completed by the Cave Research Foundation in 1993. Ferns were found at twenty cave entrances. The relatively stable, protected environments with attenuated light levels and greater moisture availability resemble conditions typical of coastal forests and thereby provide island refuges for species not found in the surrounding, semi-desert landscapes.

WILDLIFE

Lava Beds National Monument has a tremendous diversity of wildlife species. The monument supports 51 species of mammals, 217 species of birds, 12 species of reptiles, two species of amphibians, and an unknown number of insect and invertebrate species.

The lands within the monument provide preferred winter habitat for mule deer. During a normal winter season, snow depth at the upper elevations of the Medicine Lake volcano forces the deer to move down the eastern slope and into the monument. Deer populations according to the California Department of Fish & Game are lower than in past years and are continuing to decline. This may be attributed to widespread vegetative habitat age and species structural changes due to seven successive drought years, due to the exclusion of fire, and/or to some
other problems in herd health. Deer are readily observed within the monument and significant browsing on bitterbrush and mountain mahogany is occurring.

Populations of pronghorn are observed within the northern and eastern portions of the monument. They prefer the more open habitats and indications are that the monument may be used as an important kidding ground.

In the past, populations of sage grouse were found within the monument, however, since the late 1970’s only unconfirmed sightings have been made near Hovey Point, at the monument’s north end. Changes in habitat due to the lowering of the water tables, removal of sagebrush through grazing and invasion of cheatgrass have disrupted this native species.

Reptiles, amphibians, and many insects and invertebrates are found within the monument. The baseline data on these wildlife species is very limited.

The monument has always provided habitat for mountain lions (*Felis concolor*). Until recently, very few sightings have occurred (2-5 per year). A substantial increase in lion sightings in 1993/94 has prompted management to initiate a mountain lion awareness program that informs and educates visitors to the potential hazards of living and recreating in lion country.

**FIRE**

Fire is recognized as a powerful, naturally occurring force in the evolution of plant communities in the monument. Naturally occurring fires are caused by lightning and volcanic activity in the area. Prehistoric anthropogenic fires started by native peoples for a variety of reasons also influenced vegetative communities. Prior to settlement by Europeans, natural fires burned in mosaic patterns with varying intensities guided only by climatic conditions, natural barriers, and available fuels. Bunchgrass prairies, sagebrush flats, mountain mahogany/juniper woodlands, and ponderosa pine forests represent vegetative communities that are dependent on or tolerant of fire. Fire was a frequent visitor to these communities. Fire history studies of the monument using the fire scarred boles of old ponderosa pine indicate that within the Ponderosa pine fuel type the average fire return interval ranged from five to 22 years. Fire return intervals in other fuel types such as grass and brush are more difficult to determine. Current research in similar fuel types indicates that fire return intervals may have ranged from 10 to 60 years.

With the establishment of the monument in the 1920’s, all wildfires were actively suppressed. This policy continued to the late 1980’s. By suppressing these fires, humans interrupted the normal cycle of regularly occurring lower intensity fires. This allowed the vertical/horizontal arrangement and continuity of fuels over much of the monument to increase greatly. Fuel loadings became much higher than
generally occurred prior to European settlement. Many vegetative communities within the monument have become over stocked, or decadent, contributing to a serious wildfire hazard. These unnaturally heavy fuel loadings now support wildfires that have greater intensities and are more resistant to control. All monument resources, human property, and human life both within and outside the monument are at risk from these high intensity wildfires.

Since the late 1970's, management ignited prescribed fires at the monument have been used as a management tool to reduce hazardous fuel loadings and to mimic natural systems processes. Prescribed fire has been and will be used to reduce hazardous fuel conditions in and around developed areas and in areas having special natural and cultural values. Areas of particular concern include the Indian Well developed area, the south boundary, the Bald Eagle Roost area, and the wildland urban interface exposures along the monument’s northeast boundary.

Management recognized the importance of allowing natural processes to continue as much as possible within the monument. The monument staff will strive to reintroduce natural fire back into the area as a powerful force of nature. Natural fires will be managed under strict guidelines and prescriptions. Management ignited prescribed fire will be used to develop fuel breaks for natural fire zones. Once prescribed natural fire zones are developed and protective zones established, naturally occurring fire will once again be allowed to play its role in the biotic processes found in the monument.

THREATENED AND ENDANGERED SPECIES

The monument provides suitable habitat for two federally listed species, the threatened bald eagle (*Haliaeetus leucocephalus*) and the endangered American peregrine falcon (*Falco peregrinus anatun*). Bald eagles are commonly sighted in the monument, particularly in the southern portion, while peregrine falcons have not been documented in the monument since the 1930’s. It is noted that falcons have been sighted recently in adjacent areas and it is reasonable to expect that they will reappear in the monument in the next few years.

Several animals that are candidates for federal listing have been sighted in the monument. These include:

Loggerhead shrike, *Lanius ludovicianus*
Small-footed myotis (bat), *Myotis ciliolabrum*
Long-eared myotis, *Myotis evotis*
Fringed myotis, *Myotis thysanodes*
Long-legged myotis, *Myotis volans*
Yuma myotis, *Myotis yumanensis*
Pacific Townsend’s big-eared bat, *Plecotus townsendii townsendii*
Northern goshawk, *Accipiter gentilis*
Ferruginous hawk, *Buteo regalis*

The monument provides particularly important habitat for the big-eared bat, which makes use of monument caves both for winter hibernation and for summer maternity roosts.

The park may also provide habitat for several additional candidate species and subspecies which have not been sighted or inventoried. (As noted above, inventories of flora and fauna are incomplete.) These include:

Pale Townsend’s big-eared bat, *Plecotus townsendii pallescens*
Spotted bat, *Euderma maculatum*
Pygmy rabbit, *Brachylagus idahoensis*
Western burrowing owl, *Athene cunicularia hypugea*
Western sage grouse, *Centrocercus urophasianus phaios*
Tricolored blackbird, *Angelaius tricolor*
Western mastiff bat, *Eumops perotis californicus*
Milk-Vetch, *Astragalus lentiginosus*

Several species on the California State threatened and endangered list have also been observed in the Monument. Included are the great grey owl (*Strix nebulosa*), the sandhill crane (*Grus canadensis*), the bank swallow (*Riparia riparia*), and Swainson’s Hawk (*Buteo swainsoni*).

The monument contains two areas used by the bald eagle for roosting and protection from cold winter weather. These roosts have been identified as Caldwell/Cougar Butte and Eagle Nest Butte. The Caldwell/Cougar Roost is one of four major bald eagle winter roosts located in the Klamath Basin of northern California and south-central Oregon. More than 900 bald eagles annually winter in the Klamath Basin. These eagles represent nearly one-half (depending upon their distribution) of the California bald eagle winter population in any given year. The eagles roost communally during the night in forest stands near the Tule Lake and Lower Klamath National Wildlife Refuges which support large waterfowl populations. Roost sites are in mature ponderosa pine (*Pinus ponderosa*) and mixed-conifer forests that offer protection from severe winter weather, perch sites, isolation from human disturbance, and a food supply within 13 to 25 kilometers (5-15 miles).

A joint Forest Service/Park Service Bald Eagle Winter Roost Management Plan was approved in 1992. This is a comprehensive plan providing a summary of information on the bald eagle, its activities, and its habitat within the monument and on adjoining national forest lands.
AIR QUALITY

The Clean Air Act (CAA) as amended in 1990 directs federal land managers to protect the natural and cultural resources of public lands against adverse impacts of air pollution. Lava Beds’ 28,460 acres of wilderness is designated as Class I, and the remaining monument acres are Class II. The CAA affords Class I areas extra protection against air pollution. NPS management policy is to protect both Class I and Class II areas equally against air pollution.

In order to fulfill these mandates Lava Beds National Monument is committed to obtaining a better understanding of ambient air quality conditions and the sensitivity of monument resources to air pollution.

The monument is located in the Northeast Plateau Air Basin. The Northeast Plateau Air Basin currently meets all federal and state air quality standards except the State particulate matter less than 10 microns (PM$_{10}$) standards. The major source of PM$_{10}$ in the area is smoke from agricultural burning and wood combustion during the fall and winter. Persistent inversions in the winter trap smoke for days in the Klamath Basin. Elevated PM$_{10}$ levels adversely impact visibility and may cause other resource impacts.

BACKCOUNTRY AND WILDERNESS

Lava Beds National Monument has approximately 43,000 acres managed as backcountry. Included within this backcountry are two wilderness units totalling 28,460 acres. See Map 2. The Lava Beds wilderness is an island, the next closest wilderness areas being the Mountain Lakes Wilderness, 45 miles to the northwest, and the South Warner Wilderness, approximately 65 miles to the east.

The Wilderness Act restricts activities in designated wilderness areas. No forms of mechanical transport, no permanent roads, and only "minimum tools" are permitted in wilderness. Special provisions of the Wilderness Act provide for "such measures...as may be necessary in the control of fire..." Other restrictions, necessary for the preservation of wilderness values, may be made by the monument, e.g. a prohibition against firewood collecting for any but administrative use.

The Wilderness Act also calls for the perpetuation of natural processes within areas designated as wilderness. Naturally occurring fire caused by lightning or volcanic activity has been a powerful force in shaping the monument’s biotic communities. As much as possible, fire will be managed as a natural force within the wilderness boundaries of the monument. These fires will be managed as prescribed natural fires and will be guided by strict prescriptions. Management ignited prescribed fire may be used in monument wilderness areas to enhance the application of the
prescribed natural fire program. Areas may be treated with management ignited
prescribed fire to initially reduce fuel loadings and to ensure that naturally occurring
fires may be managed within their prescriptions.
Lava Beds National Monument manages its caves within designated wilderness
areas as underground "wilderness."

Approximately 43 miles of trails and road/trails exist. There are 18 separate trails
identified within the monument.

Riding and pack animals are currently permitted on only four trails- Lyons, Three
VISITOR USE ANALYSIS

Annual visitation levels for the last several years are presented below.

ANNUAL VISITATION

<table>
<thead>
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<th>YEAR</th>
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<td>1995</td>
<td>175,000</td>
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The monument is open year-round. Approximately half of the visitation occurs during the summer months, June through August. Highest visitation periods are summer weekends, and the lowest on cold, snowy days during winter.

TYPICAL MONTHLY VISITATION
PERCENTAGE DISTRIBUTION

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</tr>
<tr>
<td>June</td>
<td>11%</td>
<td>December</td>
<td>2%</td>
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</table>

Visitors enter the monument primarily from the north, with 75 percent of the visitors evenly split between the Hill and Dike Road entrances. On the south end,
20 percent of visitors enter from the southeast via Forest Highway 10, while the remaining 5 percent enter the monument on the Medicine Lake Road.

Visitor use areas and facilities include two self-guiding trails, a visitor center, a 42-site campground, a group camp area, two picnic areas, and 24 wayside exhibits.

The average visitor stay is approximately five hours.

Visitation is projected to increase to about 210,000 in 2010 based on an expected increase rate of 1 percent per year. This is consistent with growth rates projected for other northern California recreation destinations.
FACILITY ANALYSIS

The following summarizes the monument’s existing facilities and major equipment.

Non-historic roads, trails and parking lots

- 44.5 miles of paved roadway
- 4.4 miles of graded secondary roadway
- 25.8 miles of primitive trail (unpaved)
- 4.3 miles of paved trail
- 19 parking lots with 215 spaces
- 350 road signs
- 250 trail signs
- 24 wayside exhibits

Non-historic buildings and facilities

- Four single family houses (three bedrooms)
- One duplex
- One modern administrative/office building
- One old administrative building
- One visitor center building
- One detached restroom in visitor center area
- One library/audio visual room
- One museum collection room
- One maintenance complex w/six buildings and/or trailers
- Two apartment complexes (eight apartments total)
- Two campground restrooms (A & B loop)
- One island gas station w/roof & two 2,000 gallon tanks
- Steam generator storage building
- Five pit toilets
- Five RV sites

Historic Structures

- One 2-bedroom family rustic frame house, quarters #40 (LCS#21150)
- One operations center w/fire cache (LCS#21151)
- One gas/oil building (LCS#21152)
- One pump house (LCS#21153)
- Schonchin Butte lookout (LCS#21154)
- 18 picnic tables (See LCS list)
Utility Systems

- One water system with 100,000 gallon elevated storage tank and 6,700 feet of distribution line
- One central sewer system w/ 7500 gallon septic tank & 3750 LF of sewer line
- Two above-ground furnace oil storage tanks (1000 & 500 gallons)

Major Equipment

- Cat. 130G Motor Grader
- Case W20C Loader
- John Deer 210C Backhoe
- John Deer 1050 Tractor
- White Forklift
- 1987 Ford F700 Garbage Packer
- 1990 International Water Truck (2000 gallon)
- 1962 Dodge Rescue Truck
- 1970 Dodge 1 1/2 ton Flatbed Truck
- 1983 Chevy Fire Truck
- 1989 Daihatsu Vehicle
- Two slip-on fire pumpers
- Sweepster Road Broom
- Cyclotherm 1,000,000 BTU Steam Generator
- 1975 International Flatbed Truck
- RN 1500 L Rotary Snow Plow/Ford A-66 Loader Mount
- 1973 Chevrolet Step Van
- 1990 Sullair Compressor
- 1984 International Dump Truck (5 Yard)
- 250 Gallon Road Oil Distributor
Environmental Consequences
ENVIRONMENTAL CONSEQUENCES

The various actions in the alternative plans would have meaningful impact in seven different areas: Vegetation, wildlife, air quality, caves, cultural resources, visual quality, and visitor use. The analysis presented below evaluates each of the alternatives in terms of these categories.

Several environmental categories frequently addressed in environmental compliance documents, but which would not be significantly affected by the alternatives, include water resources, soils, and the regional economy. These areas are not further addressed in the document.

THE PROPOSED GENERAL MANAGEMENT PLAN

Vegetation- The increased resource management and fire program staffing included in this alternative would provide for progress in completing inventories and documenting monument vegetation and preserving and restoring natural vegetative regimes in the monument.

Minor adverse impacts on vegetation would occur as a result of minor construction projects, all of which would occur on already-disturbed land with altered vegetative associations, and construction sites would be surveyed for any plant species listed as threatened or endangered, or a candidate for such listing. Consequently, adverse impacts are expected to be insignificant.

Overall impacts on vegetation are expected to be positive and significant.

Wildlife- The positive impacts discussed above for vegetation would also support the well-being of native wildlife. Completed inventories would greatly assist in the development and implementation of wildlife management programs.

There could be some minor adverse impacts to wildlife from new construction, but none of the construction projects would be located in sensitive habitat-all work would be on already-disturbed ground in developed areas where habitat values are limited. Trails established at Petroglyph Point would be designed to direct visitors away from sensitive raptor nesting areas and would be closed in nesting seasons.

There would be no adverse impacts to threatened, endangered, or candidate species.

Additional law enforcement capability would improve protection of wildlife from poaching.

Overall impacts on wildlife would be positive.
Caves- Cave resources would be better protected under this alternative by measures taken to support continuing cave inventory and research, including development of the research lab/dorm and increased resource management staffing, and by improved visitor orientation on non-destructive use of caves.

Air Quality- The level of vehicle emissions would increase somewhat as a function of visitor use, as would the generation of particulates through the increased use of unpaved roads.

Cultural Resources- The plan would have significant beneficial impact on Petroglyph Point resources through structural and operational interventions to reduce vandalism and erosion of the petroglyphs. Benefits to cultural resources would also accrue from the added capability to complete parkwide archeological surveys and monitor known sites.

Construction activities have the potential for disturbing archeological sites, although the sites proposed for development are already disturbed. Construction would be preceded by detailed site examinations and provisions would be made for safeguards during the construction process in the event of discoveries during excavation.

Overall impacts on cultural resources from this alternative would be positive.

Visual Quality- Visual quality would be adversely affected to some degree by the development of the entrance station at the north end of the park, and by the development of a new parking lot in the Indian Well area to serve the visitor center. As discussed above, impacts would be minimized by sensitive design and location of the facilities.

The other new structures, e.g. duplex, research dorm/lab, vehicle maintenance facility, etc., would be located in existing developed areas and would be designed to be compatible. The visual impacts would be negligible.

Overall impacts on visual quality would be adverse, but not significant.

Visitor Use- Positive impacts on visitor use would accrue from the improved orientation facilities at the north end and other entrances, the relocated and improved facilities at Petroglyph Point, added picnic sites, amphitheater rehabilitation, visitor center improvements, and added interpretive and law enforcement personnel.

Overall impacts on visitor use would be positive and significant.
Short Term Uses and Long Term Productivity- Actions taken to protect both natural and cultural resources would involve short term recurring commitments aimed at providing for a long-term flow of benefits from resources capable of providing for satisfying visitor experiences.

Irreversible and Irretrievable Commitments of Resources- The proposed actions would significantly reduce the rate of irreversible loss of cultural resources, but would not completely eliminate them. At Petroglyph Point, erosion would continue to slowly erase the west-facing Petroglyphs, and some degree of illegal collection would continue throughout the monument.

Cumulative Impacts- Natural weathering and man's past, present, and future actions in the Klamath Basin will lead to a long-term significant decline in the prehistoric and historic resources of the region. The protection and preservation actions provided in this alternative will decrease the rate of loss of such resources in the monument, making a positive contribution to the long-term cumulative well-being of this resource in the region.

The natural ecological systems of the region, significantly affected by economic uses and development over the past century, will continue to lose integrity as population increases and land uses intensify. No proposed actions within the monument will contribute cumulatively to the forces leading to the ecological transformation; rather, the monument will increasingly be subject to intensified external forces. The development of a sound natural resource management program, capable of identifying sensitive resources, noting potentially damaging external factors, and offering strategies for protection, will decrease the impact of these external forces on the monument's natural systems. In these circumstances, the monument will be better able to remain as a remnant sample of natural systems and can function as a brake, albeit a minor one, on the overall decline of the Klamath Basin natural systems.
ALTERNATIVE A: NO ACTION

Vegetation- Lack of inventory data on vegetation and the shortage of resource management personnel would hinder efforts to protect existing native vegetation and to control the several aggressive alien species which are invading the monument. Significant adverse impacts to vegetation can be expected in the long run under this alternative.

Wildlife- As in the case of vegetation, the information gaps and the lack of both resource management and law enforcement personnel would hinder efforts to maintain and restore a natural wildlife regime in the monument. Cooperative efforts needed regarding bald eagles, mule deer, and pesticide impacts would be difficult or impossible to pursue. Significant adverse impacts could result in the long term.

Caves- Some adverse effects are occurring at inventoried caves due to the lack of personnel and inadequate orientation of the visiting public to non-destructive cave usage. Cave resources have not yet been adequately inventoried, and continued visitor use of these caves may be adversely affecting sensitive resources. The monument’s capability to attract and make use of volunteer organizations to complete cave research would continue to be hindered by the lack of work and living space. In the long-term, adverse impacts to this important park resource could be significant.

Air Quality- Motor vehicle use by visitors and monument staff would continue to produce emissions and contribute minor amounts of pollutants. Vehicle use of unpaved roads in the monument, including Medicine Lake Road and the county road through the Petroglyph Point area would continue to generate dust.

Cultural Resources- Insufficient data exists on parkwide archeological resources to provide adequate protection for sites unknown to NPS, but which may be known to pothunters. Decline of the petroglyphs at Petroglyph Point due to wind erosion and vandalism would continue toward the potential near-term loss of that resource. Overall impacts on cultural resources would be significant.

Visual Quality- This alternative would have little impact on the existing visual quality as no significant physical changes would be made.

Visitor Use- Visitor use would continue to increase over time, placing additional pressures on already-stressed park facilities and personnel, and leading to a significant decline in the quality of a visit to the monument. The existing shortcomings in initial park orientation would amplify the problem as use increases.
Short Term Uses and long Term Productivity- The no-action alternative would minimize expenditures of labor and capital in park management, having the lowest capital and operations costs of the alternatives evaluated. However, in the long term it would allow the continued decline of resources, both cultural and natural, and the capability of these resources to provide for satisfying visitor experiences.

Irreversible and Irretrievable Commitments of Resources- Adverse impacts on cultural resources, especially the deterioration of the petroglyphs and the loss of cultural artifacts to collectors and pothunters, would be irretrievable. The further incursion of alien species within the monument may also prove to be irreversible.

Cumulative Impacts- Natural weathering and man’s past, present, and future actions in the Klamath Basin will lead to a long-term significant decline in the prehistoric and historic resources of the region. The loss of such resources in the monument, although at a lower rate than on private lands or on other public lands where law enforcement presence is more thinly dispersed, will continue to occur at a significant rate in the absence of upgraded law enforcement and resource management activities.

Likewise, the natural ecological systems of the region, significantly affected by economic uses and development over the past century, will continue to lose integrity as population increases and land uses intensify. While actions within the monument will not exacerbate the ecological transformation, the monument itself will be affected by the external forces. The absence of a sound natural resource management program, capable of identifying sensitive resources, noting potentially damaging external factors, and offering strategies for protection, will allow these external forces to play an unimpeded role in altering the monument’s natural systems. In these circumstances, the monument will be less capable of providing a remnant sample of natural systems.
ALTERNATIVE B: MINIMUM REQUIREMENTS

Vegetation- Impacts on vegetation would be similar to the proposed plan, although a slightly larger area would be affected by the contact station and road relocations at Petroglyph Point and in the north end of the monument. The road relocation impacts would be temporary, being in time offset by revegetation efforts.

Overall impacts on vegetation are expected to be positive.

Wildlife- Similar to the proposed plan with minor additional adverse habitat impacts due to additional construction. Overall impacts would be positive.

Caves- Same as the proposed plan.

Air Quality- The level of vehicle emissions by visitors and staff would be similar to the proposed plan. Paving Medicine lake Road and the county road through the Petroglyph Point area would slightly reduce monument-generated dust.

Cultural Resources- Similar to the proposed plan. However, development of a contact station and entrance station at the north end of the monument would have some adverse impact on the historic scene of the Modoc War. Careful design and location of the structure and associated parking would prevent the facility from having a significant impact on this resource.

Overall impacts on cultural resources from this alternative would be positive.

Visual Quality- Similar to the proposed plan, although visual quality impacts would be increased to some degree by the development of the contact station and entrance station at the north end of the park.

Overall impacts on visual quality would be adverse, but not significant.

Visitor Use- Major positive impacts on visitor use would accrue from the development of a contact station at the north end as well as other facilities included in the proposed plan.

Overall impacts on visitor use would be positive and significant.

Short Term Uses and Long Term Productivity- Same as the proposed plan.

Irreversible and Irretreivable Commitments of Resources- Same as the proposed plan.

Cumulative Impacts- Same as the proposed plan.
ALTERNATIVE C: ENHANCED VISITOR EXPERIENCE

Vegetation- Similar to Alternative B, except for incremental loss of vegetation by the somewhat larger area of the visitor center at the north end, and the ranger residence at Petroglyph Point.

Wildlife- Similar to Alternative B.

Caves- Similar to Alternative B.

Air Quality- Same as Alternative B.

Cultural Resources- Impacts would be for the most part similar to Alternative B. The larger visitor facility at the north end would have a somewhat greater potential for adverse impact on the historic scene, and the minor increase in construction would increase potential for adverse impact on subsurface archeological resources.

Greater potential beneficial impacts would accrue from the study of positive erosion barriers for Petroglyph Point, and the additional protection afforded resources there by addition of the ranger residence.

Visual Quality- The additional number and size of structures would have minor incremental adverse impacts on the monument’s visual quality.

Visitor Use- Significant incremental positive impacts would accrue from improved visitor centers at the north end and at Mushpot Cave, through improvements to the group camp and winterization of the campground, and through the addition of interpretive and law enforcement staff.

Short Term Uses and Long Term Productivity- Same as Alternative B.

Irreversible and Irretrievable Commitments of Resources- Same as Alternative B, except that options for providing greater physical protection to the petroglyphs at Petroglyph Point from wind erosion would be evaluated, and greater law enforcement and resource management commitments could further reduce the loss of cultural resources and potential for adverse impacts on natural systems.

Cumulative Impacts- Same as Alternative B, except that greater commitments in the protection of both cultural and natural resources would make a positive contribution to the cumulative well-being of these regional resources.
<table>
<thead>
<tr>
<th>IMPACT TOPIC</th>
<th>PROPOSED GENERAL MANAGEMENT PLAN</th>
<th>ALTERNATIVE A: NO ACTION</th>
<th>ALTERNATIVE B: MINIMUM REQUIREMENTS</th>
<th>ALTERNATIVE C: ENHANCED VISITOR EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation</td>
<td>Minor adverse impacts would accrue from facility development. Benefits would result from increased capacity to inventory and manage natural resources and combat alien species invasions.</td>
<td>Lack of research and resource management personnel would hinder control of invasive alien species with significant long-term impacts.</td>
<td>Minor adverse impacts would accrue from facility development and road relocation; major benefits would result from increased capability to inventory and manage natural resources and combat alien species invasions.</td>
<td>Similar to Alternative B, except for minor impacts from a larger VC at the north end and the ranger residence at petroglyph Point.</td>
</tr>
<tr>
<td>Wildlife</td>
<td>Very minor habitat impacts would occur as a result of development in already disturbed areas. Data gaps could be addressed and added staff could pursue cooperative management projects.</td>
<td>Information voids and lack of staff to pursue cooperative management could have significant impacts on wildlife populations.</td>
<td>Only minor habitat impacts would occur as a result of development projects. Information voids could be addressed and staff would be available to pursue cooperative management projects.</td>
<td>Same as Alternative B.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Vehicle emissions and dust generation from unpaved road use would continue to gradually increase as a function of visitor use.</td>
<td>Same as proposed plan.</td>
<td>Dust generation would decline somewhat as a result of paving two road sections.</td>
<td>Same as Alternative B.</td>
</tr>
<tr>
<td>Caves</td>
<td>Both NPS and private cave research would be enhanced, providing potentially significant information for protecting cave resources.</td>
<td>Research and inventory efforts would continue to be sporadic and visitor uses would continue to be inadequately regulated and monitored.</td>
<td>Same as proposed plan.</td>
<td>Same as Alternative B.</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>Projects at Petroglyph Point would significantly aid in preservation of the petroglyphs. Staff additions would provide better resource management and protection against theft and vandalism.</td>
<td>Decline of the petroglyphs at Petroglyph Point would continue at a rapid rate. Illegal artifact collection would continue to occur in the absence of increased law enforcement. Impacts would be significant.</td>
<td>Development of a contact station at the north end would have minor adverse impacts on the Modoc War historic scene. Projects at Petroglyph Point would significantly aid in preservation of the petroglyphs. Law enforcement additions would decrease level of artifact collection in the monument.</td>
<td>Similar to Alternative B, but with greater protection to Petroglyph Point resources from ranger residence and positive erosion barrier study.</td>
</tr>
<tr>
<td>Visual Quality</td>
<td>Visual quality would be only slightly affected by development projects in developed areas. Design guidelines would lead to more consistent and visually compatible designs.</td>
<td>Visual quality would be largely unaffected.</td>
<td>Visual quality would be affected adversely by placement of a contact station and entrance station at the north end, and by additional minor structures elsewhere in the park. Impacts would not be significant.</td>
<td>Similar to Alternative B but with slightly greater impacts due to larger structures at the north end and at Mushpot Cave.</td>
</tr>
<tr>
<td>Visitor Use</td>
<td>Improvements in visitor orientation would be made through placement of kiosks at entrances. Increased exhibit spaces would be available at the visitor center. Interpretive staff would be somewhat increased. Group campground would be improved.</td>
<td>The quality of visitor experience at the park would decline as numbers of visitors rise and the ability of the park to provide information, maintenance, interpretive, and emergency services remains constant.</td>
<td>Major improvements would be made in visitor orientation through improvements at the north end and at the Mushpot Cave VC. The increase in staffing in all functions would allow the park to maintain the level of visitor service and the quality of the visitor experience.</td>
<td>Similar to Alternative B, but with increased visitor facilities at the north end and VC and at the Mushpot Cave center.</td>
</tr>
</tbody>
</table>
Consultation & Coordination
CONSULTATION AND COORDINATION

SCOPING

The initiation of scoping for the general management plan and environmental impact statement was announced in the Federal Register on October 18, 1993, and continued until December 17, 1993. During that period individual notices were sent to all known interested parties, press releases were issued to local media, and a public scoping meeting was conducted in the town of Tulelake. A meeting was held at this time with the Tribal Chairman of the Klamath Tribes, to brief him on the planning effort and establish the basis for further consultations. (A number of followup calls were made by the monument staff in an unsuccessful effort to elicit further participation by the Klamath Tribes in the early stages of the planning process.) Meetings were also held with the park staff during that period. In March, 1994, the Park Service sent a scoping summary to all those who contributed to the scoping process.

Copies of the Draft GMP/DEIS were sent to individuals participating in the scoping process and to the following organizations and agencies:

Federal Agencies

Forest Service
  Modoc National Forest
  Klamath National Forest
Fish and Wildlife Service
Bureau of Reclamation
Bureau of Land Management
Soil Conservation Service
Geological Survey

State Agencies

Department of Fish and Game
Native American Heritage Commission
State Historic Preservation Officer

Local Agencies

Modoc County Board of Supervisors
Siskiyou County Board of Supervisors
Modoc County Sheriff
Siskiyou County Sheriff
City of Tulelake  
Siskiyou County Museum  
Modoc County Museum  
Siskiyou County Library (Tulelake Branch)

**Tribal Interests**

Klamath Tribe  
Modoc Tribe of Oklahoma  
Pit River Tribal Council  
Modoc Gathering Committee

**Chambers of Commerce**

Yreka  
Butte Valley  
Mount Shasta  
Adin  
Modoc County  
Tulelake  
Klamath County  
Alturas

**Various Other Organizations**

Siskiyou County Visitors Bureau  
Klamath County Visitors Association  
Shasta-Cascade Wonderland Association  
Nature Conservancy  
Cave Research Foundation  
National Park and Conservation Association  
Spokes Unlimited  
Sierra Club  
Rotary International of Tulelake  
Medicine Lake Homeowners Association  
Winema Lodge, Inc.  
Hawk's Nest RV Park  
Kiwanis International of Tulelake  
Audobon Society  
Klamath Basin Llama Association  
Captain Jacks Stronghold Restaurant  
Tulelake Growers Association  
Fruit Growers Supply Company  
International Llama Association
REVIEW OF THE DRAFT GENERAL MANAGEMENT PLAN AND EIS

Public review of the draft plan commenced December 4, 1995 with distribution of the draft document. The comment period extended until March 1, when all comments were due to the superintendent. Notice of the document’s availability was made in the Federal Register by both the National Park Service and the Environmental Protection Agency pursuant to federal regulations. News releases were also provided to the media in the monument’s vicinity, and information on the plan and its availability was subsequently printed.

A public meeting on the draft general management plan was held February 1 in Tulelake. This meeting was attended by approximately 50 persons, most of whom were from the immediate area. Areas of concern surfaced at the meeting included law enforcement practices, road relocation impacts, overall development and operation costs, and relative priorities for road improvements with respect to the Medicine Lake Road and the southeast access road (FS10). All of the issues raised at the public meeting also surfaced in written comments and are further discussed below.

Eighteen letters of comment were received on the draft plan. These letters are printed in Appendix F along with the NPS response to the substantive issues raised.
PLANNING TEAM AND CONSULTANTS

PLANNING TEAM

Dan Olson, Planner, Pacific-Great Basin System Support Office (PGBSSO)
Craig Dorman, Superintendent, Lava Beds National Monument
Monument Staff, Lava Beds National Monument

CONSULTANTS

Roger Kelly, Archeologist/Ethnographer, PGBSSO
Lynne Nakata, Interpretive Specialist, PGBSSO
Gordon Chappell, Historian, PGBSSO
Jonathan Bayless, Curator, PGBSSO
Dave Kruse, Landscape Architect, PGBSSO
Ann King Smith, Archeologist, Redwood National Park
Fred York, Ethnographer, Columbia Cascades System Support Office
APPENDICES

A. LEGISLATIVE SYNOPSIS
B. THREATENED AND ENDANGERED SPECIES CONSULTATION
C. IMPLEMENTATION SCHEDULE AND COST ESTIMATES
D. CULTURAL RESOURCES COMPLIANCE SUMMARY
E. EVALUATION OF BOUNDARY PROPOSAL
F. LETTERS OF COMMENT ON THE DRAFT GMP/EIS AND NATIONAL PARK SERVICE RESPONSE
APPENDIX A

LEGISLATIVE SYNOPSIS

The Modoc Forest Reserve was established by Presidential proclamation on November 29, 1904 (33 Stat. 2380). The Act of Congress of March 4, 1907 (34 Stat. 1269) then changed the name of all Forest Reserves to National Forests.

The Act of June 8, 1906 (34 Stat. 225), extended the earlier public land policy relating to natural parks to provide authority for the President, by Proclamation, to set aside as National Monuments: "historic landmarks, historic and prehistoric structures, and other objects of historic and scientific interest that are situated upon lands owned or controlled by the Government of the United States..."

The National Park Service was established with the Act of August 25, 1916 (39 Stat. 535), wherein the administration of all national parks and some national monuments was placed.

By Proclamation of President Wilson, dated October 1, 1920, 323,226 acres of public land were added to the Modoc National Forest. This addition encompassed what is now Lava Beds National Monument.

Lava Beds National Monument was established by Presidential Proclamation on November 21, 1925, and was placed under the administration of the Forest Service, U.S. Department of Agriculture. This proclamation also included a portion of the western side of the petroglyphs.

The 1925 Proclamation stated: "The reservation made by this proclamation is not intended to prevent the use of the lands for National Forest purposes under the proclamation establishing Modoc National Forest, and the two reservations shall both be effective on the land withdrawn but the national monument hereby established shall be the dominant reservation and any use of the land which interferes with its preservation or protection as a national monument is hereby forbidden."

At the time of this Proclamation, there were several parcels of land in private ownership. These parcels were subsequently acquired.

Administration of Lava Beds and other national monuments was placed in the Department of Interior by Executive Order No. 6166 of June 10, 1933 (5 U.S.C. Secs. 124-132). Section 2 of that order states, "All functions of administration of public buildings, reservations, national parks, national monuments, and national
cemeteries are consolidated in an Office of National Parks, Buildings, and Reservations in the Department of the Interior..."


On July 14, 1942, the Shaw Lumber Company of Klamath Falls, Oregon, deeded 120 acres on the southeast corner of the monument to the Government during an exchange of cut-over land for live, merchantable land with the Forest Service. These proceedings were completed on July 10, 1943.

The monument acquired the Adams Estate on October 23, 1944, in fee simple through condemnation proceedings for 80 acres located in the southeast corner of the monument, partially adjoining the Shaw property.

The Merrill property was acquired on March 13, 1945, in fee simple through condemnation proceedings for 160 acres. This area consisted of the Merrill Ice Cave area, previously known as Bearpaw Cave.

On April 27, 1951, two additions totaling 211.13 acres were added to the monument by Presidential Proclamation No. 2925. These areas included the remaining petroglyph section and a boundary adjustment at Mammoth Crater.

Public Law 92-493, dated October 13, 1972, established 28,460 acres as wilderness. These areas were comprised of the Callahan (Black) and Schonchin lava flows and their surroundings.

Branch Chief, Uses, Status, Withdrawals, J. E. Elliott, sent a letter to Modoc National Forest Supervisor instructing his office to revise their status records to eliminate Lava Beds National Monument from inclusion within the National Forest. This was dated December 8, 1972.

On October 26, 1974, Public Law 93-477, Section 301 (5), made slight adjustments to the northern boundary separating the monument from Tule Lake Fish & Wildlife Refuge. This added approximately 321.58 acres and deleted some 60 other acres from the monument.
APPENDIX B

THREATENED AND ENDANGERED SPECIES CONSULTATION
In Reply Refer To:
1-1-94-SP-317
January 14, 1994

Memorandum

To: Superintendent, Lava Beds National Monument, National Park Service
San Francisco, California (Attn: Margaret Pepin-Donat)

From: Acting Field Supervisor, Sacramento Field Office
Sacramento, California

Subject: Species List for the Lava Beds National Monument, Siskiyou and Modoc Counties, California

As requested by letter from your agency dated November 29, 1993, you will find attached a list of the listed endangered and threatened species that may be present in the subject project area (see Attachment A). To the best of our knowledge, no proposed species occur within the area. This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide a species list pursuant to Section 7(c) of the Endangered Species Act, as amended (Act).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is also attached. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Attachment B for a discussion of the responsibilities Federal agencies have under Section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, pursuant to 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

Also, for your consideration, we have included a list of the candidate species that may be present in the project area (see Attachment A). These species are currently being reviewed by the Service and are under consideration for possible listing as endangered or threatened. Candidate species have no protection under the Endangered Species Act, but are included for your
consideration as it is possible that one or more of these candidates could be proposed and listed before the subject project is completed. Should the biological assessment reveal that candidate species may be adversely affected, you may wish to contact our office for technical assistance. One of the potential benefits from such technical assistance is that by exploring alternatives early in the planning process, it may be possible to avoid conflicts that could otherwise develop, should a candidate species become listed before the project is completed.

Please contact Laurie Stuart Simons of this office at (916) 978-5408 extension 330 if you have any questions regarding the attached list or your responsibilities under the Endangered Species Act.

Cathy Doud
Dale A. Pierce

Attachments
ATTACHMENT A

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES THAT MAY OCCUR IN THE AREA OF THE LAVA BEDS NATIONAL MONUMENT, SISKIYOU AND MODOC COUNTIES, CALIFORNIA (1-1-94-SP-317, JANUARY 14, 1994)

Listed Species

Fish
- short-nose sucker, *Chasmistes brevirostris* (E)
- Lost River sucker, *Deltistes luxatus* (E)

Birds
- bald eagle, *Haliaeetus leucocephalus* (E)
- American peregrine falcon, *Falco peregrinus anatum* (E)

Proposed Species

None

Candidate Species

Amphibians
- spotted frog, *Rana pretiosa* (2)

Reptiles
- northwestern pond turtle, *Clemmys marmorata marmorata* (2)

Birds
- loggerhead shrike, *Lanius ludovicianus* (2)

Mammals
- pygmy rabbit, *Brachylagus idahoensis* (2)
- spotted bat, *Euderma maculatum* (2)

Plants
- Columbia yellow-cress, *Rorippa columbiana* (2)

(E)--Endangered  (T)--Threatened  (P)--Proposed  (CH)--Critical Habitat
(1)--Category 1: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.
(2)--Category 2: Taxa for which existing information indicated may warrant listing, but for which substantial biological information to support a proposed rule is lacking.
(1R)--Recommended for Category 1 status.
(2R)--Recommended for Category 2 status.
(*)--Listing petitioned.
(*)--Possibly extinct.
(#)--Published 1 year petition finding indicates that taxon warrants listing.
Memorandum

To: Associate Regional Director, Resource Management and Planning, Western Region, National Park Service, San Francisco, California

From: Field Supervisor, Sacramento Field Office
Sacramento, California

Subject: Species List for the Petroglyph Section of Lava Beds National Monument, California

February 24, 1991

As requested by letter from your agency dated January 3, 1992, you will find attached a list of the listed endangered and threatened species that may be present in the subject project area. (See Attachment A.) To the best of our knowledge, no proposed species occur within the area. This list fulfills the requirement of the Fish and Wildlife Service to provide a species list pursuant to Section 7(c) of the Endangered Species Act, as amended.

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is also attached. This information may be helpful in preparing the biological assessment for this project, if one is required. Please see Attachment B for a discussion of the responsibilities Federal agencies have under Section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, pursuant to 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

Also, for your consideration, we have included a list of the candidate species that may be present in the project area. (See Attachment A.) These species are currently being reviewed by our Service and are under consideration for possible listing as endangered or threatened. Candidate species have no protection under the Endangered Species Act, but are included for your consideration as it is possible that one or more of these candidates could be
proposed and listed before the subject project is completed. Should the biological assessment reveal that candidate species may be adversely affected, you may wish to contact our office for technical assistance. One of the potential benefits from such technical assistance is that by exploring alternatives early in the planning process, it may be possible to avoid conflicts that could otherwise develop, should a candidate species become listed before the project is completed.

Please contact Peggie Kohl of my staff at 916/978-4866 (FTS 460-4866) if you have any questions regarding the attached list or your responsibilities under the Endangered Species Act.
ATTACHMENT A

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES THAT MAY OCCUR IN THE AREA OF THE PROPOSED PLANNING STUDY FOR PETROGLYPH SECTION, LAVA BEDS NATIONAL MONUMENT, CALIFORNIA (1-1-92-SP-243, FEBRUARY 24, 1992)

Listed Species

Birds
  bald eagle, *Haliaeetus leucocephalus* (E)
  American peregrine falcon, *Falco peregrinus anatum* (E)

Candidate Species

Reptiles
  northwestern pond turtle, *Clemmys marmorata marmorata* (2)

Mammals
  spotted bat, *Euderma maculatum* (2)
  Pacific fisher, *Martes pennanti pacifica* (2)

Plants
  Columbia yellow-cress, *Rorippa columbicae* (2)

(E)--Endangered  (T)--Threatened  (CH)--Critical Habitat
(1)--Category 1: Taxa for which the Fish and Wildlife Service has sufficient biological information to support a proposal to list as endangered or threatened.
(2)--Category 2: Taxa for which existing information indicated may warrant listing, but for which substantial biological information to support a proposed rule is lacking.
(1R)--Recommended for Category 1 status.
(2R)--Recommended for Category 2 status.
(*)--Listing petitioned.
(*)--Possibly extinct.
• --Recommended for Category 1 status.
### APPENDIX C

**IMPLEMENTATION SCHEDULE AND COST ESTIMATE**

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APPENDIX D

CULTURAL RESOURCES COMPLIANCE

Several laws and executive orders regulate the activities of federal agencies regarding cultural resources. The application of these requirements to the Lava Beds National Monument general management plan is outlined below.

National Historic Preservation Act, Section 106

This provision requires NPS to consider the impact of any undertaking on properties that are listed or eligible for listing on the National Register of Historic Places, and to offer the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) an opportunity to comment on such undertakings.

The Draft General Management Plan/Environmental Impact Statement (DGMP/EIS) is being reviewed by the SHPO and the ACHP pursuant to the Council's regulations (36 CFR 800). Section 106 activities for planning are directed by the programmatic agreement between the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers.

The National Park Service initiated consultation in December, 1993, providing the ACHP and the SHPO with copies of the task directive for the planning effort. Preliminary copies of the DGMP/EIS were provided to the two agencies in July, 1995, prior to initiation of public review.

The Advisory Council on Historic Preservation and the State Historic Preservation Officer reviewed the draft GMP/EIS. Their letters are included in Appendix F.

National Historic Preservation Act, Section 110 and Executive Order 11593

This provision of the law requires NPS to identify, evaluate, and manage as appropriate all cultural resources located on lands under its control.

Portions of Lava Beds National Monument have been systematically surveyed for cultural resources, but large areas remain unsurveyed. The DGMP/EIS calls for additional survey work to be accomplished. As additional cultural resource features are located, their significance will be evaluated and treatment determined in accordance with NPS policy and the Secretary of the Interior's Standards for the Treatment of Historic Properties.
**Archeological Resource Protection Act of 1979**

The National Park Service will meet its obligations under the Archeological Resources Protection Act in all activities at Lava Beds National Monument. No archeological resources will be excavated without proper permits. Unauthorized excavation, removal, damage, alteration, or defacement of archaeological resources will be prosecuted. All archeological site data will remain confidential.

**American Indian Religious Freedom Act of 1979**

In accordance with the intent of this act, the Park Service has invited relevant Native American groups with interests in the area of the monument to participate in the planning process. Both formal and informal contacts have been made. Formal review of the DGMP/EIS by these groups was requested, but no comments were received.

As a matter of policy, and continuing well-established past practice at Lava Beds NM, the Park Service will be as nonrestrictive as possible in permitting Native American access to and use of any identified traditional sacred resources for traditional ceremonies.

**Native American Graves Protection and Repatriation Act of 1990**

This law requires:

1. Consultation about and repatriation of human remains and materials that are in NPS collections.

2. Reactive and proactive consultation with appropriate American Indian communities about inadvertent discoveries of human remains and associated materials that may be encountered within the monument.

Lava Beds National Monument has a well-established record in actively implementing both aspects of this law, and will continue its efforts.
APPENDIX E

EVALUATION OF PROPOSED BOUNDARY CHANGE

IN TERMS OF NPS BOUNDARY CRITERIA

NPS policy requires that boundary additions be recommended only if they meet one of the following criteria:

1. The subject lands include significant resources or opportunities for public enjoyment related to the purposes of the park.

2. The lands will address operational and management issues such as access and boundary identification by topographic or other natural features or roads.

3. The lands will contribute to protection of park resources critical to fulfilling the park's purposes.

In addition, policy requires that:

4. Recommended boundary additions be feasible to administer considering size, configuration, ownership, costs, and other factors.

5. Other alternatives for management and resource protection are found to be inadequate.

The 120-acre addition fully meets these criteria. Specifically, the purpose of the addition is to enhance resource protection for the Petroglyphs, consistent with item 3 of the criteria. The proposed addition also meets criterion 4, in that the addition will be feasible to administer at little added cost. Finally, continued management by BLM could achieve management purposes but is a more cumbersome and complicated option. BLM has indicated its desire to transfer tracts such as this to other agencies to simplify its own management situation. The transfer is definitely in the public interest.
APPENDIX F

LETTERS OF COMMENT ON THE DRAFT GMP/EIS

AND NATIONAL PARK SERVICE RESPONSE

This appendix contains letters of comment from the public and government agencies on the Draft General Management Plan and Environmental Impact Statement, and the National Park Service responses to those letters, indicating the disposition of the substantive concerns raised in the letters. Not all comments have been given a response, e.g. general statements of support for or opposition to particular alternatives or features cannot be specifically addressed, although they are considered in selection of the final plan. Responses are provided to comments suggesting features or concepts which are not included in one or more of the alternatives, and to comments suggesting the need for additional clarification.

Comments on the draft GMP/EIS were also received at the public meeting held on February 1, 1996 in Tulelake. The issues surfaced at that meeting are fully covered in the letters and responses which follow.
Dear Mr. Dorman:

The Environmental Protection Agency (EPA) Office of Federal Activities has reviewed the Draft General Management Plan/Environmental Impact Statement (EIS) for Lava Beds National Monument, California. We have evaluated the Plan/EIS in accordance with our responsibilities under the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations implementing NEPA (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The Draft General Management Plan/EIS examines two alternatives, in addition to continuation of existing management (no action): Alternative B (the preferred action), which would provide "minimum requirements" for long-term resource protection and improved interpretive services for visitors; and Alternative C, "enhanced visitor experience." Among the more significant steps that would be taken under the proposed action are relocation of Petroglyph Point access, using lands acquired from the Bureau of Land Management, and addition of a visitor "contact" station at the north end of the Monument.

We have rated the Plan/EIS LO-1 (Lack of Objections—adequate impact documentation; see attached rating sheet)." We are encouraged that both action alternatives place priority on protection of the many significant biological, cultural and historical resources of the Monument and avoid developments within the monument (for example, campground expansion to accommodate larger RV's) which could conflict with these objectives. We strongly support efforts to coordinate with neighboring areas, including private lands and areas managed by the Forest Service, Bureau of Land Management and Fish and Wildlife Service.
We appreciate the opportunity to review the Plan/EIS. Please send a copy of the Final EIS to this office when the document is officially submitted to EPA Headquarters. If you have any questions, please call me at 415-744-1584, or contact Carolyn Yale at 415-744-1580.

Yours truly,

[Signature]

David Farrel, Chief
Office of Federal Activities
SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommend for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.*

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825-1846

January 29, 1996

Memorandum

To: Superintendent, Lava Beds National Monument, Tulelake, California
From: Field Supervisor, Ecological Services, Sacramento Field Office, Sacramento, California

This is in response to your December 4, 1995, letter requesting comments on the Draft General Management Plan (GMP) and Environmental Impact Statement (EIS) for the Lava Beds National Monument.

The Fish and Wildlife Service (Service) has reviewed your Draft GMP and the accompanying EIS. Below are comments for your consideration in the completion of your Final EIS:

1. Two federally listed species, the bald eagle (Haliaeetus leucocephalus) and the American peregrine falcon (Falco peregrinus anarcum), are identified in the EIS as occurring in Lava Beds National Monument. The EIS does not specifically address the effects of implementing the action alternatives (alternatives B and C) on these species. It is unclear whether the proposed action may affect these species. A more detailed discussion of the potential effects, or a brief statement of no effect if appropriate, should be included in the environmental consequences section of the EIS.

2. Appendix B - Threatened and Endangered Species Consultation of the EIS consists entirely of letters from the Service which identify federally listed species which may occur in the area. You may want to consider the inclusion of: a) a brief discussion on why some of these species were eliminated from further analysis and b) a statement as to whether any consultation (formal or informal) has been conducted to date with the Service for those species which are known to occur in the area.

If you have any questions regarding this response, please contact Ms. Amedee Brickey at (916) 979-2751 ext 251.

cc: AES-Portland, OR (Attn: Merle Richmond)

Joel A. Medlin
Response to Comments By the U.S. Fish and Wildlife Service

1. Additional discussion has been included in the environmental consequences section per your suggestions. The listed species not discussed in the text of the GMP are those which are dependent on aquatic habitat which is lacking within the park.

We do not anticipate any adverse impacts to threatened or endangered species as a result of project proposals. The proposed plan developments are minimal and confined to areas already developed and accessible, and are not expected to contribute to the growth in visitor use in the area. We do expect that the natural resources staffing increases will contribute in the long-term to a better information base on all species within the monument.
March 1, 1996

Mr. Craig Dorman
Superintendent
Lava Beds National Monument
P.O. Box 867
Tulelake, CA 96134

Dear Craig:

Thank you for the opportunity to review and comment on the Draft General Management Plan and Environmental Impact Statement for the Lava Beds National Monument.

Visitor Services and Facilities

1. The proposed addition of a visitor contact station with year-round staff near Gellem's Camp as outlined in alternatives B and C offers some interesting possibilities and positive benefits. This proposed development may be viewed by some people as excessive, considering the fact that three visitor centers (1 USWS and 2 NPS) would be located along a single 18 mile stretch of road. We would suggest that the possibility of co-occupancy of a single new facility be explored. We realize that there are some inherent disadvantages to this possibility due to location, agency identity, differences in mission and philosophy, staffing etc. However, the combining of resources, sharing of volunteer staffing pools and being able to broaden the outreach potential of multiple agencies may offset the disadvantages.

2. The U.S. Fish and Wildlife Service is currently developing a 300 acre seasonal wetland directly across the road from Captain Jack's Stronghold. This marsh will also be visible from the west wildlife viewing site on the Lava Beds National Monument. It might be appropriate for this plan to address enhanced interpretive facilities at one or both of these sites in alternatives B and C.

Law Enforcement

1. This plan should recognize and reinforce the concept of interagency (BLM, FS, NPS, FWS) cooperation to protect archeological resources as outlined in the current Northeast California Archaeological Task Force Agreement to which the above agencies are signatories.
2. Under all three alternatives, we expect that increased cooperative efforts will occur between USFWS and NPS law enforcement personnel, particularly with regard to archaeological resource protection and night poaching surveillance operations.

Fire Program

1. Professional fire staff at Lava Beds National Monument and Klamath Basin Refuges currently cooperate, particularly in the area of prescribed burning. We would like to see these efforts continue. Complex burns require larger numbers of personnel to implement and we would like to see this kind of cooperation continue so that both agencies can continue to achieve the objectives of their individual programs. We feel that this leads to a more efficient utilization of personnel and broadens the experience of fire staff for both NPS and USFWS.

Cultural Resources

1. Some excellent rock art (petroglyphs) occurs on the Peninsula Unit of the Tule Lake National Wildlife Refuge. To date we have not been able to open this area to public use, due to a lack of proper facilities. Because of the proximity of this area to the Petroglyph Point Unit of the Lava Beds National Monument, the possibility exists to jointly plan and develop this area so that visitors could have the experience of viewing the full extent of this resource while at the same time providing adequate resource protection and interpretation to the sites.

The following are a few comments on specific sections of the Draft Plan and EIS.

1. Page 35 - The distances listed from Klamath Falls and Tulelake seem to be exaggerated, particularly if the distance is measured from the north entrance to the monument.

2. Page 35 - "U.S. 101 corridor" is probably more appropriately called the "Interstate 5 corridor".

3. Page 47 - The Mountain Lakes Wilderness (USFS) is closer to the Lava Beds than the South Warner Mountains.

We hope these comments will be of value in the completion of the Final General Management Plan.

Sincerely,

Thomas W. Stewart
Refuge Manager
Response to Comments by the Klamath Basin National Wildlife Refuges

1. We agree that interagency cooperation in visitor service and information is desirable and will continue to work with the refuge toward this end. The proposed contact station at the north end has been deleted from the proposed plan; however, we are looking toward providing unmanned information kiosks for incoming visitors at the north end and joint information displays would be highly desirable.

2. We agree and have referenced the existing agreement and the need for additional cooperation with USFWS in law enforcement activities.

3. We agree. The plan references the desirability of cooperation in this area.

4. While the concept of expanded and coordinated visitor access to the various petroglyph sites on the Peninsula has considerable merit, the prospects of funding to adequately manage such use are poor. In these circumstances the petroglyphs are probably better protected under the current situation.
Dear Craig:

I have reviewed the Draft General Management Plan and EIS for the Lava Beds National Monument that you sent me in January 1996.

Thank you for the opportunity to comment on this plan.

As a District Ranger with responsibility to manage lands adjacent to the National Park, I don't believe it proper for me to recommend or suggest a preferred management alternative.

However, I offer the following comments on the contents of your document.

Bottom of page 6. "this project and related road improvements on Forest Service land, may .......".

At this time there are no related road improvements planned. At this time it is only a designation of the route as the Modoc Volcanic Scenic Byway. Consider dropping mention of related road projects.

Top of page 7. External contacts. You note an upgrade of an electrical transmission line immediately east of your boundary. This area is mostly National Forest and under my jurisdiction and I know of no lines to be upgraded. Consider rewriting this statement.

Top of page 7. Any visual impacts would not be "immediately outside the boundary", but would be at least five air miles distant. I believe your written statement is too abrasive for the potential. (This statement is also on page 26 and needs the same attention as this statement).

Top of page 7. The statement that "Geothermal projects also have the potential for adversely affecting air quality" needs to be expanded upon to cite your exact expectations of degradation of air quality in the Monument. (This statement is also on page 26 and needs the same attention as this statement).

Caring for the Land and Serving People
Top of page 7. Current time schedule by CalPine doesn't support your statement that the (EA) EIS will be completed in the next few months. It is scheduled for Draft in December 1996.

Bottom page 8. The statement "The Modoc Scenic Byway plan was approved in early 1995" is a little misleading to me. We are currently still in the approval/signing process at this date. Consider changing wording.

I would like to offer the following comments on your proposed or eluded to prescribed fire program. On page 23 you note your desired future condition is to return the area to the condition it was at the time of the Modoc War. Nowhere in the document can I find that condition described, except the words "virtually treeless". You only address in part how to do that by fire. I believe if that is a true desired future condition, you need to so state that and what that condition actually is in quantifiable, identifiable parameters. Fire would only be a tool to get you there.

You also state (page 43) on the same piece of ground, North end, you have alien plant invasions. I suggest prescribed fire will compound/increase the presence of some of the six species listed. I believe fire will not meet/do both objectives for you and you may need to prioritize your objectives.

On page 44 you note your fire history for many areas that the average fire interval ranged from 5 to 22 years. It is my opinion this represents a very small part of the park, but sounds reasonable for the Ponderosa Pine type only.

You only list one vegetation type, Ponderosa Pine, and this could be misleading to readers. Fire frequency in several of the plant communities listed range from 20 to 60 years, depending on crown closure, fuel buildup, etc.

Your omission of comments on burning mosaic patterns is very noticeable. We all know the benefits of mosaic burning to plants, wildlife, seed source, cover, soils, air quality, fire intensity, etc. However, in reviewing two fire plans on my desk I believe you are trying to turn every acre black and not burn in a mosaic pattern at all. I believe this is detrimental to all successful prescribed burn programs.

Craig, one of the areas I believe you might want to rethink is listed on page 45 at midpage.

I agree with the re-introduction of fire into the system. However, because of the small size of the areas you are considering for prescribed natural fire I don't believe you will ever see any results. Before suppression efforts, whether they be from 1920 (page 44) or pre white man 150+ years, natural fires burned into and off the Monument area. They did not all start in your neat little "natural fire zones"!
You are now making several very small "natural fire zones" and I just don't think you will get the ignition needed to meet any of the objectives of re-introducing fire.

It is my opinion you will need to be very aggressive with prescribed fire here and discount natural prescribed fire.

The last item is an operational item, but I will note it here, too. I believe we need to ignore the political boundary of the Park/National Forest when conducting prescribed burns. We need to try to use natural barriers or existing fire lines when burning. Let's try to get out front in planning to get the best results for the ground and taxpayer. Please realize the Forest Service is giving lots of lip service to re-introduction of fire into the ecosystem, but not sure we are all serious or capable at this time; but let's try!

Sincerely,

BERNIE WEISGERBER
District Ranger
Response to Comments by the Doublehead Ranger District, U.S. Forest Service

1. Text revised per comment.

2. Reference to transmission line deleted per your suggestion.

3. At this point it is impossible to determine whether the geothermal projects will or will not affect the situation at the monument. It is important to recognize that the wilderness area at Lava Beds National Monument is a Class I airshed with very stringent quality standards and the park has an affirmative responsibility to pursue protection of air quality. We note also that distant vistas, e.g. of Mount Shasta and the South Warner Mountains are important visitor amenities and should not be diminished. Consequently, our intention is to keep informed and to carefully review the proposals and accompanying environmental analyses to evaluate impacts on park resources.

4. Text revised per comment.

5. We recognize that there are some possibly conflicting objectives in this area and that there are options other than fire to achieve vegetation management objectives. The text has been revised to clarify this.

6. We have clarified the text per your comments. We note that the burning of mosaic patterns is an essential part of our fire program and our objective is not "to turn every acre black." We will ensure that this is more clearly articulated in future fire plans.

7. We agree with your observation re the need for the use of management-ignited fires to supplement the likely inadequate occurrences of natural fire. The text has been improved to better explain this.

8. We agree that cooperation is desirable and look forward to working with the District in a coordinated fire program.
February 20, 1996

REPLY TO: NPS950807A

Stanley T. Albright, Field Director
National Park Service
Pacific West Field Area
600 Harrison Street, Suite 600
SAN FRANCISCO CA 94107-1372

Project: Lava Beds National Monument General Management Plan

Dear Mr. Albright:

The Office of Historic Preservation (OHP) has reviewed and provides the following comments on the documentation you submitted in support of your Programmatic Agreement (PA).

Thank you for providing the requested materials. These have been very helpful in my review of your Draft General Management Plan (GMP) under your PA.

Your proposed action alternative of your GMP will provide for additional protection for the petroglyphs at Petroglyph Point. It is important to provide measures to protect these very fragile resources.

I appreciate your inclusion of your intention regarding National Register nominations for your List of Classified Structures. I understand the need to preserve these structures because they contribute to the rustic nature of the Monument. I will be looking forward to the nomination of the structures that have not yet been evaluated.

Likewise, I will look forward to receiving additional information on your inventory efforts for the remaining archeological surveys within the park.

I believe the current draft GMP is a well formulated document. The concerns I raised in the last draft have been addressed in a comprehensive manner. You have complied with the...
requirements of your PA in regards to the development of the GMP.

Your consideration of historic properties in the project planning process is appreciated. If you have any questions regarding our review of this undertaking, please call Gary Reinoehl of our staff at (916) 653-5099.

Sincerely,

Cherilyn Widell
State Historic Preservation Officer
21 February 1996

Craig Dorman
Superintendent
Lava Beds National Monument
P.O. Box 867
Tule Lake, CA 96134

RE: DRAFT GENERAL MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT (DGMP/EIS) - LAVA BEDS NATIONAL MONUMENT

Dear Mr. Dorman:

The National Parks and Conservation Association (NPCA) is pleased to respond with comments to the above referenced document. NPCA is America’s only private nonprofit citizen’s organization dedicated solely to protecting, preserving and enhancing the U.S. National Park System. As an association of “Citizens Protecting America’s Parks,” NPCA was founded in 1919, and today has more than 450,000 members, including over 70,000 in California.

We appreciate the opportunity to provide comments to the Draft GMP/EIS. First of all, we would like to recognize the efforts of the preparers of this document. Lava Beds National Monument is rich in natural and cultural resources of national significance. NPCA applauds your intention to prioritize resource protection by placing less emphasis on the expansion of visitor facilities. One of the monument’s strong points is its ability to provide an intimate visitor experience undistracted by intrusive developments and crowding. For example, we are impressed by the plan’s intention to work with the surrounding community in providing additional camping and R.V. facilities. As you know, this will not only protect park resources, but also foster stronger relationships with the park’s neighbors. In many ways, your plan proposal demonstrates this desire to minimize impact and protect the monument’s resources.

We also appreciate the plan’s focus on developing and expanding interpretation of the monument. Increasing visitation will, necessarily, create impacts on the park. Programs which create a partnership between visitors and the Park Service for the preservation of the resource are the most effective way to keep impacts at a minimum.
Nevertheless, NPCA is concerned that proposed alternative B recommends development centered solutions to visitor impacts absent a thorough knowledge of the monument’s resources and its future needs. We understand the plan was shaped with an admitted lack of cultural and natural resource baseline data. We also anticipate that visitor projections were similarly constructed without a complete analysis of visitor trend data. Without adequate baseline data on park resources and visitor use trends, the plan’s proposed development of visitor facilities is based upon little more than speculation and could result in visitor/resource conflicts.

NPCA has been impressed with the new Visitor Experience and Resource Protection (VERP) planning process. Recently developed, VERP was designed to help planners address the issue of biological/physical and sociological carrying capacity. The VERP concept of carrying capacity is not narrowly limited to people numbers. Instead, the product is a prescription of desired ecological and social conditions. VERP defines carrying capacity as: the type and level of visitor use that can be accommodated while sustaining the desired resource and social conditions that complement the purposes of the park units and their management objectives (Park Science, Winter 1994). Park Science goes on to say that VERP “will identify and document the kinds and levels of use that are appropriate, as well as where and when such uses will occur. The prescriptions, coupled with a monitoring program, will give park managers the information and rationale needed to make sound decisions about visitor use, and gain the public and agency support needed to implement those decisions.”

VERP has been implemented successfully in designing Arches NM General Management Plan and Joshua Tree NP has also used the VERP process in the development of their Backcountry Management Plan. We urge you to implement such a process to gather the necessary information with which to construct a more tailored plan, thereby justifying development based on resource protection and quantifiable visitation data. Use of a more standardized planning process will help translate qualitative goals, such as the aim to provide interpretive facilities which minimize resource impact, into measurable management objectives through the use of indicators or standards. Furthermore, one of the stages of VERP involves mapping the park’s important resources based on field research, visitor surveys and perceptions of people intimately familiar with the park. This strategy would give the park’s administration an opportunity to work with local communities and regular visitors, strengthening relations with the public.

While we acknowledge the planners' intent to utilize a VERP or Visitor Impact Management framework, we believe that its utilization should be specified up front. That is, the document should articulate that a VERP process will be used to determine the appropriateness of the proposed developments prior to their implementation and, further, that modifications or plan amendments could result from such analysis. In this way, both park staff and the public can be assured that additions and improvements to visitor facilities are made in direct relation to visitor trends and a thorough knowledge of the park’s resources.
Resource Management

General

As mentioned earlier, we are very concerned about the lack of baseline information on the monument, particularly in terms of vegetation, cultural and artifact surveys. Rational planning can only be achieved through a fundamental understanding of this data. The VERP process addresses this need as it dictates initial mapping and analysis of the park’s resources.

Caves

One of the outstanding features of Lava Beds National Monument is its rich and extensive network of caves. We strongly urge you to proactively protect these unique treasures. We recommend that the General Management Plan reference the Cave Management Plan and outline a process for coordinating the two. To facilitate information gathering and analysis, NPCA suggests that the hiring a FTE cave research technician become part of both the GMP and the Cave Management Plan. This position could also coordinate and increase the productivity of volunteer efforts, such as the Cave Research Foundation, which will already be encouraged through the provision of the lab/dorm.

Lab/Research Facility

NPCA fully supports the proposed small lab/research facility and dormitory to encourage and facilitate important volunteer contributions and to support the expansion of the resource management program.

Petroglyph Point

NPCA fully supports the proposed expansion of the park boundary to enhance protection of the natural and cultural resources of the Petroglyph Point area, one of the largest concentrations of rock art in North America. Petroglyph Point offers an ideal opportunity to coordinate information from VERP to ascertain the appropriate carrying capacity for the area and to define and zone the desired visitor experience. This data could then be used to evaluate the desirability of road alteration and construction projects currently under consideration. Also, to offset human resource shortages at minimal expense, NPCA asks planners to take advantage of the strong community concern for the area and consider the creation of a partnership where recruited volunteers could monitor and interpret the site during periods of peak visitation.

We would also like to better understand the decision to include certain advanced erosion studies in alternative C but not B. In B, continuing erosion “would continue to slowly erase the west-facing Petroglyphs” and is considered an “irreversible and irrevocable commitment of resources.” However, alternative C projects “Greater potential beneficial impacts would accrue from the study of positive erosion barriers for Petroglyph Point” from the identification and evaluation of “more positive physical protection.” These physical barriers could restrict wind erosion and
human contact (rubbings, vandalism). We would encourage you to reconsider ways to best protect this area of both national and local significance within the proposed alternative.

Resource Management Plan

In addition to engaging in a more thorough assessment of park resources as an element of the GMP, we request that the plan explain the timetable for completion of the various surveys, inventories and studies dictated by the Resource Management Plan, including the park-wide archeological survey. Perhaps these studies could be incorporated into an overall VERP analysis.

Visitor Services and Facilities

Contact Station

NPCA supports the motive behind providing a contact station at the north end of the monument. We acknowledge the need to provide a facility with which to orient visitors at the start of their visit and to incorporate more interpretation of resource themes into the monument as a whole.

NPCA understands that the US Fish and Wildlife Service Visitor Center was once proposed as an interagency contact station. No mention of this is made, nor whether such an opportunity still exists. There are several benefits that could accrue from reviving this proposal. Interagency cooperation would be more cost effective. Combining efforts would assist in the plan's expressed intention to provide the visitor with a broader regional perspective of the area, particularly in conjunction with the development of the Modoc Volcanic Scenic Byway and the strengthened inter-agency relationships. Ultimately, this action could yield more resource protection for a smaller outlay. It would inspire the public to have greater confidence in the federal government as it would show an efficient use of taxpayer dollars. The plan should address this option as a means to better capture and orient park visitors without the need to develop inside park boundaries.

A related concern results from the description of the site for the north end contact station as being on "previously disturbed land", a state which is left undefined. At first glance, the area does not appear to be heavily disturbed by previous impact. We are particularly concerned with the construction's potential for adverse impacts on the Modoc War site. Since this is an important feature of the monument, we would like to be updated on decisions made following survey results and consideration of alternative plans. Also, to better understand the projected impact, would the new water and sewer systems for the north end contact station be connected to existing facilities or require additional infrastructure development?

Native American Relations

We respect the National Park Service's history of being attentive to the Modoc people's interest in and relationship to the monument. However, on page 61, there is a reference to the fact that the Klamath tribes stopped participating in the planning process after a certain point. What are
possible reasons for this? What is their level of involvement and agreement with the plan so far? Recognizing the importance of the Modocs’ relationship to the monument, NPCA would be encouraged by an attempt by the Park Service to reintegrate Native American involvement in the planning process as it relates to both future developments and interpretation of the park resources.

Adjacent Lands Activities

We appreciate that the plan clearly reflects the understanding that park managers can no longer “manage up to the border” of their park. As such, we suggest that the plan include guidance as to how an ecosystem management concept will drive the park’s input into land use decisions by other federal agencies and private landowners which have the potential to impact the monument’s resources. The plan should specify the types of relationships and specific programmatic goals the park envisions for managing outside interests as well as how increased staffing levels will truly facilitate this.

External Conflicts

NPCA is concerned with the farming, hunting and housing development conflicts that the plan lists as activities which may affect park resources. We are especially concerned about the logging on private lands and its potential to impact significant eagle roosting areas. The plan needs to go further in explaining the “strategies...needed to minimize adverse impacts and maximize positive effects of activities on adjacent lands.”

Additionally, the public hearing demonstrated that relationships with the local community, if at all possible, need to be improved. We would like the plan to explore ways to gain more community support for NPS operations through public education and outreach projects. Please let us know if there is any way in which we can help you to improve public outreach and education.

Geothermal Development

NPCA is concerned by the lack of information by which decisions can be made relative to the geothermal development south of the park. The plan should carefully examine all possible resource impacts and provide guidance to park managers as to appropriate levels of response. NPCA is concerned about the visual and air impacts and would like to be kept apprised of the analyses that will be put out over the next several months. This is an area of special importance as the monument airshed already exceeds state PM10 standards, affecting air quality and potentially impacting other resources.

In addition to visual and air quality concerns, the plan should include scrutiny of the possible impact of the development on the monument’s water resources. Does the possibility exist for this development to impact the monument’s water table? Is there a risk, however slight, of aquifer contamination? Overall, we would like to see you base your reaction to this development upon NPS generated research rather than relying solely upon information provided by the developer.
Cooperative Agreements

On page 26, you refer to a “cooperative management agreement” negotiated with the USFWS and Bureau of Reclamation. The plan should detail how this agreement will support resource management and identify specific goals, a process which VERP would facilitate, to be achieved through implementation. Also, is this a good forum for the consideration of coordinating interpretive efforts with USFWS’s extant visitor center?

We are also concerned about the impacts of heavy pesticide use on agricultural lands on the refuges bordering the monument. As these represent significant food sources for park wildlife, especially raptors and bats, some level of cooperation between the park and the agricultural community is warranted. We request that you examine potential consequences of pesticide use and any potential opportunities for remedy.

Again, NPCA thanks you for the chance to assist in your planning efforts at Lava Beds. Please keep us informed of developments as they arise and do not hesitate to call us with any questions.

Sincerely,

[Signature]

Brian Huse
Director, Pacific Region
Response to Comments By the National Parks and Conservation Association

1. We agree that additional baseline information on natural and cultural resources at Lava Beds is needed. Park staff have identified and documented data collection needs now for decades. However data collection is expensive and funds have not thus far been available; in reality there is little prospect that comprehensive data collection efforts will be funded in the next several years. Nevertheless, the park remains open and serves many thousands of visitors each year, and planning must necessarily go on in order to respond to the most urgent and pressing resource management and visitor service issues. Our planning process takes into account the matter of limited data availability. We try to ensure that proposed plan actions are cautious, limited, and, in the case of development, located in areas where resource evaluations have been completed and we can confidently predict impacts. This approach is reflected in the proposed plan for Lava Beds. We do not agree that plan proposals are based on speculation and could result in visitor/resource conflicts.

2. We agree that the VERP process provides a valuable analytical framework for planning and expect that ultimately a VERP zoning and monitoring system will be developed for use at Lava Beds. However, these analyses are costly and completion of a parkwide VERP analysis for Lava Beds is likely many years in the future. Fortunately, current and projected visitor use levels at Lava Beds are not such that development of such a system is an emergency matter, as it is in the case of some parks where high levels of visitor use are impacting resource integrity and visitor experience quality. Moreover, the developments which are proposed in the general management plan are not designed to attract additional visitor use and are sufficiently limited that they can be implemented without risk of irreversible or irretrievable resource commitments.

We do believe that it may be feasible and useful, as a near-term priority project, to undertake to develop resource and social indicators and standards for certain caves and Modoc War historic sites, as visitor use pressures are most highly focused at these park features. This would allow park management to focus its limited personnel and financial resources on monitoring and adjusting management at these key areas. These indicators and standards could then be folded into a broader parkwide VERP system at some future date.

3. We agree that cave management is a major concern at the monument and a cave management specialist position has been included in the staffing plan of the proposed general management plan.

4. The nature of the rock and the nature of the petroglyphs themselves are such that the petroglyphs probably cannot be protected in perpetuity without very major commitments of development and operational funds. Such commitments are unlikely, at least in the near term. Nevertheless, the proposed general management plan does propose the completion of an engineering and architectural analysis to formulate and
evaluate the effectiveness and cost of physical protection methods. This will allow action to be taken in the event funding for heroic measures becomes available. The plan also proposes some experimental projects of modest cost which may prolong the life of the petroglyphs.

5. The timetable for the various studies, surveys, and the VERP analysis itself is extremely uncertain, being dependent on future funding levels and the setting of priorities on a regional and national basis. It is by no means certain, and probably unlikely, that all of these needed analyses will be completed within the 15-year life of the general management plan.

6. The contact station has been deleted from the proposed general management plan. We will seek to provide basic orientation and trip-planning information for visitors through the placement of unmanned kiosks at each of the entrances to the park. We plan to work with the Fish and Wildlife Service at the north end to provide information both on the monument and the adjacent wildlife refuge.

7. Efforts have been made almost continuously throughout the planning period to elicit input from the Klamath Tribes. Unfortunately, except for a brief discussion with the Tribal Chairman at the start of the scoping process, these efforts have been unsuccessful. As outlined in the proposed plan, efforts will continue toward the dual goals of providing more complete interpretation of Modoc culture and also better assisting the Modocs in making use of monument resources during the annual "gathering" and at other times.

8. The park’s capability for proactively reaching beyond its boundaries toward broader ecosystem management has been limited in the past and, based on anticipated funding and staffing for the next several years, will not be much improved in the near term. Unfortunately, until the staffing increases proposed in the plan are implemented, the park will have to remain largely reactive to outside events, responding only to proposals with a clear potential for significantly affecting park resources. Research to evaluate prospective impacts and support park protection will be obtained as feasible.
Gentlemen:

It has been our experience over the past thirty some years that the visitor has really been short changed in the Park. Our number one priority in regards to the Park is to do everything we can to enhance the visitor’s stay at the Park. It is our opinion that the number one priority for the Lava Beds to consider is also to enhance the visitor’s stay at the Park at this time. Historically, it has been shown time and time again that in periods of short funding that the assets which are specifically for the visitor’s education are the first ones to be deleted. This is being demonstrated once again this upcoming season. Interpretive seasonals are not going to be available, and thus the visitor once again is going to be on their own.

Rather than address every single issue contained in the proposed draft, we would like to make only a simple statement.

We feel very strongly that no changes be made in relation to the Park boundary, new construction, staffing such as GIS specialists, biological technicians, police officers, fire crews, administrators, archaeologists, geologists, etc. until you can demonstrate that you can guaranty interpretive staffing for the visitor with no other changes taking place in the Park. We do not feel that it is to much to ask that you ask the advice of Gary Hathaway as to what his staffing needs are to assure the visitor a good “Lava Beds experience”. Unless you can meet this qualification it is our opinion that all of the other things mentioned in the proposed draft represent nothing more than “empire building”, and once again at the expense of the visitor.

However, if you can guaranty that the Visitor is your number one priority, beginning with adequate staffing, the Natural History Assn. has no objection to the other projects in the proposed draft, assuming of course that the visitor will be affected DIRECTLY with a portion of the money spent.
Response to James Aslett

1. While accommodation of visitors is an important part of the monument mission, it is only part of the mission. The legislation establishing the National Park system mandates that resources be preserved unimpaired for future generations. This preservation mandate means that adverse impacts to critical park resources must be prevented and staff and financial resources must be committed toward that end. Indeed, because nationally significant resources cannot be replicated, their management and protection must be a higher priority than visitor services in times of limited resources.
Craig Dorman/Superintendent
Lava Beds National Monument
P.O. Box 867
Tulelake, CA 96134
(916) 667-2282

February 28, 1996

Dear Mr. Dorman,

The purpose of this letter is to express our opinion regarding
The Draft General Management Plan & Environmental Impact Statement
of November 1995, which we have reviewed. We are pleased to be
able to contribute input pertaining to The Lava Beds National
Monument of California.

In regard to the choice of three alternatives, we choose ALTERN­
ATIVE B: MINIMUM REQUIREMENTS (PROPOSED ACTION), but also have
additional requests which will be described below. Our reason
for choosing this alternative is that although we would like to
see some sort of action take place (outruling ALTERNATIVE A),
we feel that with increased visitors/general public (as suggest­
ed by ALTERNATIVE C) would come increased destruction/impact
of the land. We have seen this type of damage occur over and
over again in several National Parks in spite of education and
the limits of law enforcement. It is our goal at this point to
preserve the land for all.

Speaking of wishing to preserve the land and all that has come
before us, we feel that Native Americans should have an active
part in either ALTERNATIVE B or ALTERNATIVE C, whichever is chosen.
Specifically, we would like to be assured that they will have
access to the land and be able to build a Medicine Lodge and
other future structures on this sacred land for religious/cere­
monial/cultural purposes. (Please see Louise Birk's enclosed
letter of February 9, 1994, which previously requests this.)
It seems to us that Native Americans were the first Keepers of
the Land and did excellent work in preserving it for future
generations. We also feel that they took good care of Mother
Earth and will continue to do so. It is also our belief that
having such structures at The Lava Beds National Monument would
enhance all of our lives. This seems like a win/win

As far as additional Native American influence, we would at some
point like to see an Indian Museum dedicated to local Indian
history (Modoc War, etc.) and The Indian Way of Life, complete
with artifacts, etc. (Those artifacts not removed from grave­
sites, which would show a lack of respect.) We feel that the
public would greatly benefit and learn from such a museum and
that this would help to preserve The Indian Ways and build self­
estee.
Please note that we did read that it was unsuccessful trying to get The Klamath Tribes to continue to participate in the changes to come. (Pg. 61.) Perhaps they saw these management changes as a movement away from The Indian Ways and perhaps there was a certain lack of knowledge in implementing Indian protocol. Who is to say?

One thing we are certain of is that what is lacking is the essential wisdom of a Native American Elder as a Consultant. We feel that we must all look with our hearts toward the imbalance in the lack of Indian input. After all, the very land of The Lava Beds National Monument exudes their spiritual energy and outwardly depicts signs such as petroglyphs, etc. Therefore, we respectfully request that our brother, Gray Cloud, be officially included as one of the Consultants on Pg. 63. It is not too late. When Gray Cloud speaks of The Lava Beds he has love/concern in his heart and communicates great wisdom. We feel that he would be a very positive and practical person to work with and that he is also a great diplomat. In other words, Gray Cloud would be an asset as a Consultant.

In conclusion, we would first like to point out that by choosing ALTERNATIVE B over ALTERNATIVE C that a great deal of money could be saved:

ALTERNATIVE B:

7,480,000. total
1,300,000. annual

ALTERNATIVE C:

9,675,000. total
1,750,000. annual
Our second point is that because so much money would be saved that some of this would be available to implement the building of a MEDICINE LODGE and other future Indian structures. Preservation of The Lava Beds National Monument is our primary concern and also that Native Americans be given access to the land in order to experience their religious/ceremonial/cultural practices at this sacred site. Perhaps this could also be seen as a stepping stone to sparking local Indian interest in contributing to a future Indian Museum. It seems that everyone's lives would be enhanced. Our third point is that we feel that with Gray Cloud as a Consultant that a blend of ancient and modern wisdom would be imparted to all working as a unit with the goal of the loving preservation of The Lava Beds/Mother Earth.

Our prayer to you is that we wish you all the best of luck in making the best choices for The Sacred Lava Beds National Monument, whatever those choices may be. Thank you for taking time out of your busy day to read our letter.

Your friends,

[Signatures]

Louise J. Birk
Harry J. Birk
Superintendent, Craig Dorman  
Lava Bed National Monument  
P.O. Box 867  
Tulelake, CA 96134

February 2, 1994

Dear Mr. Dorman,

The purpose of this letter is to respond to the General Management Plan. Specifically, I would like to support the establishment of a Medicine Lodge and any other future Indian structures on the land. I feel that a Medicine Lodge on the sacred site of The Lava Bed National Monument would facilitate the sharing of ancient wisdom, which would benefit all. And the more that this type of sharing takes place, then the closer that all will be to the land and to each other. Please know that I visualize The Medicine Lodge and results from building it in my prayers.

Please keep me posted as to the progress of a Medicine Lodge and any other Indian structures being built. I would really appreciate any pertinent materials being sent to me. Thank you for your attention.

Sincerely,

Louise L. Birk

Louise L. Birk
Response to Louise and Harry Birk

1. We agree that Lava Beds National Monument should recognize the importance of the monument lands to the Modoc people and continue to make the area available to the Modocs for their traditional uses. This is noted in the proposed plan. We also propose that Modoc culture have a greater place in the interpretive program at the park.

We are interested in further exploring the idea of a Modoc village in concert with the Modoc people, and this concept might include some sort of small-scale structure such as a medicine lodge. However, you will note that we have attempted to keep development of structures and other facilities in the park to a minimum, and the public has indicated its broad concurrence with that approach.

2. While we are not in a position at this time to retain Gray Cloud as a consultant for the general management plan, we would certainly welcome his comments or thoughts on the general management plan for the monument. We do note that a copy of the draft plan was provided to Gray Cloud for his review.
February 26, 1996

Keith A. Bombard and Cheri Killam-Bombard
P.O. Box 573
Fort Klamath, OR 97626

Superintendent
Lava Beds National Park
P.O. Box 867
Tulelake, CA 96134

Dear Superintendent:

After reading and taking note of the Draft General Management Plan and Environmental Impact Statement we have the following comments and suggestions.

We're skeptical of the "dire" prognostications you state about consequences that will occur to the parks cultural, historic and natural resources and feel the it's probably overstated. And we're entirely unconvinced that allocating more money for the "problem" will correct or address all your concerns.

Lava Beds NP appears to be functioning very well and we are happy to fund it at its present level and find the proposed alternative to be too excessive in scope and in money spent.

With the number of federal agencies in the area we think that a sharing of resources, equipment and personnel would be the most appropriate way to progress instead of adding excessively to the Lava Bed budget and to the growing federal deficit.

Therefore, we are in favor of the no action alternative.

Thank you for the opportunity to respond to this plan.

Sincerely,

Keith A. Bombard
Cheri K. Killam-Bombard
Response to Keith and Cheri Bomhard

1. Unfortunately the pessimistic projections of future resource damage are based on monitoring and observations of real resource damage which has occurred in the last several years. While additional staffing and funding as proposed may not solve all the problems, they can make a significant difference.

2. The monument currently cooperates with adjacent land managers such as the Forest Service, Fish and Wildlife Service, and Bureau of Land Management in a number of functional areas such as fire, wildlife management, and law enforcement, and will increase these cooperative efforts in the future.
TO: Superintendent  
Lava Beds National Monument  
PO Box 867  
Tulelake, CA 96134

FROM: Bill Broeckel  
Shasta Area Grotto  
National Speleological Society  
524 Annie Street  
Yreka, CA 96097

RE: Draft General Management Plan and  
Environmental Impact Statement

DATE: February 25, 1996

Dear Superintendent:

From the cavers point of view, Lava Beds National Monument is considered one of the "cave units" of the National Park Service. Others would include Carlsbad Caverns, Mammoth Cave, Wind Cave, Jewel Cave, Timpanagos Cave, Sequoia, Great Basin, Grand Canyon, etc. Lava tubes are represented at Craters of the Moon, Lava Beds, and the parks in Hawaii. In this grouping, Lava Beds is a rich lava cave preserve, and more caves in a small area are showcased here than any where else in the service.

Lava Beds National Monument needs to serve as a Modoc War history park, and increasingly as a Modoc culture park. These are important roles that deserve a large portion of available resources.

It is also important to insure that these other roles do not eclipse the Monument's obligations to the many caves trusted to it's keeping. These obligations are complex and multifaceted as illustrated in the following diagram.
This diagram could be enlarged or improved upon, but is given here only to illustrate the intricacy of the Monument's obligations to its caves. The general trend of organized cavers (National Speleological Society) has been to weight these kind of considerations toward the preservation side of the diagram.

With these thoughts in mind, the following comments specific to the Draft General Management Plan are offered, and divided into two categories: substantial and non-substantial comments.

SUBSTANTIAL COMMENTS:

P.16 Line 3 "lowest possible costs"
Ultimate resource protection and visitor use services being beyond cost, I was curious about what kind of $ parameters are in place, if any. Is there really some Interior Department money available for improvements at Lava Beds National Monument? Or is the Plan a sort of wish list?

P.16 Line 30 (Line 2 under Resource Management)
This comment has my highest priority. Given that Lava Beds National Monument is a significant cave unit in the National Park Service, I strongly feel that a Cave Management Specialist should be included in this staff listed under Resource Management. Ideally, this would be a full time position. But Designated Cave Management Specialist should at least be part of one Resource Management staff job description.

P.21 Line 35 (last line on page) "Symbol Bridge"
I see Symbol Bridge as a culturally sensitive and particularly sensitive site. A trail from the campground to Skull Cave is a great idea. But I think that such a trail should not include Symbol Bridge. In fact, all "Symbol Bridge" signs and general circulation map references ought to be eliminated in an effort to better protect this site.

Those seeking to view prehistoric rock art can be directed to Petroglyph Point. Symbol Bridge could be made available as a guided ranger walk, much like Fern Cave, although without the protective gate.

Decreasing the general circulation to Symbol Bridge would also serve to improve protection of some other less visited caves which are nearby.
SUBSTANTIAL COMMENTS (continued)

P.22 Line 5 "Mushpot Cave"

Valentine Cave should be given first priority as a wheelchair accessible cave. The entrance to Valentine Cave is better suited for building a ramp, with less alteration to the structure of the cave.

P.29 Line 30-32 (last paragraph of the page)

See above. An elevator or any kind of building over the entrance to Mushpot Cave would represent a major alteration to the interior climate and the structure of the cave. At the very least, the plans for such a project would need wide review.

It would be very neat to somehow allow people in wheelchairs to use the trail in Mushpot Cave. They would have an advantage at the duck-under. And they would be close to help at the Visitor Center if there was some problem.

But how to provide the accessibility without major changes to the cave?

P.29 Line 27-29 (second to last paragraph on the page)

With much of the ongoing Monument vandalism a local phenomena, these programs sound great! Is there any way these programs can be moved over to Plan B?

P.33 Line 16 "Boundary"

Please consider land addition to the Monument to include Bertha's Cupboard and Tichnor Caves. These caves are related to Lava Beds National Monument both in terms of Geology and History. Most important, the Monument is in the best strategic position to provide effective management of these caves.

P.39 Line 49-51 (second to the last paragraph on page)

Are you sure you want these rock art sites named and listed in this public document? Consider changing the sentence to read: "There are five other known significant unit rock art sites in the Monument."

P.42 Line 20 "Cave Management Plan"

Reference is made here to the Cave Management Plan, but there is little discussion in specific about how the different options (Plans A, B, and C) will bear on the implementation of the Cave Management Plan.
SUBSTANTIAL COMMENTS (continued)

P.42  Line 20  Comment continued from last page.

Admittedly, other documents that pertain to the park were not handled this way either, and the general drift of the impacts of the various plans comes through OK. But from a caver point of view, I was curious about the breakdown of the Cave Management Plan, option by option.

P.43  Line 26  "Wildlife"

The Freetail Bat colony is also a significant and interesting wildlife resource, and could be mentioned here.

NON-SUBSTANTIAL COMMENTS

P.11  Line 7  "Alternative A: No Action"

No action is not possible. If "No action" means "Status Quo", why not just call it "Status Quo" or "No change", and then eliminate the sentence on the last part of line 9 and line 10.

P.12  Line 29  (second to last line on the page)

I was confused by "cave structures". Consider changing to "cave related physical improvements".

P.12  Line 18-20  "personal safety"

As a side note, I think the Monument could do even more to encourage the use of hard hats in the caves.

P.16  Line 30  (Line 2 under Resource Management)

It was not clear to me what GIS stands for. I was told it has something to do with Geology or Geography.

P.17  Line 5-8

Good!

P.17  Line 11  "the life of the plan"

Does the General Management Plan have an anticipated life span?
NON-SUBSTANTIAL COMMENTS: (continued)

P.25 Line 5 Regarding improved parking lots.
   Please add "with special care to avoid damaging the cave resources."

P.27 Line 11 "they"
   Change to "this".

P.29 Line 17 "reputing"
   Change to "routing".

P.30 Line 9 Regarding trails.
   Ape Cave in Washington is a lava tube with a trail. This trail was designated the first underground National Recreation Trail in 1979. Perhaps some of the Monument trails through caves would also qualify and gain the benefits of the National Recreation Trail program.

P.35 Line 7 "U.S. 101 corridor"
   Change to "Interstate 5 corridor"

P.39 Line 23 "Aseparate"
   Add a space between the words "A" and "separate".

P.43 Line 20-25
   Interesting idea for a study.

P.45 Line 30-35 (last six lines)
   That is a lot of bat species to look after!

P.53 Line 2 "six"
   Change to "seven".

P.53 Line 22-29
   Well stated.

P.62 Line 16 "Various other organizations"
   Please add Shasta Area Grotto, National Speleological Society, 524 Annie Street, Yreka, CA 96097 to your mailing list.
CONCLUSION:

Thank-you very much for considering these comments. They are largely my own, although I did run through the major points with some of the other cavers at the last Shasta Area Grotto meeting. I hope the ideas are fairly representative of the caving community.

Finally, I would like to say that it is clear to me that a lot of thought and work went into this draft, and over-all I see it as a very positive process for the whole Monument, including the caves. Again, thanks for your consideration of these comments, which are offered in good faith in hopes of making this draft even better.

Sincerely:

Bill Broeckel
Shasta Area Grotto
National Speleological Society
524 Annie Street
Yreka, CA 96097
Response to Bill Broeckel

1. There is no established fund for park projects or formal guidelines on expenditures. Basically all units in the system compete for funding in a priority system which is intended to reflect resource protection needs and visitor use pressures. Funds for major development projects are appropriated by Congress as line item expenditures. The amount made available by Congress for the last several decades has been substantially less than the Service's requests, and so there is a substantial backlog. Funds for smaller projects come from a variety of program sources, and may in some cases be donated by private organizations or individuals.

2. See response #3 to NPCA above.

3. We agree that Symbol Bridge is an important and sensitive resource whose protection requires special consideration and planning. This is one of several priority caves which will be the subject of individual cave action plans to be prepared over the next several months. These action plans will be consistent with but will expand on the provisions in the monumentwide Cave Management Plan.

4. While we recognize that the physical layout of Valentine Cave makes it more immediately adaptable for wheelchair access, Mushpot Cave's existing interpretive facilities, lighting, and location next to the visitor center make it our primary choice for wheelchair access if such access can be provided without resource damage. As indicated in the proposed plan, such a project will be fully evaluated. Valentine Cave offers a good backup if Mushpot Cave access is not feasible, and may in any event provide a good undeveloped cave opportunity for disabled visitors.

5. The proposed plan provides for an analysis of options for making Mushpot Cave wheelchair accessible. Such an analysis would include environmental analysis and opportunities for public review and comment.

6. While we agree that environmental education and outreach programs are useful and beneficial not only to the students but to the resources at stake, the projected operations funding for the monument will not realistically support these programs in the foreseeable future.

7. There are a number of natural and cultural resources on adjacent national forest lands which are related to and complement the park resources. The Forest Service has a broad mandate to protect and manage such resources and we believe that their continued management of these lands is appropriate. We do propose to work more closely with Modoc National Forest and other adjacent land managers to better serve the public and protect resources through joint programs.

8. The text has been edited per your suggestion.
9. The approved Cave Management Plan continues to provide focused direction for cave management at Lava Beds and it will guide the monument’s activities in that area under any of the alternatives. The primary difference among the alternatives is the rate at which the goals in the plan for establishing a systematic cave management framework are realized. At the present level of staffing and operation, i.e. Alternative A conditions, we can make little progress in implementing the plan. Addition of a cave management specialist would be a significant step toward implementation.

10. Editorial suggestions have been noted and changes made as appropriate.
Lava Beds National Monument

Draft General Management Plan
&
Impact Statement 2/1/96

A Response

The Carman family has lived within two miles of Petroglyph Point since 1948. Family members have been hiking in the area and in the Lava Beds for forty-eight years. When I married into the Carman family, I inherited the family’s appreciation and respect for the monument.

I have been hiking, bird watching and painting at the Petroglyph section now for twenty-one years, and always call park personnel when a situation occurs there that merits their attention. The monument has become very special to our children, who are sensitive to trail erosion and bird nesting sites. We have spent most of our time there on the east, south, and southeast sides. With this background, I would like to respond to the Draft General Management Plan and Impact Statement, with a focus on parts that affect the Petroglyph section.

The Lava Beds National Monument is unique in its beauty and historical value. The challenge to those who manage its resources has always been to integrate services required by public use with sound practices that enhance and preserve the integrity of the park’s natural state.

A management plan must include the above elements, but it is realistic to include a policy of how visitors are treated when in the park. Adding buildings, changing roads, increasing interpretive services and staff can enhance the monument. However, the thought, money and time spent on new roads, buildings and staff are wasted if the visitors to the park are subjected to poor treatment from the employees who are supposed to serve them. The management plan must include requirements for staff hired to have training and development of skills necessary for interacting with visitors. (The current state of visitor treatment at the monument clearly shows that this is one area that needs much improvement).
Training staff in these skills, especially law enforcement staff, should take precedence in a management plan if the goal is to enhance visitor experience. These skills should not be left to chance. Park staff are stewards, together with the public, and employees with good "people skills" can gain cooperation from the public through education, respect and shared stewardship of the park.

The management plan proposes three courses, with Alternative A supporting the existing situation, and Alternative C being the most aggressive. The intermediate plan, Alternative B, has a mix of productive, and counter-productive projects. It is my inclination is to support Alternative A since the untouched prehistoric appearance of the Petroglyph section and the areas in the North entrance area give a wonderful atmosphere of timelessness. The addition of buildings will change this experience.

However, I have been concerned since 1975 about the erosion of the petroglyphs, vandalism, and destruction of plants on the east side of the section. For these reasons, I would like to propose a combination of Alternative A and Alternative B.

The positive aspects of Alternative B include protection of the area on the east side of Petroglyph Point from traffic, measures to reduce the incidence of scouring materials affecting the petroglyphs on the west side, added picnic facilities, and orientation kiosks with high quality publications, such as the brochure about the petroglyphs created by Michelle Moore and Sharon Rajnus.

Negative aspects include destruction of habitat by construction of a new road, and the development of a trail to the top of the section, which will affect habitat and Native American Vision Quest sites. (page 18) This will encourage more vegetation trampling, not less. Another concern is the intent to close the petroglyph section from March through June. This penalizes those who are sensitive to nesting areas and have habits of avoiding those areas. This is also the best time to study native wildflowers on top of the section.

I have watched the decline of native plants and grasses on the east side of the Petroglyph section and agree that all motorized traffic needs to stop in that area. Masses of nettles now grow there in summer which were not evident in the mid-seventies when I first hiked there. Cars have steadily
demolished existing sage-brush and wildflowers. Many small nesting birds who had nested near the bottom on the east cliffs could be found in the sagebrush and rabbit brush. I feel that their habitat has been reduced.

Concerning Alternative B, I support the need to reduce blowing soil west of the petroglyphs themselves, but I strongly oppose the plan to cut a road through the undamaged habitat on the south and southeast sides of the section. This will reduce sagebrush and plants even more and open the southern slopes of the point to more damaging motorized traffic. The new road will expose the petroglyphs to more dust and debris as the prevailing winds are from the southwest.

Park personnel will not be there day and night to keep vehicles on the approved road. The re-routing of large trucks and farm equipment will not enhance the experience for visitors.

No matter how intent park personnel are on patrolling the area, the proposed road will make the accessible slopes available to, and tempting to four-wheel drive vehicles and recreational driving off the official road. More plants and sagebrush, which are a continuation of the damaged eastside habit, will be destroyed. Consequently, I cannot agree with “minor adverse impacts” listed on the vegetation section of the Environmental Consequences Matrix (page 59) of the draft. Opening the road will make way for “alien [plant]species invasions” as is evident in the adjacent habitat on the east side.

In regards to the “wildlife” section of the matrix, there is a mention of “information voids”. How can it be determined that “only minor habitat impacts would occur” given this lack of information? You cannot correctly select a preferred alternative until all biological resources have been evaluated and their impacts delineated. In this light, the present EIS is inadequate.

The EIS does not show an adequate following of the five steps of mitigation recognized by state and federal agencies, with number one being the most desirable.

1. Avoid the impact (can include redesigning the project).

2. Minimize the impact by limiting size or magnitude of the action, (example: smaller facilities).
3. Rectify the impact by restoration or repairing the environment.

4. Reduce the impact over time by preservation and maintenance over the life of the project.

5. Compensate for the impact by replacing or providing substitute resources.

A better plan to mitigate the impacts on the petroglyphs would be to pave or oil the existing dirt road on the west side. This would save money and the existing southeast habitat. Unfortunately, dust and debris will come from other sources no matter what is done with the roads. Please don't damage one side of the section in an attempt to preserve another.

**Alternative B** addresses the need for more picnic facilities, and I agree with this, but the installation of restrooms and other structures will detract from the prehistoric atmosphere of the Petroglyph Section. Sensitivity of design for these buildings is noted in the statement, but there is no mention of other aspects of aesthetics, such as light and glare.

I would like to further submit that visitors to the park, when educated are co-caretakers. The park draws many animal, plant and geology lovers. These visitors do not come to the park to be questioned as to why they are there. If park personnel need to ask visitors why they are in an area of the park, then the personnel have not been trained in the goals of the national parks. I would ask someone who does not understand a visitor's desire to use the park, "Why are you in the ranger business?"

Due to the multiple incidents of harassment of visitors by law enforcement staff, I have not felt free to bring my paints, binoculars and camera into the park for exploration and enjoyment. What if I see something I want to paint and stop my car by the side of the road so I can hike in and paint it? Will I be free to do this without harassment? I cannot be sure.

Many years ago, I illustrated a cave guide for the park. I stopped many places in the park to make sketches for this. This was a wonderful experience, given the support and cooperation of the park staff. If I were working on this guide now, I would not feel that I have the same freedom.

I am asking not only that some of my modification ideas to **Alternative B** be considered, but strongly urge that visitor policies and staff training goals be reevaluated.
Addendum
2/3/96

Additional comments on the proposed plans are:

I support the need to renovate and add to, existing park housing near the headquarters. I noticed that this was not adequate ten years ago to house park personnel and volunteer groups.

I do not support a housing structure near Petroglyph Point.

Every effort should be made to renegotiate with the Forest Service for development of the road connected to the south entrance to the Lava Beds. There is no point in spending money to pave part of a road that will be shunned by visitors if the rest of it is in gravel. Rural people are experienced and prepared to travel on dirt and gravel, out of the area visitors are not.

I am concerned about the vandalism of the petroglyphs. Park law enforcement staff could coordinate patrol schedules with the Modoc County sheriffs and deputies. I would recommend a meeting to discuss this if it has not been done. This would not be unreasonable since these activities involve a Modoc County road.

I feel that personnel training and efforts towards demonstrating to the local community that there will be positive changes in treatment of park visitors are essential priorities. Local people interface with many park visitors and should be seen as ambassadors for the park. The present state of alienation will hurt the reputation of the Lava Beds outside the area.
Response to Shelley Carman

1. The basic mission of the Park Service is to protect the resources for future generations while, at the same time, providing for their enjoyment by visitors. As part of its ongoing operation, Lava Beds National Monument evaluates and adjusts its staffing, training, and resource management programs to meet these mandates. Meeting the objectives of resource preservation and visitor service requires a broad range of support from the park’s major constituents. While employee training and service-oriented staffing is not separately discussed in the plan, a high standard of employee performance is required.

2. See discussion of road below. The proposed trail to the top of the formation has been relocated to the north to avoid problematic soil conditions, and modified so that it terminates soon after reaching the top. In the absence of a designated trail to the top, we are concerned that visitors will continue to pioneer multiple routes up the slope, resulting in a braided pattern of eroded soil. Note also that the only area that is closed during the spring raptor nesting season is the immediate vicinity of the cliffs. All other areas at Petroglyph Point remain open year-around.

3. The road relocation proposed in the draft plan has been deleted in the final plan. See also response #4 to NPCA above.

4. The proposed general management plan gives higher priority to protection activities at Petroglyph Point.
January 19, 1996

Craig Dorman, Supt.
Lava Beds Nat'l Monument
P.O. Box 867
Tulelake, CA 96134

Dear Sir:

I am writing in response to an article in the Herald and News entitled "Lava Beds Talk Turns to Reality".

Construction of a modest research facility dormitory--- I have a better idea. Have the volunteers use accommodations and supplies from the private sector in Tulelake. You also won't be tempted to increase staff by having accommodations you don't need.

You are spending money that we don't have on ideas and pet projects by individuals in the service that are by no means needed.

Many of us are becoming increasingly upset by seeing tax dollars spent by the different services as if there is an endless supply of money. When I see the lack of money in areas that truly need it, and then I read about expenditures like you are proposing it makes my heart sick.

Capital cost of the improvements of 7.48 million with annual operation and maintenance costs of 1.3 million! Managers bantering ideas around for decades don't necessarily make them good ideas. Use a long term range plan that doesn't spend excessive tax dollars. Restrooms at Petroglyph Point would be a good idea.

Sincerely,

Robert Crawford
Rt. 1 Box 74B
Tulelake, CA 96134
Response to Robert Crawford

1. At one time, the park had a small facility available for use as a lab/dorm and it supported a high level of volunteer support, particularly in cave-related projects. Unfortunately, this structure became unusable over time, was condemned, and had to be razed. Subsequently we have had little success in attracting volunteers willing to commute to Tulelake and conduct their scientific activities out of a vehicle. We are convinced that a modest facility will yield substantial volunteer support. We are also anticipating that most if not all of the cost of such a facility will be borne by the private sector.
Martin L. Gascoyne
87284 Territorial Hwy.
Veneta, OR 97487
(541) 935-9524

Superintendent
Lava Beds National Monument
P.O. Box 867
Tulelake, CA 96134

Re: Draft General Management Plan, Response to.

Dear Sir:

I was present for the public hearing at the Tulelake Fairgrounds on February 1, but I do not feel that I adequately expressed my response to the DMP. This letter will, I hope, fully cover the range of my response.

The "Purpose & Need" section of the DMP focuses on the broad range of issues confronting Lava Beds, identifying all those areas which have needed attention in the monument for a long time. My concerns arise out of the alternatives you have chosen to address the needs. As the DMP proposes three alternatives, I will address each alternative separately.

Alternative A: No Action
There is, in actuality, action called for under this alternative; namely, upgrading the sewer and water systems and closing the landfill. If in point of fact the water and sewer systems are that close to failure, they should of course be repaired. However, you fail to make any mention of what alternative will be used once the existing landfill is closed and what the cost of that alternative will be.

I also feel that the adverse impacts of this alternative have been understated in the "Environmental Consequences" section. This is a minor point. Simply put, I would remove "could have a significant impact" and dare to say the obvious, "will have a significant impact."

Alternative B: Minimum Requirements (The Proposed Plan)
There are few aspects of the proposed plan that I find I can support. Lava Beds National Monument, indeed the whole Park System, has faced years of budget cuts, and it is not likely to see a reversal of that trend in the foreseeable future. The proposed plan seems to have been concocted in complete ignorance of the public's intent in forcing these budget cuts; namely, to end excessive, wasteful and unnecessary spending at taxpayers' expense in an age where the taxpayers themselves find it necessary to cut their personal budgets and curb their own spending. The proposed plan has about it an air of "thousand-dollar toilet-seats", if you will pardon the expression.

You are proposing to spend a significant sum of money on
facilities whose needs are dubious at best. You want to create a need for almost double the staff currently at the Monument, when you can't fund enough staff to manage the monument with the facilities that exist. Is the National Park Service really likely to increase staff to the levels desired under this proposal, or will they understaff the "new" Lava Beds as well? There are already vandalism problems at the Monument. With more facilities the problems would multiply. Currently the bulk of those problems occur in the headquarters area and over at the Petroglyph Section. A contact Station near Gillem's Camp would add another area to be closely monitored and create greater demands on law enforcement staff, already spread way too thin. Further, it would create significantly greater demands on the maintenance staff. Finally, Visitor Services simply will not be able to meet the demands placed upon it, and visitors' frustrations will peak. In short, the vision of the new Lava Beds understaffed is a nightmare compared to current conditions.

Now let's look at each of the proposed facilities in their own right, presuming you can staff them. I have already mentioned their apparent ostentation, but there are other concerns as well.

The proposed changes at the Petroglyph Section were superbly rebutted by Mrs. Carman at the February 1st meeting. I wholeheartedly support her arguments. While I share your concern for saving that section of the petroglyphs currently visible to the public from further erosional and vandalism damage, I cannot support opening another section up to vandalism, nor can I support the other impacts on flora, fauna and archaeological sites that will be engendered under this proposal. Paving the existing road seems reasonable and should address the erosion problem as it relates to visitor use. The vandalism problem would persist. I am aware that it is a major problem and that something must be done about it. I can't say I have a solution; I don't. The only one I can think of would only exacerbate the poor relationship the Monument already has with the local ranching community; eliminate the existing road, replace it with a trail and make it necessary for visitors to hike in. Because the road is used by local ranchers, the opposition to this proposal would, I am sure, be loud. Some alternative route -- not on Monument land -- could be proposed.

As I understand it, the purpose behind obliterating a portion of Dike Road and relocating it is to facilitate positioning a new Entrance Station out of view of the new Contact Station. Since visitors at the new Contact Station will be looking out over the new parking lot, a tastefully designed Entrance Station located in the vicinity should not be detrimental, and it would preclude the necessity for all that roadwork.

The need for the Contact Station is itself questionable. Apart from the manpower problems mentioned, a manned facility
is going to create a higher number of visitors spending time here and will contribute to a potential vehicle logjam. You will have vehicles coming and going in three different directions; from and to headquarters, the Wildlife Refuge, and the Stronghold/Petroglyphs. If the current Gillem's Camp parking lot is a major detriment to that site, move it to near where the Contact Station is proposed and build the Entrance Station on the road adjacent to it.

I recognize the need to have personal contact with visitors in the vicinity of the many sites pertaining to the Modoc War. The DMP proposal, however, only enhances the Gillem's Camp experience in any major way. The Stronghold remains undermanned.

The presence of well trained personnel manning the Entrance Station, together with the continued presence of Interpretive Staff or docents at Gillem's Camp and the Stronghold provides an effective alternative at a substantial reduction in cost and without necessitating the heavy environmental impact proposed in the DMP.

The changes envisioned for the Headquarters area have much more going for them. An additional duplex is certainly warranted, though it could be argued that a tri- or quadruplex is more in order. The research-lab/dormitory is also a wonderful idea. The need to complete inventory studies of the Monument's natural resources is going to require help from colleges/universities, and those people are going to need these facilities. I would urge consideration of improvements to the group campground. Large groups of students assisting research personnel could camp together and use the Lab/Dorm for showers.

I have in the past advocated significant development of the group site for use by the Modoc people during the Gathering, and I still feel the Monument needs to address the Modoc's needs in the DMP. However, the recent failure by the Modocs to take advantage of a grant to build a village site shows the significant difficulties associated with working with the tribe. Something more than the brief mention of intent (page 21) needs to be written into the DMP.

The changes intended for the Visitor Center area are very vague. While more parking is certainly needed, especially for RV's; the apparent proposal as indicated on Map 6 is aesthetically unpleasing. It would seem much more appropriate to remove the existing parking lot and design a new larger one, rather than a second lot separate from the existing one.

Then there is the Medicine Lake paving proposal. Realigning the intersection is laudable. Paving is not. What with field burning, increased auto emissions and other contributions to air pollution from development in the Klamath Basin, the
little bit of dust contributed by this road pales in comparison. Leave it unpaved. Yes, I do disapprove on principle with this proposal. I also think it is an unnecessary use of funds that could be much better spent on other things -- additional staff for instance. One could save it for historic reasons. With everything else paved, it is the last gravel road experience visitors can have in the Monument. Seriously, think about it. Gravel roads aren't historic now, but they will be.

I am not qualified to discuss the intended improvements to the Maintenance facilities. Let me just say this; in my experience, Lava Beds is the best maintained park (National or State) that I have visited, and if the Maintenance Supervisor says he needs these facilities then by all means build them.

Finally, I must say that the environmental impacts for most of the proposal are going to be significant. As you mentioned at the public meeting, only a very small portion of the Monument's natural resources have been inventoried. Without knowing what you have, how on earth can you hope to accurately assess the impact of your many proposals?

Alternative C: Enhanced Visitor Experience

A this alternative is not actually being proposed I will not contribute commentary on it except in two areas. First, despite local opposition, I support the construction of a Ranger residence at/near the Petroglyph Section. Second, the new Visitor Center Complex proposed here belongs in Alternative B! While recent improvements to the VC have enhanced this facility greatly, there is still a wealth of artifacts that should be on permanent display. Lava Beds National Monument as the potential to rival the High Desert Museum with its presentation. The current facility is way too small, and tucking in some modular unit would be grotesque. I have argued against a lot of capital outlays in the DMP. This one is not extravagant; it is a long-overdue improvement.

Finally, I would like to address two matters indirectly affecting the DMP. First, regarding fee collection. Most people oppose any increases in this area; I support them and congratulate you for the improvements made over the last two years. However, the South Entrance is inadequately covered. To the Tulelake community it appears that your efforts at the North end are specifically designed to get them. That may be true in part. The fact is, however, that you are obliged to handle fee collection equitably, and you are not doing that. A manned fee collection station is needed somewhere on the south road. I would propose that it be built at the South Entrance. This would improve both fee collection and initial contact experience for visitors. Ideally, a third manned station would be constructed at Mammoth Crater and staffed while the road to Medicine Lake is open. Second, I urge you to take the FS10 issue further. You have wisely chosen to look for the
development of outside camping facilities on private land rather than building more campsites in the Monument. One such campground already exists at Timber Mountain. Only 20% (approximately) of Monument visitors enter this way; it is still a sizeable number. The Forest Service's intentions for this road are totally at odds with the Monument's best interests. This road needs to be repaved, not turned to dirt.

In conclusion, I would like to state my continued support for the concept of a Draft Management Plan. I would hope that the final edition will more clearly emphasize improvements in staffing over facilities expansion, proposals for the completion of inventorying prior to building anything, and proposals for improved cooperation with the other agencies in the Tule Lake/Medicine Lake region. While historic budget disputes and turf wars have been waged between various agencies of government, with each fighting for an ever smaller piece of the budgetary pie, a coalition of agency personnel working together to improve resource management and visitor experience would be a benefit to all. Let's shift the focus. Let's enhance the Monument; the visitor's experience will then follow.

Sincerely,

Martin L. Gascoyne
Response to Martin Gascoyne

1. The proposed road relocation has been dropped in the final plan. Complete elimination of a road through this area, and its replacement with a trail, is not necessary for resource protection and would unduly disrupt circulation.

2. The final plan deletes the contact station and the road relocation, and provides for an entrance station between the Hill Road intersection and Gillems Camp.

3. The final plan proposes improvements to the group campground. Improvement of this area will enhance the park’s ability to accommodate larger volunteer groups and the annual Modoc Gathering as well as the many school and institutional groups which have traditionally sought group facilities at Lava Beds. See also response # 1 to Harry and Louis Birk.

4. The visitor center changes are intended to be conceptual at this point, to allow flexibility at the design stage. Design objectives would include minimizing environmental impacts, including protection of esthetics, while providing increased space and improving circulation and capacity. Preserving accessibility for disabled visitors is also a key concern. Parkwide architectural design standards will be developed and applied in this area to ensure an appropriate exterior appearance.

5. The final plan eliminates the proposal for paving Medicine Lake Road, while retaining the realignment of the intersection with the main park road.

6. No basis is provided for this assertion. Although detailed surveys of the entire 46,560 acre monument have not been completed, we do have a sound information base for those areas in which projects were proposed in the draft plan. Most are located in previously disturbed areas. However, you will note that several of the development projects proposed in the draft plan have been eliminated in the final plan.

7. The Park Service is obligated to collect fees equitably and cost-effectively. The placement of an entrance station between the Hill Road intersection and Gillems Camp, as proposed in the final plan, will allow for collection of fees from a majority of visitors in peak use periods. In addition, self-service fee collection will continue at the visitor center. Doubtless, there will be a few visitors to the park who will not pay the entrance fee. However, the projected staffing levels will not support the operation of several entrance stations and it is doubtful that multiple stations would be cost-effective in any event considering visitation patterns and the fee structure.

8. While FS 10 is a desirable access route to the park, it does not provide access for a large proportion of park visitors and, given the park’s existing and projected budgetary limitations, we cannot justify allocating the substantial funds needed to keep this Forest Service road maintained. We are working with the Forest Service, Modoc County, and Tionesta residents to try to identify some means of dealing with this road’s upgrading and future maintenance. However, NPS funding is not available.
Thank you for sending me a copy of the draft General Management Plan for the Lava Beds National Monument. I read it with great interest and have some comments to make.

I would like to express my great concern with regard to your apparent lack of concern regarding Forest Highway 10, which is the southernmost entrance to the Monument from State Highway 139. You state that the "future disposition of Forest Highway 10 .... is uncertain". You go on to state that "an assessment of ... circulation .... is needed".

Forest Highway 10 is presently used by a substantial proportion of visitors, in spite of the poor condition of its surface. It provides the shortest route from State Highway 139 to the Visitor Center. It provides views of distinct plant communities and scenery. More importantly, it provides for a "loop" type of tour of the Monument as opposed to one in which the entrance path must be retraced to exit. If Forest Highway 10 were abandoned, it would be necessary to exit the Monument from the Visitor Center area either by retracing the entrance route or by taking the relatively arduous Medicine Lake Road when weather permitted. Good examples of the desirability and benefits of loop type of highways are those at Grand Canyon and Yosemite National Parks. In both cases, very pleasant and interesting drives are afforded and the monotony of retracing paths is avoided.

I strongly encourage you to further consider the future of Forest Highway 10 before committing large capital expenditures for other improvements. It seems to me that your planning is way out of balance when you propose costly improvements at the North end of the Monument without knowing what will happen at the South end. In my opinion, insuring that the Forest Highway 10 access is kept open is more important than most of the improvements you are proposing!
Response to Larry Hearne

1. See response #8 to Martin Gascoyne above.
February 27, 1996

Superintendent, Lava Beds National Monument
P. O. Box 867
Tulelake, CA 96134

Dear Sir:

We would like to enter the following comments on your Draft General Management Plan November 1995, for Lava Beds National Monument.

Our overall attitude is one of conservatism in Federal spending. We don't believe that government should keep spending dollars that they don't collect. Restraint is needed everywhere in the federal budget and the following is a place that Lava Beds can cut costs and keep down the out flow of tax dollars.

Firstly, Plan (alternative) "C" is completely out of reason.
Secondly - the Plan "B" North entrance road realignment does not seem sensible as presented. Leave the road location from the Dike Road and the Hill Road as it is and relocate the proposed entrance station South and West on the existing paved road to a position near the Power Line Trail. This would save all road relocation and obliteration costs which are estimated at $437,500.00.

Do not build a new entrance station structure, simply widen the road at or near power line trail (no trees in area to threaten) and utilize present Fee Collection Booth at Gillams Camp by moving to center of road for Entrance Station. Your estimate on this is $387,00.00 and the same purpose will be served at a fraction (like 10%) of the estimated cost. We feel that the $1,700,00.00 for the proposed Contact Station at the north entrance is excessive. Most of the interest in the Lava Beds focuses at Indian Wells and the adjacent caves. It seems that Maps, Lanterns, directions and minimal contact at north entrance can be had for lesser expenditure and that Indian Wells can be retained and bettered (as proposed) as the major location for more interpretive contact with the visitors.

Our concerns at the Petroglyphs section are again that of attempting to restrain unnecessary expenditures.

The concept of dust from the road being a major factor in the deterioration of the petroglyphs is incorrect. The wind travels along the bluff from the south and the west. Any dust eroding the writings comes from the south. If you feel dust is a major factor we believe some dust arresting concept immediately adjacent to the petroglyphs may be more effective. Also paving the existing road and parking would help.
The relocation of County Road 126 is certainly not justified nor is the purchase of additional land at the south and north end of the Monument property. This would save $575,000.00. A paved parking area, information kiosks and shaded picnic facilities would be adequate. Construction of restroom facilities seems better substituted with the leasing of portable restrooms from local sanitation services. These have been very successful at other public locations and when serviced regularly are quite acceptable. May we suggest cooperative paving of existing County Road 126 with Modoc County (suppressing dust) and relocation of the parking, restroom, interpretive area to the south of the present parking (relocating proximity of off hours gathering).

We will not comment on additions or proposed changes and expenditures at Indian Wells Headquarters, however we hope restraint will be used in what we see as consistent overkill in construction on Federal facilities.

Sincerely,
Ginger and Frank King

Ginger and Frank King
Response to Ginger and Frank King

1. The final proposed plan deletes the contact station and road relocation at the north end and locates the entrance station between the Hill Road intersection and Gillem Camp. This would seem to be consistent with your recommendation. We do, however, propose to install a more permanent and substantial structure than the existing temporary station located at Gillem Camp.

2. The final proposed plan for the Petroglyphs is generally consistent with your recommendations.
February 20, 1996

Dear Mr. Dorman:

These are my written comments on the draft General Management Plan and Environmental Impact Statement for the Lava Beds National Monument and I want it recorded as such.

After the February 01, 1996 Public Meeting it should be very clear to the Park Staff that the local citizens are still very upset with the police state actions taken by one of the Lava Beds Rangers on December 31, 1995.

NOT IN THE MANAGEMENT PLAN:

1. I propose the first step of your Management Plan must contain a Citizen Review Board to oversee and investigate complaints made about Lava Beds employees! Most cities have a citizen review board to make sure the police do not get out of line and the Lava Beds Rangers really need such a review board!

2. Since Superintendent Dorman won't respond to the public about what action or non-action was taken in regards to the 12-31-95 incident further points out the need of a Citizen Review Board.

EROSION OF PETROGLYPHS:

1. Oil or better yet pave the existing unpaved road to the west of the cliff face.

2. Build a rock wall along the outside of the chain link fence high enough to divert the wind-blown scouring materials.

3. If restrooms are as badly needed as the Park reports then build low profile vault toilets using rock that will match the new rock wall.

4. Contact in person all those who live near or drive by the petroglyphs and enlist them as "Honorary Park Rangers" to help keep an eye on the area in question. Honorary Park Rangers can and will help stop vandalism just because you took the time to talk with the locals! Simply being a good neighbor will go a long way.

5. DO NOT increase the park boundary!

6. DO NOT build housing on site for a ranger!

FIRE PROGRAM:

1. The Park must learn to respect local opinions on the use of prescribed fire. If the Park allows more local views to be heard the Park will become a better neighbor.

MAINTENANCE:

1. By all means add a multi-bay structure to provide more covered work and storage space.

(page one)
2. DO NOT pave the gravel road toward Medicine Lake!

3. DO repair and maintain Forest Service Road 10 so the year round loop inside the Park will be a pleasant drive and it will also better enhance the South Entrance into the Park.

STAFFING:
1. The Park already has enough rangers so DO NOT increase that number!
2. Taxpayers want smaller government so act accordingly.

VISITOR FACILITIES:
1. DO NOT build a new visitor center at Gillems Camp!
2. The existing visitor center needs to be expanded, but not to 3,000 square feet. Better to stay small until the Park can better justify such expansion.
3. Parking SHOULD BE expanded at the visitor center.

ADMINISTRATIVE FACILITIES:
1. NO new construction for staff housing at this time. DO upgrade existing housing.

CIRCULATION:
1. The road transition from the Dike Road is a safety hazard and does need to be improved.

CONCLUSION:
1. The Lava Beds Park should return to the drawing board and come up with a much less grandiose plan that better reflects the realities of a shrinking federal budget!
2. The Lava Beds Park needs to work much harder at becoming a good neighbor since only with a partnership of locals and Park employees can the Lava Beds Park become a better place to visit.

Please continue to keep me on your mailing list. Also please place more information in the local newspapers about your next meeting date on public input.

Respectfully Submitted,

DAVID PORTER MISSO
MISSO NATION
ROUTE #2 BOX 142A
TULELAKE, CALIFORNIA 96134
Response to David Misso

1. We see no need for creation of a citizen review board. The park continuously receives input from and provides information to park visitors and neighbors on an informal and as-needed basis.

2. See final plan proposal for Petroglyph Point. The use of rock as building material will be considered as a design option for restrooms and walls.

3. The park welcomes the assistance of neighbors in reporting problems at Petroglyph Point.
March 1, 1996

Craig Dorman  
Superintendent  
Lava Beds National Monument  
Box 867  
Tule Lake, CA 96134

RE: ADDENDUM TO COMMENTS ON DRAFT OF GENERAL MANAGEMENT PLAN 
AND EIS FOR LAVA BEDS NATIONAL MONUMENT.

Dear Mr. Dorman:

In my haste to meet the post mark deadline I forgot to provide 
you with my address and background regarding Lava Beds.

I have visited the Monument on numerous occasions over the last 
35+ years, beginning as a child on vacation with my parents. In 
the 1970's (when I was a student) and during the early 1980's 
(when I taught the class) Lava Beds was always on the CSU 
Sacramento archeological summer field school program. It is an 
excellent place to expose students to a variety of petroglyphs 
and pictographs, ethnographic and historic sites as well as other 
archeological evidence. I have thoroughly enjoyed every visit 
and have seen all of the major attractions many times, each time 
seeing something new.

I am also an avid caver and attended the first two CRF 
Thanksgiving weekends under the direction of Janet Sowers. I was 
also present at the first organizational meeting where we roughed 
out the Cave Management Plan. Although family and work 
responsibilities have prevented me from continuing an active 
involvement for now, I would love to be able to participate again 
some time.

Sincerely,

Marianne L. Russo

Assistant Coordinator  
North Central Information Center  
Dept. of Anthropology  
C.S.U. Sacramento  
6000' J St.  
Sacramento CA 95819-6106

Home: PO Box 230  
Newcastle CA 95658
March 1, 1996

Craig Dorman
Superintendent
Lava Beds National Monument
Box 867
Tule Lake, CA 96134

RE: COMMENTS ON DRAFT OF GENERAL MANAGEMENT PLAN AND EIS FOR LAVA BEDS NATIONAL MONUMENT.

Dear Mr. Dorman:

While I have not had the time to review the entire management plan document I did want to express my comments regarding the proposed plans for Petroglyph Point. As an archeologist I am especially concerned about this very significant rock art site.

I have reviewed your proposed alternatives A, B and C and am strongly in favor of at least the adoption of Alternative B. These minimum improvements to reduce airborne sand and dust, eliminate inappropriate vehicular access, provide resource protective trails and sanitary facilities are very positive steps to protecting this site as well as improving the visitor experience. Naturally, Alternative C would go even further in this direction and also has my strong endorsement.

Thank you for considering my comments.

Sincerely,

Marianne L. Russo
Archeologist, C.S.U. Sacramento
Assistant Coordinator of the North Central Information Center of the California Historic Resources Information Center
Dear Superintendent Dorman,

This letter is to comment on the Draft General Management Plan and Environmental Impact Statement for Lava Beds National Monument, issued November, 1995. I find Alternative B, the proposed action, to be a sound plan that, if implemented, will increase protection of Lava Beds’ considerable resources and enhance the visitor experience. In particular, I find the following proposed actions especially welcome.

1. I support the proposed Alternative B improvements to the Indian Well visitor center. At present, the congestion at the front desk and in the parking lot during peak visitation months appear to hamper visitor service.

Additional exhibits on caves, as specified in Alternative B, are needed to both enhance the visitor experience and encourage minimum impact caving practices, decreasing wear and tear on the resource. For example, the cave-dwelling Townsend’s Big-eared Bat is a rare and especially sensitive species that could be better protected if visitors understood and appreciated, rather than feared bats. A significant nursery colony of these bats regularly inhabits cave passages near visitor trails, and this colony has been vandalized by visitors in the past, resulting in the death of many young bats.

If funds were available, I would strongly support the elementary school education and adopt-a-cave programs, as proposed in Alternative C. A large number of visitors do come regularly from the Tule-Lake and Klamath Falls areas, and there have been incidents when local teens were found engaging in inappropriate behavior in caves. If children develop a good conservation ethic in elementary school, they are more likely to treat the resources with respect when they are teens and adults.

2. Proposed increase in the resources protection staff. I have worked with the resources staff for eight years, first as an employee and presently as a volunteer. It has been my
experience that staffing levels are not adequate to accomplish the goals and objectives of the mandated program. Staff appear to be spread very thin and are often unable to follow-up on important programs. Volunteers, such as the Cave Research Foundation, have carried out many resource documentation and monitoring tasks.

I would like to see, in addition to the positions proposed in Alternative B, a Cave Specialist added to the staff as proposed in Alternative C. The cave resources at Lava Beds are extraordinary and significant, and are one of the biggest attractions for visitors. Although volunteers can accomplish a great deal on weekend work trips, consistency and continuity in both data gathering and management is important. The many cave protection issues will be best dealt with by a person with cave expertise and experience, who is on site, and has sufficient time allotted to this task.

Proposed research facility

1.强 emp oy the construction of some sort of research facility, as proposed in Alternatives B and C, to house visiting researchers and volunteers that conduct projects of benefit to the monument. In these times of funding cuts, the contribution of non-NPS individuals becomes increasingly important. Lava Beds must offer at least minimal support in order to attract such researchers and volunteers. A facility with comfortable accommodations and efficient work space will be a great benefit to the monument.

Congratulations on a well thought-out plan. I look forward to its implementation.

Sincerely,

Janet M. Sowers, Ph. D.
Technical Project Manager
Cave Research Foundation
Response to Janet Sowers

1. See response #3 to NPCA above.
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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interest of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.