



## Draft General Management Plan and Environmental Assessment

September 2010





## United States Department of the Interior

### NATIONAL PARK SERVICE

Lava Beds National Monument

P.O. Box 1240

Tulelake, California 96134

IN REPLY REFER TO:

D18

September 2010

Dear Friends of Lava Beds National Monument:

It is with great pleasure that we submit to you *the Draft General Management Plan and Environmental Assessment for Lava Beds National Monument (GMP/EA)*. When completed, this plan will guide our management of the monument over the next 15- to 20-years. However, before the GMP/EA can be completed, it is important that we receive comments on this draft. Please take the time to review this draft and provide us with any comments you may have.

The *Draft General Management Plan* offers three alternative approaches to public use and enjoyment of the monument, protection of natural and cultural resources, and the overall management of this unique unit of the National Park System. The environmental consequences section of the document provides an understanding of the effects each alternative would have on the environment.

This plan represents your involvement and input into the planning process. The preferred alternative addresses concepts that many of you proposed or supported including more opportunities to learn about monument resources through new interpretive and educational opportunities, enhanced protection of resources through research and restoration efforts, and improved facilities at Petroglyph Point. Your input to this plan is important and will make it a better guide for the future of the monument. You are invited to attend public meetings where you can meet with the planning team to ask questions, discuss, and provide public comments. These meetings will be held in October 2010. Dates, times and locations of these meetings will be published in a newsletter sent to all on our mailing list, in local newspapers, and on our webpage at [www.nps.gov/labe](http://www.nps.gov/labe). You may submit comments or receive updates on the GMP/EA online through the NPS Planning, Environment and Public Comment System (PEPC) at <http://parkplanning.nps.gov/labe>. An electronic public comment form is provided through this website. The public comment period for this draft GMP/EA will extend through November 30, 2010. If you prefer you may also send us written comments via US Mail to the address below:

Lava Beds National Monument  
Attn: General Management Plan Team  
P.O. Box 1240  
Tulelake, CA 96134

Our planning effort has benefited from your participation and involvement. We thank you for taking the time to make this the best plan possible for such a special place.

Sincerely,

David F. Kruse, Superintendent  
Lava Beds National Monument



# **Lava Beds National Monument Draft General Management Plan and Environmental Assessment**

Lava Beds National Monument  
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# Draft General Management Plan / Environmental Assessment

The National Park Service (NPS) planning team identified three alternatives for managing Lava Beds National Monument for the next 15 to 20 years. These alternatives respond to National Park Service planning requirements, and the issues identified during public scoping. The alternatives establish desired future conditions for administration and management, cultural and natural resource protection, research, education, and opportunities for visitor enjoyment. The alternatives also respond to comments received through public scoping and the ongoing involvement of public agencies, tribes, local communities, organizations, and individuals. Alternative B is the preferred alternative of the NPS to guide future management of Lava Beds National Monument.

**Alternative A, Continue Current Management**, constitutes the “No Action” alternative and assumes that existing programs, facilities, staffing, and funding would generally continue at their current levels.

**Alternative B (Preferred), Expanding Learning and Resource Preservation through Collaboration**, is the preferred alternative. Under this alternative Lava Beds National Monument becomes a model for promoting and strengthening resource protection and restoration through stewardship, research, education, and inter-agency cooperation. Visitor opportunities would be expanded through improvements in existing facilities, establishment of new trails, increased interpretive efforts, and expanded educational programming. Sustainability of monument operations would be enhanced.

**Alternative C, Diversified Recreation Opportunities**, emphasizes an expanded range of visitor programs and recreation opportunities. The National Park Service would strive to meet both current and changing visitor needs by expanding and adding facilities to provide more recreational opportunities. Expanded outreach efforts would develop a more visible identity for the monument. These actions would enhance appreciation for the unique resources protected at Lava Beds and improve understanding of the monument’s role in its regional setting.

The environmental consequences of the alternatives are examined in the Environmental Assessment. Results of public involvement, consultation, and coordination conducted throughout the planning process are included in Chapter 6: Consultation and Coordination.

## How to Comment on this Document

This Draft General Management Plan / Environmental Assessment has been distributed to other agencies and interested organizations and individuals for their review and comment. The public comment period for this document will last for approximately 60 days. Please submit comments by November 30, 2010.

This document is available online at the NPS Planning and Public Comment System website at <http://parkplanning.nps.gov/labe>. An online public comment form is provided at this website.

Comments may also be made in person at one of the public workshops that will be conducted during the public review period. The specific dates and times for these workshops will be announced in local newspapers, in the Draft General Management Plan newsletter, and online at the above site.

For further information or to send written letters or comment forms on this draft plan, contact or write:

Dave Kruse, Superintendent  
Lava Beds National Monument  
Attn: General Management Plan Team  
P.O. Box 1240  
Tulelake, CA 96134

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that the NPS practice is to make comments, including the names and addresses of respondents, available for public review. Individual respondents may request that their address be withheld from the planning record, which will be honored to the extent allowable by law. There also may be circumstances in which a respondent’s identity would be withheld from the record, as allowable by law. To have your name and/or address withheld, state this prominently at the beginning of the comment.

# A Guide to This Document

This *Draft General Management Plan / Environmental Assessment* is organized in accordance with the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act, the National Park Service's "*Park Planning Program Standards*," and Director's Order 12 and Handbook, "*Conservation Planning, Environmental Analysis, and Decision Making*."

**Chapter 1: Introduction** sets the framework for the entire document. It provides an overview of the monument, describes why the plan is being prepared and what needs it must address. This chapter also details the planning opportunities and issues that were raised during internal and public scoping meetings. The alternatives in Chapter 3 address these issues and concerns. Next is a statement of the scope of the environmental assessment—specifically what impact topics are or are not analyzed in detail. This chapter concludes with a list of servicewide laws and policies that are applicable to all of the alternatives presented in this plan and an overview of other related planning efforts are documented.

**Chapter 2: Foundation for Planning and Management** provides guidance for the management alternatives that are being considered. This guidance is based on the national monument's establishing legislation or proclamation, its purpose, the significance of its resources, fundamental resources and values, special mandates, and administrative commitments.

**Chapter 3: Alternatives** begins with an overview of the individual components included in the General Management Plan alternatives. This section defines management zones that would be used to manage the national monument in the future and specific actions that are common to all three alternatives. Next is the full description of the three alternatives. It includes the continuation of current management practices and trends in the national monument (alternative A – no action). Two alternatives for managing the monument, the preferred alternative (alternative B) and alternative C are also presented. The description of the alternatives concludes with summary tables of the alternatives and their anticipated costs. This section is followed by a summary of the environmental consequences of implementing those alternatives. Next is a discussion of user capacity indicators and standards. The chapter concludes with mitigation measures proposed

to minimize or eliminate the impacts of some proposed actions in the alternatives and identification of the environmentally preferred alternative.

**Chapter 4: The Affected Environment** describes those areas and resources that would be affected by implementing the actions contained in the alternatives.

**Chapter 5: Environmental Consequences** analyzes the impacts of implementing the alternatives on topics described in the "Affected Environment" chapter. Methods that were used for assessing the impacts in terms of the intensity, type, and duration of impacts are outlined for each impact topic.

**Chapter 6: Consultation and Coordination** describes the history of public and agency coordination during the planning effort, including Native American consultations, and any future compliance requirements. It also lists agencies and organizations that will be receiving copies of the document. A list of preparers and planning team functions for this plan is included at the end of this chapter.

**Appendices, Glossary, Acronyms, and Selected References** are found at the end of the document.



NPS Photo

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## Introduction

Located in northern California, Lava Beds National Monument encompasses 46,560 acres at the junction of the Sierra-Klamath, Cascade, and Great Basin geologic provinces. President Calvin Coolidge established Lava Beds National Monument by presidential proclamation on November 21, 1925 (No.1755, 44 Stat. 2591). The monument protects and interprets volcanic and natural features of scientific interest, and evidence of prehistoric and historic human settlement, use, and conflict.

The last general management plan (GMP) was completed in 1996 and much has happened since then. Additional land has been added at Petroglyph Point, visitation patterns have changed, and monument staff and researchers have learned more about the significance of the monument's geologic features and historic sites. Each of these changes has implications for how visitors access and use the monument, the facilities needed to support these uses, how resources are managed, and how the National Park Service (NPS) manages its operations.

This draft GMP was developed in consultation with NPS staff and program managers, local communities, government agencies, the Klamath Tribes, and other stakeholder groups. It establishes and articulates a management philosophy and framework for decision making and problem solving in the monument that would be implemented over the next 15-20 years. The new GMP will:

- clearly define resource conditions and visitor experiences to be achieved in the monument

- provide a framework for NPS managers to use when making decisions about how to best protect national park unit resources
- determine how to provide a diverse range of visitor experience opportunities
- determine how to manage visitor use
- determine what kinds of facilities, if any, are needed



Subway Cave, CallLibrary Photo, 1932

- ensure that the foundation for decision making has been developed in consultation with interested stakeholders and adopted by the NPS leadership after an adequate analysis of the benefits, impacts, and economic costs of alternative courses of action

The GMP is based on an analysis of existing and predicted natural and cultural resource conditions, visitor experiences, environmental impacts, and costs. It primarily provides a framework for administration and management and a vision to be realized through future actions. This document also includes an environmental assessment (EA), which considers at a general qualitative level the impacts that each of the alternatives could have on the monument environment. The EA sets the framework for future compliance with the National Environmental Policy Act (NEPA) and the National Historical Preservation Act (NHPA) for the monument. It also assists decision makers and the public in assessing the relative merits and effects of any one alternative from the others.

## Alternatives

Three alternatives are presented for the future management of Lava Beds National Monument. The alternatives, which are consistent with the monument's purpose, significance, and special mandates, present different ways to manage resources and visitor use and improve facilities and infrastructure at the monument. The three alternatives include, Alternative A: the No Action Alternative (continuation of current management) and two action alternatives, Alternative B: Expanding Learning and Resource Preservation through Collaboration (Preferred Alternative), and Alternative C: Diversified Recreation Opportunities.

Several other actions and alternatives were also considered, but were eventually dismissed from further analysis. These actions and alternatives, along with the rationale for their dismissal, are described near the end of Chapter 3, "Alternatives." The implementation of the proposed action will depend on future funding, NPS priorities, and partnership efforts. The approval of a GMP does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the GMP could be many years into the future.

### ALTERNATIVE A: NO ACTION

Alternative A consists of a continuation of existing management and trends and provides a baseline for comparison in evaluating the changes and impacts of the other alternatives. No major new construction would be authorized. The natural resource program would continue to focus on inventorying and monitoring, resource protection, preservation, mitigation, and applied research efforts. The cultural resource program would continue to focus on protecting archeological resources, museum collections, historic buildings and structures, and cultural landscapes. Recreational opportunities would continue to be focused on hiking, cave exploration, camping, wilderness experiences, exploration of historic sites, and viewing wildlife. Limited education programs would be provided for

school groups and visitors. The existing monument boundary and designated wilderness boundaries would be maintained. The monument would continue current coordination with universities and researchers, the Klamath Tribes, the U.S. Forest Service, and the U.S. Fish and Wildlife Service, which is primarily for resource stewardship, interpretive, and administrative purposes. The Petroglyph Point unit would remain in its current condition with limited facilities and interpretive programs.



Northern end of the monument, NPS Photo

### ALTERNATIVE B: EXPANDING LEARNING AND RESOURCE PRESERVATION THROUGH COLLABORATION (PREFERRED)

Alternative B emphasizes research and learning, while providing a wider range of visitor opportunities at Lava Beds National Monument. The monument would promote and strengthen resource protec-

tion and restoration through increased stewardship, research, educational opportunities, and inter-agency cooperation. These actions would engage a broader diversity of visitors.

### Resource Management

The monument would work with adjoining land management agencies towards actively restoring native ecological communities. This may include restoring threatened, endangered species and extirpated species (e.g. greater sage-grouse). The geologic research program would be expanded to function as a center for research and technical assistance for lava tube caves, emphasizing monitoring, restoration of impacted geologic features and caves, and providing assistance to other volcanic parks and sister agencies through planning, surveying, research, and information sharing.

The cultural resources program would emphasize research and learning. The monument would expand research to address a range of regional cultural resources related to the Klamath Basin. Use of the research center for cultural resource research and

## Executive Summary

workshops would occur in coordination with the education program. A wider range of cultural and historical educational programming and interpretive materials would be developed. For example, new research and battle forensics would enhance interpretation and knowledge of the Modoc War sites.

### *Visitor Experience*

The visitor experience at the monument would be focused on interpretation for a greater diversity of visitors. The monument would reach out to new audiences by expanding interpretive, educational, and recreational opportunities. Information and programs on new topics based on findings from expanded research programs would be offered and existing topics would be expanded. The monument would employ new technologies for interpretation and education (e.g. virtual cave tours, podcasts for audio tours) and more collections would be put on display at the visitor center.

Alternative B would place greater emphasis on enhancing and promoting the enjoyment of wilderness as one of the recreational experiences visitors enjoy at the monument. This would include the enjoyment of solitude, dark night skies, natural soundscapes, wilderness hiking, or backcountry camping. New opportunities to experience wilderness areas would be provided through additional outreach and education programs, new trail opportunities, and designated primitive backcountry camping sites.

Partnerships with schools, tribes, gateway communities, and others would be fostered to provide new opportunities for education. School groups and volunteers would have opportunities to participate in monument research programs. Workshops and interpretive programs about monument resources would be offered both within and outside of the monument at sites related to park significance (Modoc War battlefields,

lava tubes, and portions of the Medicine Lake shield volcano).

Expanded recreational opportunities at Lava Beds would include new hiking opportunities and improved day use areas. New hiking trails would primarily include short interpretive loop trails. The monument would collaborate with the U.S. Forest Service to develop longer trail connections and provide opportunities for appropriate winter sports activities such as cross-country skiing or snowshoeing. More accessible trails would be provided to accommodate users of varying abilities.



Gillems Bluff, Photo by David Hays

### *Facilities*

A limited number of new facilities would be provided to accommodate expanded educational programs, recreational opportunities, and research efforts while ensuring that Lava Beds National Monument retains its relatively undeveloped and rustic character. To better accommodate new educational and research programs, the monument

would construct an addition to the current visitor center to provide classrooms, several offices, and more collections space. The monument would also explore expanding the research center laboratory area to accommodate new research opportunities. Several day use areas would be redesigned to better accommodate families and larger groups.

The northern entrance roads would be the primary access routes to the monument. If the southeast entrance road remains in poor condition, the NPS would encourage visitors to enter and exit the monument from the more heavily traveled and paved northern routes. Maintenance of the unpaved Medicine Lake Road within the monument would be enhanced to reduce summer season wash boarding. The monument would encourage bicycle use on roads and bicycle storage facilities would be provided at appropriate locations.

The monument would minimize the intrusion of existing buildings on monument views through visual screening, applying muted paint colors, installing less

# Executive Summary

reflective roofing materials, and minimizing lighting requirements. The NPS would place overhead utility lines underground and where possible, duplicative and unneeded facilities would be removed and revegetated to reduce the overall facility footprint on the monument and to reduce long-term maintenance obligations. For example, the rarely used wildlife overlook roads and parking areas would be removed and restored. A portion of the West Wildlife Overlook road would be retained for special events.

A new visitor day use area with an educational focus would be constructed at Petroglyph Point. The current road would be realigned southward around the petroglyphs, and the existing chain link fence would be replaced with a more aesthetically pleasing barrier that protects the petroglyphs and allows for wildlife movement and photography. A new wildlife (raptor) viewing area, parking areas, a seasonally staffed ranger contact station, a small picnic area, and an outdoor education space would be provided. Accessible trails would connect the new facilities with the petroglyphs.

The monument would provide more interpretive media for Cave Loop caves to improve the visitor experience (e.g. individual cave guide brochures for trails on the loop), promote responsible caving practices, and increase awareness about the preservation needs of cave resources. Vault toilets would be installed on the loop to reduce human waste issues in caves.

While maintaining its rustic character, the monument would explore various ways to improve the visitor experience in the campground for all types of campers (tent, recreational vehicle (RV) users, and large groups). RV hook-ups would continue to be provided outside of the monument at local RV campgrounds. To encourage longer stays, coin operated and limited time showers would be considered for the campground.

## *Monument Operations*

To minimize its carbon footprint, the monument would make a comprehensive effort to reduce the current amount of energy used to operate the monument. This would be accomplished through changes in monument operations, the use of new sustainable technologies for electricity, heating, and motor vehicle fuel consumption and generating energy on-site from alternative sources such as photovoltaic panels. The NPS would work to reduce visitor reliance on automobiles once they have arrived at the monument by providing additional trail linkages between visitor sites and by encouraging bicycling on monument roads.



Cave skylight, NPS Photo

## **ALTERNATIVE C: DIVERSIFIED RECREATION**

The monument would expand outreach efforts, visitor programs, and recreational opportunities in an effort to meet both current and changing visitor needs. These actions would enhance appreciation for the unique resources protected at Lava Beds National Monument and improve understanding of the monument's role in a regional setting.

## *Resource Management*

Natural and cultural resource management would remain largely the same as in alternative A. However, additional monitoring and assessment of sensitive resources would occur in high use visitor areas.

## *Visitor Experience*

The NPS would expand outreach to the travel and tourism industry to maintain or increase visitation and in turn raise the regional profile of Lava Beds National Monument. Diversified recreational opportunities would be provided throughout the monument including new opportunities for bicycling and snowshoeing. The monument would offer a diversity of world-class lava tube caving experiences including caving seminars and specialized tours.

## Executive Summary

The monument would identify new opportunities for visitors to learn about historic resources and monument collections. Examples of new opportunities could include an overnight experience at the Schonchin Butte fire lookout or guided tours to other historic sites. New research and battle forensics would enhance interpretation and knowledge of Modoc War sites.

### *Facilities*

New facilities would be provided to accommodate the diversified recreational opportunities. The NPS would provide more opportunities for trails that are accessible to a wide range of user needs and abilities, including wheelchair accessibility. Diversified recreation trails would also be provided. For example, the monument would explore appropriate trail opportunities for bicycles, horses, cross-country skiing and snowshoeing. The monument would collaborate with the U.S. Forest Service on new regional recreational trail opportunities and would establish additional medium distance (1-3 mile) loop trails within the monument. Improvements to the campground would include expansion to better accommodate groups and RVs.

The northern entrance roads would be the primary access points to the monument. If the southeast entrance road remains in poor condition, the NPS would encourage visitors to enter and exit the monument from the more heavily traveled and paved northern routes. The Medicine Lake Road would be realigned and paved within the monument improving access from the southwest. To allow for more informal, dispersed exploration and recreation, the NPS would construct more 1- to 2-car pullouts along the main monument road. Bicycle use on monument roads would be encouraged and bicycle storage facilities would be provided at appropriate locations.

New day-use facilities with additional recreational opportunities such as wildlife viewing would be available at Petroglyph Point. The new day-use facilities would include a small parking lot, vault toilets, a picnic area, and shade structures. The current road would be realigned southward around the petroglyphs and paved. The existing chain link fence would be replaced with a more aesthetically pleasing barrier that protects the petroglyphs and allows for wildlife movement and photography.

The Cave Loop area would feature a cave docent program to assist visitors with cave exploration. In addition, more rangers would be available during peak visitation. New facilities would include vault toilets and a foot trail around the Cave Loop to allow visitors to leave vehicles at the visitor center or campground. Areas along the Cave Loop impacted by social trails would be restored.

The campground would be improved to better accommodate large vehicles by adding a new RV loop and reducing several campsites in the existing campground loops (with no net loss or gain in the total number of campsites). No hookups would be provided for the RV sites. To encourage longer stays, coin operated and limited time showers would be considered for the campground.

### *Monument Operations*

To minimize its carbon footprint, the monument would reduce electrical energy use for monument operations through use of new technologies and/or changes in monument operations to reduce need. As in alternative B, pedestrian and bicycle visitor circulation would be encouraged throughout the monument.

## Environmentally Preferred Alternative

The environmentally preferred alternative is “the alternative that will promote the national environmental policy expressed in the National Environmental Policy Act (NEPA) (Sec. 101(b)).” After the environmental consequences of the alternatives were analyzed, each alternative was evaluated to see how well the goals from NEPA section 101(b) are met. Taken as a whole, alternative B is the environmentally preferred alternative because it would best meet all six goals stated in NEPA.

The implementation of the plan (no matter which alternative is selected) will depend on future funding, NPS priorities, and partnership funds, time, and effort. The approval of the GMP does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the GMP could be many years into the future.



## Chapter One: Introduction



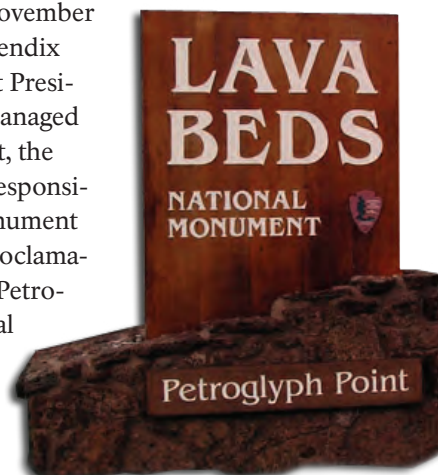


# Chapter One: Introduction

An introduction to the purpose, scope, and issues of the plan.

## Background on Lava Beds National Monument

President Calvin Coolidge established Lava Beds National Monument by Presidential Proclamation on November 21, 1925 (No.1755, November 21, 1925, 44 Stat. 2591) (See Appendix A, Lava Bed National Monument Presidential Proclamation). Initially managed as part of Modoc National Forest, the National Park Service assumed responsibility for management of the monument 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 two miles east of the main body of the monument.



Medicine Lake Road is partly paved and is closed from late fall to late spring due to heavy winter snow. The other MNF road (Forest Service Route 10) is paved but in very poor condition and may also be closed during heavy winter snows.

### OVERVIEW OF MONUMENT RESOURCES AND HISTORY

The region in and around the monument is a unique and diverse area. It lies at the junction of the Sierra-Klamath, Cascade, and Great Basin geologic provinces and reflects those influences in its landscapes and ecosystems. The monument incorporates a portion of the Medicine Lake shield volcano, a 900-square-mile highland associated with the Cascades mountain range. Over the last half-million years, volcanic eruptions of this volcano have created a rugged landscape dotted with diverse volcanic features.

### LOCATION AND ACCESS

The 46,560 acre monument is located in northeastern California, approximately 155 miles northeast of Redding, California, and 45 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 4th Congressional District. The monument boundary is bordered by Modoc National Forest, Klamath National Forest, Lower Klamath Basin National Wildlife Refuges, Bureau of Reclamation and Bureau of Land Management land, as well as private lands. The natural and cultural resource issues of the area are similar for each agency and require an inter-agency approach for positive solutions (See Regional Context and Lava Beds National Monument Maps).

Primary access to Lava Beds National Monument is from the north, over paved Siskiyou and Modoc County roads which connect with California State Highways 161 and 139. Both roads are open year round. From the south, access is over two Modoc National Forest (MNF) roads that, in turn, connect to the state highway system. Of these two roads, the

MAP 1: REGIONAL CONTEXT



Numerous lava tube caves, Native American rock art sites, historic battlefields and campsites, and a high desert wilderness experience are the main attractions at Lava Beds. Volcanic phenomena are the major interpretive features in the monument. Lava tube caves, in particular, draw many visitors and substantial efforts are made by the monument's staff to facilitate the safe and non-destructive exploration of these caves and other volcanic features by visitors. The northern margin of the monument is generally defined by the limits of recent lava flows and the corresponding historic shoreline of Tule Lake. A critical stop on the Pacific Flyway for migratory birds, Tule Lake's environment has been significantly altered by water resources development activities, initiated in 1905, that reclaimed the lake area for agricultural use.

The monument contains a range of Great Basin vegetation communities, including ponderosa pine forest, mountain mahogany/juniper woodland, Great Basin sagebrush/bunchgrass steppe, and the Tule Lake wetland margin. These areas provide habitat for a wide range of animal species including mammals, birds, amphibians, insects, reptiles, crustaceans, and both above-ground and cave invertebrates. The lava tube caves in the monument provide habitat for at least 15 bat species, including the rare and threatened Townsend's big-eared bat. Although the bat's population is declining in most areas, its numbers remain stable in the monument.

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 both lacustrine and montane animal and plant species.

By the early 1870s, as European settlement moved westward, conflicts between cultures culminated locally in the Modoc Indian War of 1872-1873. Native Americans, clinging to their homeland, took refuge within what is now called "Captain Jacks Stronghold." The rugged lava flows provided protection in the forms of rock outcroppings that were effective rifle pits, connecting trenches, cover from mortar fire, and small residential shelters from U.S. Army assaults. After their eventual defeat in the Modoc War, some of the Modoc

were relocated to Oklahoma, but most remained in northern California and southern Oregon among tribal neighbors such as the Klamath and northern Paiute. Descendants of the Modoc are now members of the multicultural, federally recognized Klamath Tribes which have tribal offices in Chiloquin, Oregon.

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More than 700 lava tube caves, Native American rock art sites, historic battlefields and campsites, and a Great Basin wilderness experience are main attractions at Lava Beds National Monument.

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A host of colorful characters populate the early modern history of Lava Beds, including J.D. Howard, a cave explorer who led the effort to obtain federal protection of the lava beds, homesteading families that ran sheep and an underground ice skating business, and moonshiners who set up stills in the remote caves during Prohibition. Like most National Park Service sites operating during the Depression, the newly established Lava Beds National Monument benefited from the work of a Civilian Conservation Corps (CCC) crew. Between 1935 and 1942, hundreds of "CCC boys" constructed the original

infrastructure of the monument, some of which visitors can still enjoy today. In the late 1950s and through the 1960s the infrastructure of Lava Beds was further improved and expanded during the National Park Service's Mission 66 initiative. This modern construction program paved the roads of the monument and built the majority of the infrastructure used by visitors and staff today.

On October 13, 1972, the Schonchin and Black Lava Flow wilderness units, totaling 28,460 acres, were designated in the monument under public law 92-493. The resulting Lava Beds Wilderness Area currently represents 61 percent of the monument's total land area. The next closest wilderness area is Mountain Lakes Wilderness, 45 miles to the northwest. The sense of solitude, natural quiet, and dark night skies associated with the wilderness areas are highly valued by visitors.



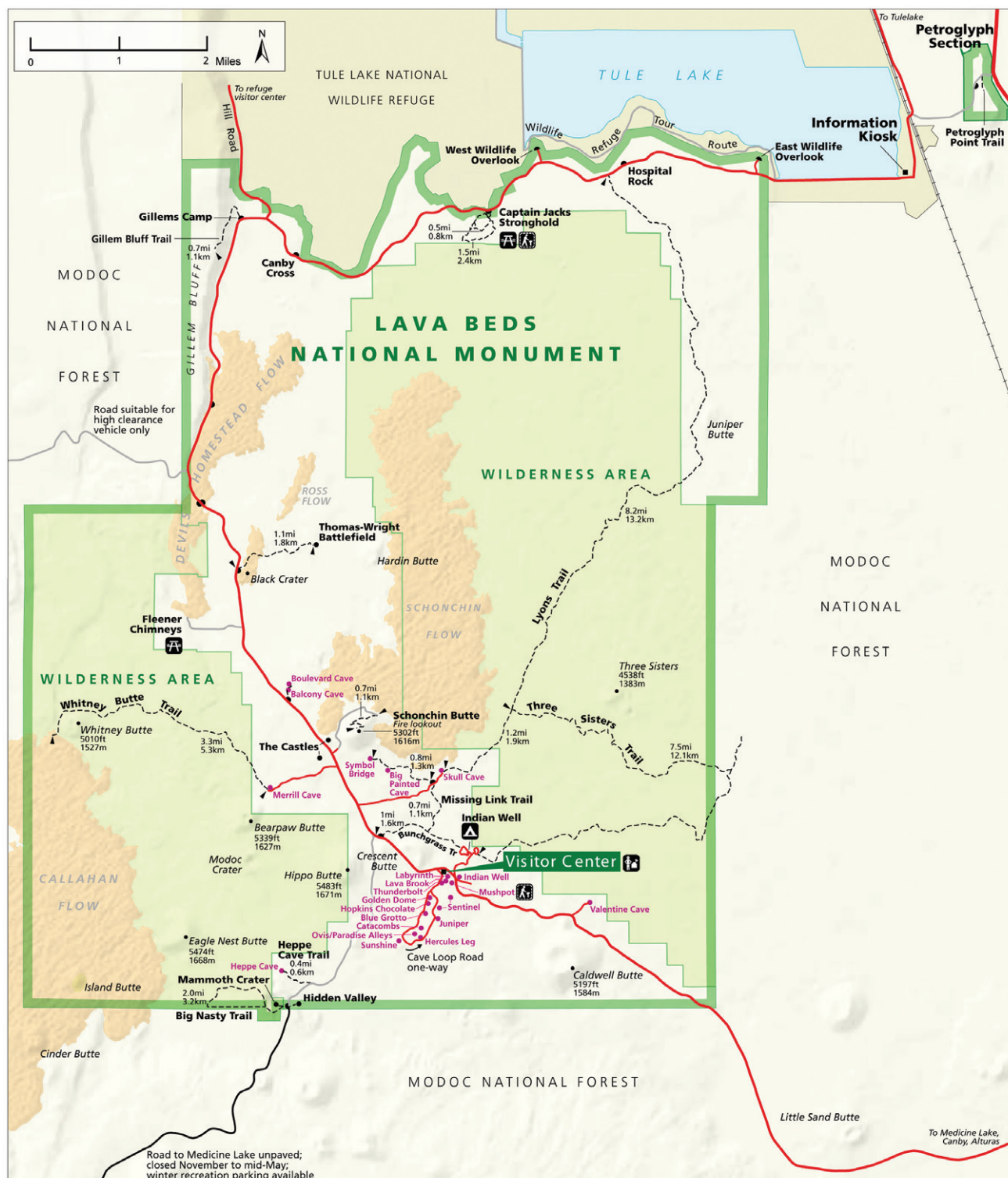
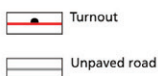
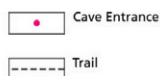
View from the visitor center, NPS Photo

## MAP 2: MONUMENT MAP

# Lava Beds National Monument



Before entering any cave, check at the visitor center for information on specific caves and for general safety information.



# Purpose and Need for the General Management Plan

## GENERAL MANAGEMENT PLANS AND THE NATIONAL PARK SYSTEM

The National Parks and Recreation Act of 1978 requires each unit of the National Park Service (NPS) to have a general management plan (GMP); and NPS Management Policies 2006 (§2.3.1) states “The National Park Service will maintain a general management plan for each unit of the national park system.”

The purpose of a GMP is to ensure that a national park system unit (park unit) has a clearly defined direction for resource preservation and visitor use that will best achieve the NPS mandate to preserve resources unimpaired for the enjoyment of future generations.

The ultimate outcome of general management planning for park units is an agreement among the National Park Service, its partners, and the public on why each area is managed as part of the national park system, what resource conditions and visitor experience should exist, and how those conditions can best be achieved and maintained over time. General management plans are intended to be long-term documents that establish and articulate a management philosophy and framework for decision making and problem solving in the parks.

## PURPOSE OF THE PLAN

The approved general management plan will be the foundational document for managing Lava Beds National Monument for the next 15 to 20 years. The purposes of this general management plan are as follows:

- confirm the purpose, significance, and special mandates of Lava Beds National Monument
- clearly define resource conditions and visitor uses and experiences to be achieved in the monument
- provide a framework for managers to use when making decisions about how to best protect the

monument’s resources, how to provide quality visitor uses and experiences, how to manage visitor use, and what kinds of facilities, if any, to develop in the monument

- ensure that this foundation for decision making has been developed in consultation with interested stakeholders and adopted by the NPS leadership after an analysis of the benefits, impacts, and economic costs of alternative courses of action

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The purpose of a general management plan is to ensure that a National Park System unit has a clearly defined direction for resource preservation and visitor use that will best achieve the NPS mandate to preserve resources unimpaired for the enjoyment of future generations.

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Legislation establishing the National Park Service as an agency and governing its management provides the fundamental direction for the administration of Lava Beds National Monument (and other units and programs of the national park system). This general management plan builds on these laws and the legislation that established Lava Beds National Monument to provide a vision for the monument’s future.

This *Draft General Management Plan and Environmental Assessment* presents and analyzes three alternative future directions for the management and use of Lava Beds National Monument. Alternative B is the National Park

Service’s preferred alternative (see Chapter 3, “Alternatives”). The potential environmental impacts of all alternatives have been identified and assessed (see Chapter 5, “Environmental Consequences”).

Actions directed by general management plans or in subsequent implementation plans are accomplished over time. Budget restrictions, requirements for additional data or regulatory compliance, and competing priorities may delay implementation of many actions. Major or especially costly actions could be implemented 10 or more years into the future.

The general management plan does not describe how particular programs or projects should be prioritized or implemented.



Northern Pygmy Owl, NPS Photo

Those decisions will be addressed in future, more detailed planning efforts. All future plans should be consistent with the approved general management plan.

### NEED FOR THE PLAN

The last general management plan for Lava Beds National Monument was completed in 1996. Since then land has been added at Petroglyph Point, visitation patterns have changed, and monument staff and researchers have learned more about the significance of the monument's geologic features and historic sites. Many of the facility improvements proposed in the 1996 plan are now complete, including the monument's new visitor center, research center, new interpretive exhibits, improved roadways and parking areas, and cave visitation infrastructure.

This general management plan is also needed to meet the requirements of the National Parks and Recreation Act of 1978 and NPS policy, which mandate development of a general management plan for each unit in the National Park System.

### THE NEXT STEPS

After the distribution of the *Draft General Management Plan and Environmental Assessment* there will be a 60-day public review and comment period, after which the NPS planning team will evaluate comments from other federal agencies, tribes, organizations, businesses, and individuals regarding the draft plan. If no significant environmental impacts are identified and no major changes are made in the alternatives, then a Finding of No Significant Impact (FONSI) can be made and approved by the Pacific West Regional Director. Following a 30-day waiting period, the plan can then be implemented.

### IMPLEMENTATION OF THE PLAN

Implementation of the approved plan will depend on future funding. The approval of this plan does not guarantee that the funding and staffing needed to implement the plan will be forthcoming. Full implementation of the actions in the approved General Management Plan could be many years in the future. The implementation of the approved plan could also be affected by other factors, such as changes in NPS

staffing, visitor use patterns, and unanticipated environmental changes.

Once the General Management Plan has been approved, additional feasibility studies and more detailed planning, environmental documentation, and consultations would be completed, as appropriate, before certain preferred alternative actions can be carried out. For example:

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The implementation of the approved plan will depend on future funding. Full implementation of the actions in the approved General Management Plan could be many years in the future.

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- additional environmental documentation may need to be completed
- appropriate permits may need to be obtained before implementing actions
- appropriate federal and state agencies would need to be consulted concerning actions that could affect threatened and endangered species
- Native American tribes and the State Historic Preservation Officer would need to be consulted, as appropriate, on actions that could affect cultural resources

Future program and implementation plans, describing specific actions that managers intend to undertake and accomplish in the monument, will be guided by the desired conditions and long-term goals set forth in this general management plan.

## Planning Issues and Concerns

### INTRODUCTION

The following topics describe some of the preliminary needs and challenges the general management plan (GMP) must address for the monument to preserve resources while providing for public use and enjoyment. The general public, NPS staff, and representatives from county, state, tribal and federal agencies, and various organizations identified issues and concerns about monument management during the scoping phase (early information gathering) for this general management plan. An issue is defined as an opportunity, conflict, or problem regarding the use or management of public lands. Comments were solicited at public meetings, through planning newsletters, and at meetings with agencies and community stakeholders

(see Chapter 6, “Consultation and Coordination” for more information about the scoping efforts).

Comments received during scoping demonstrated that the public is generally pleased with current management and resources at Lava Beds National Monument. The public values the monument’s diverse resources, viewsheds, solitude, visitor opportunities, and facilities. Issues and concerns raised during public scoping generally involved suggestions for the types and levels of services and activities offered at the monument (particularly interpretive and educational programs and exhibits) while ensuring a high degree of protection of the monument’s sensitive resources. The general management plan alternatives provide strategies for addressing these issues within the context of the monument’s purpose, significance, and special mandates presented in Chapter 2, “Foundation for Planning and Management.”

## ISSUES

### *Access and Transportation*

Public scoping comments raised concerns about poor road conditions for visitors arriving via southern access routes. Although most visitors (approximately 75% percent) enter the monument from the north, improving the condition of Forest Service Route 10, leading up to the monument’s southeast entrance, was of particular concern to some visitors. Forest Service Route 10 was formerly the main road to the monument prior to the paving of the northern access routes in the late 1980s and mid 1990s. Because this road is owned and maintained by the U.S. Forest Service, the NPS would need to coordinate closely with them to provide a long-term solution for improvement and maintenance of this road. Comments also requested improved maintenance on the unpaved Medicine Lake Road to mitigate its rough and dusty surface conditions.

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The general management plan alternatives provide strategies for addressing issues within the context of the monument’s purpose, significance, and special mandates.

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Monument road, NPS Photo

### *Climate Change and Sustainability*

Since the monument began measuring surface temperatures in 1946, a 1.5 degree Fahrenheit increase in the average summer high temperature has been documented. This temperature data correlates with a broader trend observed in many locations throughout the western United States. Observed and anticipated increases in atmospheric carbon have the potential to impact sensitive cave ecosystems and contribute

to western juniper expansion into formerly treeless communities of the monument. The GMP will address mechanisms to address climate change through interpretation and education, ongoing monitoring, and instituting energy conservation practices.

### *Cultural Resources*

Preservation and protection of sensitive cultural and historical resources was an important concern identified during public scoping, particularly at Petroglyph Point, a site not contiguous with the main unit of the monument. The GMP will define priorities and management direction for cultural resources protection, research, and monitoring throughout the monument. This includes appropriate

visitor use, protection of sensitive sites, and opportunities to coordinate with neighboring land managers and tribal representatives to protect cultural landscapes and address surrounding landowner and tribal concerns. Given the concerns about protecting the sensitive rock art at Petroglyph Point, the GMP will explore comprehensive approaches to resource management, facilities, and interpretation at Petroglyph Point.

### *Education and Interpretation*

Visitor surveys and public scoping efforts indicate that visitors and stakeholders value Lava Beds National Monument as an ideal place for learning about geology, nature, history, and pre-history. The majority of comments received during scoping called for increased visitor education programs and opportunities for interpretation. The GMP will explore new educational opportunities within the monument and with partner agencies, schools, and gateway communities.

Opportunities for enhanced interpretation of significant resources through exhibits, programs, interpretive trails, and new media will also be addressed in the GMP.

### *Facilities*

Monument visitors appreciate the perceived undeveloped character of Lava Beds. The roads and parking areas lay lightly on the land, and major facilities are concentrated in one area and tend to be inconspicuous. The monument has recently made numerous facility improvements in implementing the 1996 General Management Plan. Major facilities completed include a new visitor center (2004), research center (2005), and entrance station (2006). Suggestions for additional facilities included campground improvements, more restrooms, expanding employee housing, and improved facilities at Petroglyph Point. The GMP will explore what improvements may be appropriate. The monument also has a small number of visitor and administrative facilities that are either infrequently used or are redundant and unneeded. Opportunities to reduce the amount of infrastructure that requires long term maintenance and rehabilitation or reconstruction will be explored.

### *Visitor Services and Use*

Although the monument experiences relatively low levels of visitation compared with many other National Park units, current visitor patterns reflect changing demographics and expectations including:

- increasing number of requests for camping facilities that better accommodate large recreational vehicles
- a greater proportion of older visitors with a need for more accessible trails and facilities
- increasing numbers of bus tours bringing visitors who spend a limited time in the monument
- increasing visitation from non-English speakers
- changing demographics of the local area with an increase in the Latino population

- increasing requests for facilities that can accommodate large group gatherings

The monument provides many non-personal interpretive services such as bulletin boards, wayside displays, and trail guides throughout the monument. However, some visitors commented about the lack of personal services in the field, particularly in the northern portion of the monument in the off-season when the entrance station is not staffed. Visitors also found current staffing levels insufficient to provide interpretive contacts, including resource protection messages to self-guiding cave visitors in the summer.



Prescribed burn, NPS Photo

Another primary concern was access to services such as food and lodging, given the monument's remote location. Opportunities for food services will be explored in the GMP.

The GMP will address changing patterns in visitor use trends and demographics and identify appropriate visitor access and experiences, opportunities for interpretation and education, and desired conditions for visitor safety. Scoping comments about visitor services included suggestions for new visitor contact facilities, campground and trail improvements, improving access for visitors with disabilities, and providing appropriate information to visitors before they enter the monument.

### *Monument Boundary/Adjacent Lands*

General management plans are required to include an assessment of boundaries. Boundary adjustments may be proposed to protect significant resources and values, enhance public enjoyment of monument resources, or to address operation and management issues. Many resources related to the significance of the Lava Beds are located outside of the monument boundary. For example, the monument includes only 10 percent of the Medicine Lake shield volcano, which formed the striking geologic features and caves in the monument. The U.S. Forest Service administers the rest of the volcano and its wealth of other volcanic and natural resources. In addition, important Modoc War battlefield sites are located outside of the monument. The GMP will address whether additional lands are needed to protect monument resources or to improve monument management, and will explore different

approaches for protecting resources near monument boundaries.

### ***Museum Collections***

The monument manages almost 200,000 cultural and natural items in its museum collection. Some collections materials are stored off-site at partner facilities. The 2002 Museum Management Plan identified a backlog of items to be added from other collections. Scoping comments indicated a desire to see more of the monument collections on display. The GMP will explore new opportunities for storing and displaying museum collections.

### ***Natural Resources***

Lava Beds National Monument contains a variety of sensitive natural resources. The monument is dominated by hundreds of caves and geologic surface features that include lava flows and cinder cones. These geologic resources are made of igneous rock formed from volcanic eruptions and lava flows that occurred hundreds to thousands of years ago. Many of these features are delicate and fragile, and can be easily shattered or broken by foot traffic or even a caver's shoulder or helmet bumping the ceiling of a cave. When there is breakage of cave features or erosion of cinder cones, the result is permanent change. Only new volcanic eruptions can create new geologic resources. Thus the geologic formations and features within caves and on the surface are considered to be non-renewable resources. If lost they are unlikely to be replenished or replaced by natural processes in any of our lifetimes. These fragile and non-renewable resources are the main attraction for monument visitors.

Other natural resource issues specific to the monument include protection of native plants and wildlife, and the use of fire to manage plant communities and wildlife habitat. The GMP will define priorities and management direction for natural resource protection, restoration, research, and monitoring, and address the balance between visitor use and enjoyment and the protection of natural resources. Desired future conditions, management zoning, and indicators and standards for user capacity will also be established.



Modoc War fortification, NPS Photo

### ***Regional Cooperation and Partnerships***

Cooperation and partnerships with local and regional organizations are important for studying and managing significant resources, as well as educating and informing visitors, local residents, researchers, and students about the monument's significance. Public comments encouraged Lava Beds to explore regional partnerships with local communities, tribes, organizations, and agencies to protect resources, provide visitor information and

services, and to interpret regional themes. The GMP will seek new ways in which the monument could coordinate efforts with federal, state, tribal, and local agencies including the U.S. Fish and Wildlife Service, the U.S. Forest Service, the Klamath Tribes, the Bureau of Land Management, and the California Department of Fish and Game.

### ***Tribal Use***

Lava Beds National Monument is significant for its tribal history and culture. The GMP will explore opportunities for more tribal involvement with the monument, greater educational outreach about the monument's environmental and cultural history, and enhanced protection of sensitive cultural resources important to tribal members.

### ***Wilderness***

Approximately 61 percent of the monument is designated wilderness. Comments concerning wilderness expressed appreciation of the wilderness qualities in the Lava Beds and provided suggestions for expanding the wilderness experience. The GMP will identify desired conditions for wilderness areas that consider appropriate levels of visitor use and external impacts, such as development and population growth in adjacent lands, gateway communities, and the region.

### **ISSUES AND CONCERNS NOT ADDRESSED**

Not all of the issues or concerns raised by the public will be addressed in this GMP. Some issues raised by the public were not considered because they are already prescribed by law, regulation, or policy; would be in violation of laws, regulations, or policies; or were at a level that was too detailed for a GMP and are more appropriately addressed in subsequent planning

documents. For example, during public scoping, some commenters provided detailed suggestions for interpretive exhibits. While the GMP does not address this level of detail, such comments can be considered by the monument in implementing the GMP.

## Relationship of Other Planning Efforts to This General Management Plan

Nearly all of the lands surrounding the monument are publically owned by the U.S. Forest Service or the U.S. Fish and Wildlife Service, although there are privately owned timberlands to the south as well as agricultural and residential lands to the northeast. Nearly all of the lands surrounding Petroglyph Point are privately owned agricultural lands. Although monument land is closely associated with the Klamath and Modoc Tribes, there are no tribal-owned lands near the monument.

Several plans have influenced or would be influenced by the approved general management plan for Lava Beds National Monument. These plans have been prepared (or are being prepared) by the National Park Service, the U.S. Forest Service, regional organizations, and local counties. Some of these plans are described briefly here, along with their relationship to this general management plan.

### NATIONAL PARK SERVICE PLANS AND STUDIES

#### *Lava Beds National Monument Visitor Survey for Spring/Summer 2007 (2008)*

This study describes the activities, expenditures, and attitudes of people who visited the monument during the spring and summer of 2007. The survey provides important data and insights into visitor preferences that were used in the development of alternatives for the general management plan.

#### *Superintendent's Compendium (2009)*

The Superintendent's Compendium is an annually updated list of designations, closures, permit requirements, and use restrictions promulgated under the discretionary authority of the superintendent. The compendium covers visitor hours; public use limits; closures and area designations for specific uses or activities; a list of activities that require a NPS permit; regulations regarding preservation of natural, cultural and archeological resources; and general regulations regarding wildlife protection, camping, picnicking and pets among other topics. The compendium would be modified as necessary to reflect any changes resulting from implementation of this general management plan.

#### *General Management Plan for the World War II Valor in the Pacific National Monument, Tule Lake Unit*

In December 2008, President George W. Bush signed a presidential proclamation establishing the World War II Valor in the Pacific National Monument. The monument is comprised of discontinuous units in the Aleutian Islands of Alaska and at sites around Pearl Harbor in Hawaii. In California, the new monument includes sites near the monument in the Tule Lake Basin associated with the Tule Lake Segregation Center (more commonly known as the Japanese American Internment Camp). Initially, the Tule Lake portions of the new monument will be managed by staff from Lava Beds National Monument and Tule Lake National Wildlife Refuge. In 2010, the National Park Service and the U.S. Fish and Wildlife Service began work on a separate GMP for this new monument.

#### *Long Range Interpretive Plan*

Lava Beds' interpretive staff completed the monument's first comprehensive interpretive plan in 2010. The planning process required by this general management plan contains many of the elements that were also included in the interpretive plan, and many of the proposed actions in the GMP relate to interpretation and education. Therefore the monument's GMP process informed much of the interpretive plan, which guides interpretive products and services in more detail.



Petroglyph Point, NPS Photo

### ***Fire Management Plan (2007)***

The 2007 Fire Management Plan is an operational guide for managing the monument's wildland and prescribed fire program. It defines levels of protection needed to ensure personnel and public safety, protect facilities and resources, and restore and perpetuate natural processes. It is a detailed program of action to carry out fire management policies and objectives. This plan would be modified as necessary to reflect any changes resulting from implementation of this general management plan.

### ***Cultural Landscapes Inventory (CLI): Modoc War Historic District (2005)***

The CLI is an evaluated inventory that contains information associated with historically significant landscape features located within the Modoc War Historic District. The CLI assists the NPS in its efforts to fulfill the identification and management requirements associated with Section 110(a)(1) of the *National Historic Preservation Act*, *National Park Service Management Policies* (2006), and *Director's Order #28: Cultural Resources Management*.

### ***Wilderness Stewardship Plan (2006)***

The 2006 Wilderness Stewardship Plan prescribes the minimum requirements for the management and protection of the monument's designated wilderness. These minimum requirements are standards that provide a baseline level of what is acceptable for the preservation of wilderness at Lava Beds National Monument. These standards in turn determine the minimum tool that can be used for a given action.

### ***Resources Management Plan (1999)***

This plan documented natural and cultural resource management efforts and deficiencies, and outlined objectives for future resource management and tasks for accomplishing those objectives. The long-range plan lays out a course of work and funding needs for 10 or more years. Although resource management plans are no longer being prepared by the National Park Service, information from the existing resources management

plan was used in preparing this general management plan. A resources stewardship strategy, begun in 2010, will provide future direction for resource management and will incorporate the management directions presented in this document.

### ***General Management Plan for Lava Beds National Monument (1996)***

The 1996 *General Management Plan* provided management direction for facilities development and visitor use, monument-wide development concepts, and proposed an expansion of monument boundaries at the Petroglyph Point unit. This *Draft General Management Plan* builds on the 1996 plan by updating management direction and identifying new actions for the next 15 to 20 years.



Lavasicles inside a lava tube cave, NPS Photo

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This general management plan builds on the existing 1996 GMP by updating management direction and identifying new actions for the next 15 to 20 years.

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### ***Cave Management Plan (1990)***

The monument has an approved cave management plan, which provides direction for preservation and management of visitor use at these important resources. An updated cave management plan is currently underway and is scheduled for completion in late 2010. This will establish guidelines that provide long term management strategies and set resource condition goals for the monument's caves. The plan will identify opportunities for visitors to experience the caves in the Lava Beds while working to protect the natural and cultural resources within. These

management strategies will reflect the management direction recommended in this general management plan.

## **U.S. FOREST SERVICE PLANS**

### ***Modoc National Forest Land and Resource Management Plan (1991)***

This document guides multiple use management on forest lands adjacent to much of the monument's boundary. In 2009, the U.S. Forest Service initiated the process to update this plan.

## LOCAL AND REGIONAL PLANS

### *Modoc County General Plan (1988)*

This plan is designed to provide long-range guidance on growth and development in Modoc County. Portions of this plan most relevant to the general management plan include policies related to agriculturally zoned lands. There appear to be no conflicts with any of the alternatives outlined in the general management plan.

### *Siskiyou County General Plan (1980)*

Lands within Siskiyou County that surround the monument are all in federal ownership. These lands are managed by the U.S. Forest Service and U.S. Fish and Wildlife Service. There are no known conflicts with any of the alternatives outlined in the general management plan.

### *The Modoc Volcanic Scenic Byway Plan*

The Modoc Volcanic Scenic Byway traverses an area which includes Tule Lake National Wildlife Refuge, Lava Beds National Monument, and portions of the Klamath, Shasta-Trinity, and Modoc national forests. This plan calls for consistently signing and publicizing a system of rural roads through a wide range of volcanic features on lands administered by several different agencies. The byway plan does not impose any management requirements or road standards on the cooperating agencies.

## Impact Topics Considered in the Plan

### INTRODUCTION

The consequences of implementing each alternative evaluated in the general management plan are listed and compared using specific impact topics. These impact topics were identified based on federal laws and other legal requirements, the Council on Environmental Quality's guidelines for implementing the *National Environmental Policy Act*, *NPS Management Policies (2006)*, subject-matter expertise and knowledge of limited or easily impacted resources, and issues and concerns expressed by other agencies or members of the public during scoping. Impact topics were developed to focus environmental analysis and to ensure that alternatives were evaluated against relevant topics. Rationale for the selection of the impact topics

that will be analyzed in the environmental consequences chapter is given below, as well as a more detailed justification for dismissing any topics from further consideration.

### IMPACT TOPICS TO BE CONSIDERED

The following impact topics will be retained for analysis due to the potential of management alternatives to affect these resources and values, either beneficially or adversely. Current conditions for each of these topics are described in **Chapter 4, Affected Environment**:

- natural resources
  - air quality
  - natural soundscapes
  - night skies
  - viewsheds/visual resources
  - cave resources
  - geological resources and processes, including soils
  - vegetation
  - wildlife and wildlife habitat
  - special status species
- cultural resources
  - cultural landscapes, historic buildings and structures
  - archeological resources
  - ethnographic resources
  - museum collections
- wilderness character
- visitor opportunities
  - recreation opportunities
  - visitor services
  - visitor facilities
  - interpretation and education opportunities
- access and transportation
- socioeconomic environment
- management and operations
- carbon footprint

### IMPACT TOPICS DISMISSED FROM FURTHER CONSIDERATION

The following impact topics were considered and determined not relevant to the development of this general management plan because either they would have no effect or a negligible effect on the topic or resource, or the resource does not occur in the monument. These topics dismissed from further analysis are as follows.

## Water Resources

The dry climate and porous soils of the monument result in a lack of surface water. Furthermore, there are no sole drinking water aquifers in the monument; groundwater provides domestic water. There is no known water pollution occurring from any activities in the monument and no significant point sources of pollution are known to threaten any water resource in the monument. None of the alternatives propose any changes that would be expected to increase the potential for water pollution within the monument, and any potential impacts that might accrue would be negligible. Therefore, this topic has been dismissed from further analysis in the general management plan.

## Wetlands and Floodplains

The National Park Service protects natural floodplains and takes appropriate action to avoid safety risks to visitors and employees as required by Executive Order 11988 and NPS Director's Order 77-2: *Floodplain Management*. Similarly, all wetlands in national park units are protected and managed in accordance with Executive Order 11990, "Protection of Wetlands," and NPS Director's Order 77-1: *Wetland Protection* and *NPS Management Policies 2006*. It is NPS policy to avoid affecting wetlands and to minimize impacts when they are avoidable. There are no floodplains or wetlands within the monument. Therefore, this impact topic has been dismissed from further analysis in the plan.

## Energy Requirements and Conservation Potential

Alternatives in the general management plan, including the preferred alternative, could result in new facilities with inherent energy needs. In the proposed alternatives, new facilities would be designed with long-term sustainability in mind. The National Park Service has adopted the concept of sustainable design as a guiding principle of facility planning and development. The objectives of sustainability are to design facilities to minimize adverse effects on natural and cultural values, to reflect their environmental setting, and to require the least amount of nonrenewable fuels/energy.

The action alternatives could result in an increased energy need, but this need is expected to be negligible

when seen in a regional context. Additionally, alternatives B and C significantly reduce the consumption of non-renewable energy. Thus, this topic is dismissed from further analysis



Cave rescue training, NPS Photo

## Environmental Justice

The Environmental Protection Agency's Office of Environmental Justice defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. The goal

of this "fair treatment" is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and identify alternatives that may mitigate these impacts.

On February 11, 1994, President William J. Clinton signed Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. This order requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs/policies on minorities and low-income populations and communities. The Secretary of the Interior established Department of the Interior policy under this order in an August 17, 1994, memorandum. This memorandum directs all bureau and office heads to consider the impacts of their actions and inactions on minority and low-income populations and communities; to consider the equity of the distribution of benefits and risks of those decisions; and to ensure meaningful participation by minority and low-income populations in the department's wide range of activities where health and safety are involved.

In responding to this executive order two questions are asked and answered as the major part of the analysis:

1. Does the potentially affected community include minority and/or low-income populations?
2. Are the environmental impacts likely to fall disproportionately on minority and/or low-income members of the community and/or tribal resources?

Siskiyou, Klamath, and Modoc counties contain both minority and low-income populations; however, environmental justice is dismissed as an impact topic for the following reasons:

- NPS staff and the planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Implementation of the proposed alternative would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect adverse effects on any minority or low-income population.
- The impacts associated with the preferred alternative would not result in any identified effects that would be specific to any minority or low-income population community.
- NPS staff and the planning team have consulted and worked with the affected Native American tribes and will continue to do so in cooperative efforts to resolve any problems that may occur. In addition, the planning team did not identify and negative or adverse effects that would disproportionately and adversely affect the tribes.

Based on the above information and the requirements of Executive Order 12898, environmental justice was ruled out as an impact topic to be further evaluated in this document.

### ***Indian Trust Lands***

The National Park Service does not manage or administer Indian trust assets. The overriding mandate for

the National Park Service is to manage the park units in the National Park System consistent with park laws and regulations. No lands comprising Lava Beds National

Monument are held in trust by the Secretary of the Interior solely for the benefit of American Indians. Therefore, this topic was dismissed from further analysis.



Lava tube, NPS Photo

### ***Natural or Depletable Resources Requirements and Conservation Potential***

Resources that will be permanently and continually consumed by implementation of the GMP include water, electricity, natural gas, and fossil fuels; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. Alternatives B and C would result in benefits as they each reduce the use of fossil fuels.

Construction activities related to implementation of the alternatives would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline construction equipment. With respect to operational activities, compliance with all applicable building codes, as well as project mitigation measures, would ensure that all natural resources are conserved or recycled to the maximum extent feasible.

Consideration of these topics is required by 40 *Code of Federal Regulations* (CFR) 1502.16. The National Park Service has adopted the concept of sustainable design as a guiding principle of facility planning and development (NPS *Management Policies* 9.1.1.7). Through sustainable design concepts and other resource management principles, the alternatives analyzed in this document would attempt to conserve natural or depletable resources. Therefore, this topic has been dismissed from further analysis.

### ***Prime or Unique Farmlands***

In 1980 the Council on Environmental Quality directed federal agencies to assess the effects of their actions on farmland soils classified by the U.S. Department of Agriculture's Natural Resource Conservation Service as prime or unique. Prime farmland is defined as soil

that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland soils produce specialty crops such as specific fruits, vegetables, and nuts.

According to the National Resource Conservation Service there are no unique farmlands in Lava Beds National Monument. Private agriculture does not exist within the monument, so this type of land use would not be affected by this plan. Therefore, there would be no impacts on prime or unique farmlands and the topic is being dismissed from further analysis in the plan.

### ***Urban Quality and Design of the Built Environment***

Consideration of this topic is required by the *Code of Federal Regulations* (CFR) 1502.16. The quality of urban areas is not a concern in this planning project. Throughout the monument, vernacular architecture and compatible design would be taken into consideration for new structures built under all of the action alternatives. Emphasis would be placed on designs, materials, and colors that blend in, and do not detract from, the natural and built environment. Therefore adverse impacts are anticipated to be negligible and no further consideration of this topic is necessary.

### ***Conformity with Local Land Use Plans***

The basic land use of the monument as a recreation and resource management area is in conformance with local land use plans. The creation of additional recreation and visitor service opportunities in the monument, as proposed in the alternatives, would be consistent with the existing land uses in the monument or local (non-NPS) land use plans. Therefore this topic is dismissed from further consideration.

### ***Public Health and Safety***

Actions and developments proposed in the alternatives would not result in any identifiable adverse impacts to human health or safety. Therefore this topic is dismissed from further consideration.

## **Servicewide Laws and Policies**

To truly understand the implications of an alternative in this *General Management Plan and Environmental Assessment*, it is important to combine the service-wide laws and policies with the management actions described in an alternative. Many monument management directives are specified in laws and policies guiding the National Park Service and therefore are not subject to alternative approaches. A general management plan is not needed to decide, for instance, that it is appropriate to protect endangered species, control nonnative species, protect archeological sites, conserve artifacts, or provide for universal access — laws and policies already require the National Park Service to fulfill these mandates. The National Park Service would continue to strive to implement these requirements with or without a new general management plan.

Table 1 shows some of the most pertinent servicewide laws and policy topics related to managing Lava Beds National Monument. For each topic there are a series of desired conditions required by law and policy that the NPS staff would strive to achieve for that topic under all of the alternatives presented in this *General Management Plan and Environmental Assessment*. The alternatives address the desired future conditions that are not mandated by law and policy and must be determined through a planning process. The table cites the law or policy behind these desired conditions, and gives examples of the types of strategies/actions being pursued by NPS staff.



Schonchin Butte, NPS Photo

**TABLE 1: SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS**

<b>SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS</b>	
<b>GEOLOGIC PROCESSES AND FEATURES</b>	
<p><b>POLICY GUIDANCE/SOURCES</b></p> <p>NPS Management Policies 2006; NPS-77, "Natural Resources Management Guidelines"</p>	<p><b>DESIRED CONDITIONS</b></p> <p>The national monument's geologic resources are preserved and protected as integral components of the natural systems. Natural geological processes proceed unimpeded.</p> <p><b>MANAGEMENT DIRECTION/STRATEGIES</b></p> <ul style="list-style-type: none"> <li>• Assess the impacts of natural processes and human-related events on geologic resources.</li> <li>• Integrate geologic resource management into NPS operations and planning to maintain and restore the integrity of existing geologic resources.</li> <li>• Develop a plan to address geologic research, inventory, and monitoring.</li> <li>• Collect baseline information on surface geology and partner with the U.S. Geological Survey and others to identify, address, and monitor geologic hazards.</li> <li>• Update the geologic map of the Lava Beds National Monument in digital format that can be used in the geographic information system.</li> <li>• Update the geologic history of the national monument using modern theory and techniques.</li> <li>• Interpret geologic resources for visitors. <ul style="list-style-type: none"> <li>• Update geologic interpretations of localities that are the subject of interpretive stops or displays.</li> <li>• Develop programs to educate visitors about geologic resources.</li> </ul> </li> </ul>
<b>CAVE PROTECTION</b>	
<p><b>POLICY GUIDANCE/SOURCES</b></p> <p>Federal Cave Resources Protection Act of 1988 (FCRPA)</p> <p>NPS Management Policies 2006; NPS-77, "Natural Resources Management Guidelines"</p>	<p><b>DESIRED CONDITIONS</b></p> <p>The NPS manages to perpetuate the natural systems associated with the caves and karst such as drainage patterns, air flows, mineral deposition, and plant and animal communities. Wilderness and cultural resource values will also be protected.</p> <p><b>MANAGEMENT DIRECTION/STRATEGIES</b></p> <ul style="list-style-type: none"> <li>• No developments or uses, including those that allow for general public entry, (such as pathways, lighting, and elevator shafts) will be allowed in, above, or adjacent to caves until it can be demonstrated that they will not unacceptably impact natural cave conditions, including sub-surface water movements, and that access will not result in unacceptable risks to public safety.</li> <li>• Developments already in place above caves will be removed if they are impairing or threatening to impair natural conditions or resources.</li> <li>• Parks will strive to close caves or portions of caves to public use, or to control such use, when such actions are required for the protection of cave resources or for human safety.</li> <li>• Some caves or portions of caves may be managed exclusively for research, with access limited to permitted research personnel.</li> <li>• "Significant" caves will be identified using criteria established in the 43 CFR Part 37 regulations for the Federal Cave Resources Protection Act of 1988 (FCRPA).</li> <li>• As further established by the FCRPA, specific locations of significant cave entrances may be kept confidential and exempted from Freedom of Information Act requests.</li> <li>• Parks will manage caves in accordance with approved cave management plans to perpetuate the natural systems associated with the caves.</li> </ul>

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### LIGHTSCAPE MANAGEMENT

<p><b>POLICY GUIDANCE/SOURCES</b></p> <p>NPS Management Policies 2006</p>	<p>Lava Beds National Monument offers excellent opportunities to observe dark night skies.</p> <p><b>DESIRED CONDITION</b></p> <p>The monument will preserve, to the greatest extent possible, the natural lightscapes of the monument, which are the natural resources and values that exist in the absence of human-caused light.</p> <p><b>MANAGEMENT DIRECTION/STRATEGIES</b></p> <ul style="list-style-type: none"> <li>• The NPS will cooperate with visitors, neighbors, and local government agencies to find ways to prevent or minimize the intrusion of artificial light into the night scene in Lava Beds National Monument.</li> <li>• In natural areas, artificial outdoor lighting will be limited to basic safety requirements and will be shielded when possible.</li> <li>• The national monument staff will evaluate the impacts on the night sky caused by facilities. If light sources in the national monument are affecting night skies, the staff will study alternatives such as shielding lights, changing lamp types, or eliminating unnecessary sources.</li> </ul>
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### AIR QUALITY

<p><b>POLICY GUIDANCE/SOURCES</b></p> <p>Clean Air Act</p> <p>NPS Management Policies 2006; NPS-77, "Natural Resources Management Guidelines"</p>	<p>Lava Beds National Monument is a Class I air quality area under the Clean Air Act. Class I areas are afforded the highest degree of protection under the Clean Air Act. This designation allows very little additional deterioration of air quality.</p> <p><b>DESIRED CONDITIONS</b></p> <p>Air quality in the monument meets national ambient air quality standards for specified pollutants. The monument's air quality is maintained or enhanced with no significant deterioration.</p> <p><b>MANAGEMENT DIRECTION/STRATEGIES</b></p> <p>The National Park Service will take the following kinds of actions to comply with the policies mentioned above:</p> <ul style="list-style-type: none"> <li>• Inventory the air quality-related values associated with the national monument.</li> <li>• Monitor and document the condition of air quality and related values in conjunction with other government agencies.</li> <li>• Evaluate air pollution impacts and identify causes.</li> <li>• Minimize air quality pollution emissions associated with national monument operations, including the use of prescribed fire and visitor use activities, in compliance with federal, state, and local air quality regulations.</li> <li>• Ensure healthful indoor air quality at NPS facilities.</li> <li>• Participate in federal, regional, and local air pollution control plans and drafting of regulations and review permit applications for major new air pollution sources.</li> <li>• Maintain constant dialogue with the California Commission on Environmental Quality regarding visibility conditions at the national monument.</li> <li>• Develop educational programs to inform visitors and regional residents about the threats of air pollution.</li> <li>• Participate in research on air quality and effects of air pollution. Determine changes in ecosystem function caused by atmospheric deposition and assess the resistance and resilience of native ecosystems in the face of these external perturbations.</li> <li>• Research effects of atmospheric deposition on plants, soils, and wetlands in the national monument, and determine changes in ecosystem function caused by atmospheric deposition of pollutants.</li> </ul>
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# SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

## ECOLOGICAL COMMUNITIES

### POLICY GUIDANCE/ SOURCES

Endangered Species Act of 1973, as amended; National Invasive Species Act; Lacey Act, as amended; Federal Noxious Weed Act of 1974, as amended; Executive Order on Invasive Species, #13112

NPS Management Policies 2006, Natural Resources Management Guidelines, NPS 77

### DESIRED CONDITIONS

- The NPS maintains all native plants and animals as parts of the monument's natural ecosystems.
- Natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations are preserved and restored.
- Populations of native plant and animal species function in as natural condition as possible except where special considerations are warranted.
- Native species populations that have been severely reduced in or extirpated from the monument are restored where feasible and sustainable.
- Potential threats to the monument's native plants and wildlife are identified early and proactively addressed through inventory and monitoring.
- Sources of air, water, and noise pollution and visitor uses adversely affecting plants and animals are limited to the greatest degree possible.
- Visitors and staff recognize and understand the value of the monument's native plants and wildlife.
- NPS staff uses the best available scientific information and technology to manage these resources.
- Federal and state- listed threatened and endangered species and their habitats are protected and sustained. NPS staff prevents the introduction of nonnative species and provides for their control to minimize the economic, ecological, and human health impacts that these species cause.
- Naturally ignited fire, including the smoke it produces, is part of the natural systems being sustained at the monument.

### MANAGEMENT DIRECTION/STRATEGIES:

- The management of populations of exotic plant and animal species, up to and including eradication, is undertaken when control is prudent and feasible.
- NPS staff uses the best available scientific information and technology to manage these resources.
- The NPS works with other land managers, including the states of California and Oregon, tribal governments, the U. S. Fish and Wildlife Service, and the U.S. Forest Service, to encourage the conservation of populations and habitats of species that share common areas or migrate into and out of the monument whenever possible.
- Inventories and monitoring of the plants and animals in the monument will continue. Collected data will be used as a baseline against which to regularly monitor the distribution and condition of selected species, including indicators of ecosystem condition and diversity, rare or protected species, and nonnative species. Management plans will be modified to be more effective, based on the results of monitoring.
- NPS staff will participate in regional ecosystem efforts to restore native species.
- Research will be supported that contributes to management knowledge of native species.
- Interpretive and educational programs will continue to be provided on the preservation of native species for visitors and for residents neighboring the monument.
- Efforts will be made to avoid, minimize, or otherwise mitigate any potential impacts on state or federally listed species. Should it be determined through informal consultation that an action might adversely affect a federally listed or proposed species, the NPS staff would initiate formal consultation under §7 of the Endangered Species Act.
- The NPS will implement its fire management plan, and update when necessary, consistent with federal law and departmental management policies that also address the need for adequate funding and staffing to support the planned fire management program.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### WILDERNESS

#### POLICY GUIDANCE/ SOURCES

Wilderness Act of 1964, Public Law 92-493; Wilderness Designation for Lava Beds National Monument (1973)

NPS Management Policies 2006; DO 41 "Wilderness Preservation and Management"

#### DESIRED CONDITIONS

The National Park Service will manage wilderness areas for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness. Visitors to the monument will continue to find opportunities for solitude and primitive, unconfined recreation, and signs of people in wilderness areas will remain substantially unnoticeable.

#### MANAGEMENT DIRECTION/STRATEGIES

- Areas proposed/recommended for wilderness will continue to be managed so as to not diminish their wilderness characteristics until Congress has taken action on the proposal/recommendation.
- Uses that are in keeping with the definitions and purpose of wilderness, and do not degrade wilderness resources and character, will be encouraged. Appropriate restrictions may be imposed on any authorized activity to preserve wilderness character and resources, or to ensure public safety.
- The national monument will maintain a wilderness management plan or equivalent planning document to guide the preservation, management and use of these resources.
- Managers considering the use of aircraft or other motorized equipment or mechanical transportation within wilderness must consider impacts to the character, aesthetics, and traditions of wilderness before considering the costs and efficiency of the equipment.
- All management decisions affecting wilderness must be consistent with the minimum tool requirement concept: a proposed management action must be appropriate or necessary for administration of the area as wilderness and not pose a significant impact to wilderness resources and character, and the management method (tools) used must cause the least amount of impact to the wilderness resources and character. Administrative use of motorized equipment or mechanical transport will be authorized only if the superintendent determines it is the minimum requirement needed to achieve the purposes of the area as wilderness, or it is needed in an emergency situation involving the health or safety of persons actually within the area.
- In evaluating environmental impacts, the monument will take into account wilderness characteristics and values, including the primeval character and influence of the wilderness; the preservation of wilderness conditions.
- Managers will be expected to appropriately address cultural resources management considerations in the development and review of environmental compliance documents for actions that might impact wilderness resources.
- Scientific activities will be encouraged and permitted when consistent with NPS responsibilities to preserve and manage wilderness.
- Wilderness education/interpretive programs will be used to inform visitors about wilderness ethics and how to minimize their impacts on wilderness, leave-no-trace practices will be emphasized.
- All fire management activities in wilderness will conform to the basic purposes of wilderness.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### SOUNDSCAPE MANAGEMENT

#### POLICY GUIDANCE/ SOURCES

NPS Management Policies 2006; DO 47, "Sound Preservation and Noise Management"

Executive memorandum signed by President Clinton on April 22, 1996

#### DESIRED CONDITIONS

An important part of the NPS mission is to preserve or restore the natural soundscapes associated with National Park System units. The sounds of nature are among the intrinsic elements that combine to form the environment of our park units and monuments. The NPS preserves the natural ambient soundscapes, restores degraded soundscapes to the natural ambient condition wherever possible, and protects natural soundscapes from degradation due to human-caused noise. Disruptions from recreational uses are managed to provide a high-quality visitor experience and protect biological resources and processes that rely on sound (i.e., intra-species communication, courtship, predation and predator avoidance, and effective use of habitat).

#### MANAGEMENT DIRECTION/STRATEGIES

- Actions will be taken to monitor and to prevent or minimize unnatural sounds that adversely affect Lava Beds National Monument resources or values, or visitors' enjoyment of them.
- The monument staff continues to require tour bus companies to comply with regulations designed to reduce noise levels.
- Noise generated by NPS management activities will be minimized by strictly regulating administrative functions such as the use of motorized equipment. Noise will be a consideration in the procurement and use of equipment by the national monument staff.
- The monument will encourage visitors to avoid unnecessary noise, such as through the use of RV generators and observing quiet hours in the campground.
- Activities or actions producing excessive noise in cave environments may be managed when they risk impacting cave soundscapes or other cave resources.

### ARCHEOLOGICAL RESOURCES

#### POLICY GUIDANCE/ SOURCES

National Historic Preservation Act; Archaeological Resources Protection Act

The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1995)

NPS Management Policies 2006, DO 28 "Cultural Resource Management Guidelines;" DO 28A "Archeology;" Nationwide Programmatic Agreement for Section 106 of the Historic Preservation Act

#### DESIRED CONDITIONS

- Archeological sites are identified and inventoried and their significance is determined and documented.
- Archeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable.

#### MANAGEMENT DIRECTION/STRATEGIES

- When disturbance or deterioration is unavoidable, the site is professionally documented and excavated and the resulting artifacts, materials, and records are curated and conserved in consultation with the state historic preservation offices (and American Indian tribes if applicable).
- Survey and inventory archeological sites monument wide, determine and document their significance. The most critical area for study is monument land where development or visitor activity is planned.
- Determine which archeological sites should be added to the Archeological Sites Management Information System (ASMIS) and the National Register of Historic Places.
- Educate visitors on regulations governing archeological resources and the importance of protecting sites in situ.
- Archeological sites will be monitored.
- Treat all archeological resources as eligible for listing on the National Register of Historic Places pending a formal determination by the National Park Service, the state historic preservation offices, and associated Indian tribes as to their significance.
- Protect all archeological resources eligible for listing or listed on the National Register; if disturbance to such resources is unavoidable, conduct formal consultation with the Advisory Council on Historic Preservation, as appropriate, and the California state historic preservation office and Indian tribes in accordance with the National Historic Preservation Act and implementing regulations.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### ETHNOGRAPHIC RESOURCES AND SACRED SITES

#### POLICY GUIDANCE/ SOURCES

National Historic Preservation Act; American Indian Religious Freedom Act; Archaeological Resources Protection Act; National Environmental Policy Act; Executive Order 13007 (Indian Sacred Sites)

NPS Management Policies 2006; DO 28 "Cultural Resource Management Guidelines;" Nationwide Programmatic Agreement for Section 106 of the Historic Preservation Act

Ethnographic resources are the cultural and natural features of a park unit that are of significance to traditionally associated peoples.

#### DESIRED CONDITIONS

- The National Park Service acknowledges that American Indian tribes, including native Alaskans, treat specific places containing certain natural and cultural resources as sacred places having established religious meaning, and as locales of private ceremonial activities.
- Consistent with the requirements of the policy guidance cited, the NPS will strive to allow American Indians and other traditionally associated peoples access to, and use of, ethnographic resources.

#### MANAGEMENT DIRECTION/STRATEGIES

- Continued access to and use of ethnographic resources is often essential to the survival of family, community, or regional cultural systems, including patterns of belief and sociocultural and religious life. However, the NPS may not allow access and use if it would violate the visitor use criteria listed in section 8.2 of NPS management policies.
- Park superintendents may reasonably control the times when, and the places where, specific groups may have exclusive access to particular areas of a park.
- With regard to consumptive use of park resources, current NPS policy is reflected in regulations published at 36 CFR 2.1. These regulations allow superintendents to designate certain fruits, berries, nuts, or unoccupied seashells which may be gathered by hand for personal use or consumption if it will not adversely affect park wildlife or the reproductive potential of a plant species, or otherwise adversely affect park resources. The regulations do not authorize the taking, use, or possession of fish, wildlife, or plants for ceremonial or religious purposes, except where specifically authorized by Federal statute or treaty rights, or where hunting, trapping, or fishing are otherwise allowed. These regulations are currently under review, and NPS policy is evolving.
- The NPS will protect sacred resources to the extent practicable, consistent with the goals of the traditionally associated Native American tribe or group when authorized under NHPA.
- The location and character of sacred sites will be withheld from public disclosure, if disclosure will cause significant invasion of privacy, risk harm to the historic resource, or impede the use of a traditional religious site by practitioners.
- Members of Native American tribes or groups may enter park units for traditional non-recreational activities without paying an entrance fee.
- In consultation with the appropriate groups, the NPS will develop a record about such places, and identify any treatments preferred by the groups. This information will alert superintendents and planners to the potential presence of sensitive areas, and will be kept confidential to the extent permitted by law.
- The NPS will collaborate with affected groups to prepare mutually agreeable strategies for providing access to ordinarily gated or otherwise inaccessible locales, and for enhancing the likelihood of privacy during religious ceremonies. Any strategies that are developed must comply with constitutional and other legal requirements.
- Accommodations will also be made for access to, and the use of, sacred places when interest is expressed by other traditionally associated peoples, especially native Hawaiians and other Pacific islanders, and by American Indian peoples and others who often have a long-standing connection and identity with a particular park or resource.
- Various ethnic groups, local groups with recently developed ties to resources in neighboring parks, and visitors to family and national cemeteries and national memorials also might use park resources for traditional or individual religious ceremonies. Mutually acceptable agreements may be negotiated with these groups to provide access to, and the use of, such places, consistent with constitutional and other legal constraints.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### MUSEUM RESOURCES

#### POLICY GUIDANCE/ SOURCES

National Historic Preservation Act; Archeological and Historic Preservation Act; Archeological Resources Protection Act; Native American Graves Protection and Repatriation Act; 36 CFR 79; Management of Museum Properties Act

NPS Management Policies 2006; DO 28 "Cultural Resource Management Guidelines;" DO-24 "NPS Museum Collections Management;" NPS Museum Handbook; Nationwide Programmatic Agreement for Section 106 of the Historic Preservation Act

#### DESIRED CONDITIONS

The NPS will collect, protect, preserve, provide access to, and use objects, specimens, and archival, and manuscript collections. These collections may contribute to advancing knowledge in the humanities and sciences, including the disciplines of archeology, ethnography, history, biology, geology, and paleontology, and will aid in improving the understanding of these subjects among park visitors.

#### MANAGEMENT DIRECTION/STRATEGIES

The National Park Service will take the following kinds of actions to meet legal and policy requirements related to museum resources:

- Continue to ensure adequate conditions for the climate control of collections and means for fire detection and suppression, integrated pest management, and research and interpretation access are maintained.
- Inventory and catalog all monument museum collections in accordance with standards in the NPS Museum Handbook.
- Develop and implement a collection management program according to NPS standards to guide the protection, conservation, and use of museum objects.
- Develop documentation for all specimens in the natural and cultural resource collections.
- Ensure that the qualities that contribute to the significance of collections are protected and preserved in accordance with established NPS museum curation and storage standards.

### CULTURAL LANDSCAPES

#### POLICY GUIDANCE/ SOURCES

National Historic Preservation Act,

NPS Management Policies 2006; DO 28 "Cultural Resources Management"

Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes; Nationwide Programmatic Agreement for Section 106 of the Historic Preservation Act

Cultural landscapes at Lava Beds National Monument include the Modoc War Historic District (2005), as well as Public Works Administration, Civilian Conservation Corps, and Mission 66-era infrastructure and facilities associated with the monument.

#### DESIRED CONDITIONS

Cultural landscapes are preserved with their attendant significant physical attributes, biotic systems, and uses (when those uses contribute to historical significance).

#### MANAGEMENT DIRECTION/STRATEGIES

- Treatment decisions will be based on a cultural landscape's historical significance over time, existing conditions, and use.
- Treatment decisions will consider both the natural and built characteristics and features of a landscape, the dynamics inherent in natural processes and continued use, and the concerns of traditionally associated peoples.
- The treatment implemented will be based on sound preservation practices to enable long-term preservation of a resource's historic features, qualities, and materials.
- The preservation, rehabilitation, restoration, or reconstruction of cultural landscapes would be undertaken in accordance with the Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### HISTORIC STRUCTURES

#### POLICY GUIDANCE/ SOURCES

National Historic Preservation Act; Archeological and Historic Preservation Act; The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; Secretary of the Interior's Standards for the Treatment of Historic Properties; Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (1995);

NPS Management Policies 2006, DO 28 "Cultural Resource Management Guideline;" ; Nationwide Programmatic Agreement for Section 106 of the Historic Preservation Act

#### DESIRED CONDITIONS

- Historic structures are inventoried and their significance and integrity are evaluated under National Register of Historic Places criteria.
- The qualities that contribute to the listing or eligibility for listing of historic structures on the national register are protected in accordance with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).

#### MANAGEMENT DIRECTION/STRATEGIES

The monument will take the following kinds of actions to meet legal and policy requirements related to historic structures:

- Update and certify the list of classified structures (LCS) and determine the appropriate level of preservation for each historic structure formally determined to be eligible for listing or listed on the National Register of Historic Places (subject to the Secretary of the Interior's Standards).
- Analyze the design elements (e.g., materials, colors, shape, massing, scale, architectural details, and site details) of historic structures in the monument (e.g., intersections, curbing, signs, and roads and trails) to guide the rehabilitation and maintenance of sites and structures.
- Prepare historic preservation plans as necessary to guide maintenance.
- Document history through oral histories of individuals, groups, and others who have ties to the monument.
- Before modifying any historic structure listed on the National Register of Historic Places or any historic structure potentially eligible for the national register, the NPS will consult with the state historic preservation officer and the Advisory Council for Historic Preservation, as appropriate.
- Survey, inventory, and evaluate historic properties.
- Submit the inventory and evaluation results to the state historic preservation officer for review and comment. Forward the final nomination to the Keeper of the national register with recommendations for eligibility to the national register.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### PALEONTOLOGICAL RESOURCES

#### POLICY GUIDANCE/ SOURCES

1979 Archaeological Resources Protection Act; 2005 Paleontological Resources Preservation Act (Pending, Senate Bill S.263), USC Title 9, Chapter 79, § 5937.

#### DESIRED CONDITIONS

Paleontological resources, including both organic and mineralized remains in body or trace form, are protected and preserved for public education, interpretation, and scientific research.

#### MANAGEMENT DIRECTION/STRATEGIES

- Confidentiality of information: "Information concerning the nature and specific location of a National Park System resource which is ... of mineral or paleontological objects within units of the National Park System... may be withheld from the public in response to a request under section 552 of title 5...
- The monument will establish a program to inventory paleontological resources and systematically monitor for newly exposed fossils, especially in areas of rapid erosion.
- Scientifically significant resources will be protected by collection or by on- site protection and stabilization.
- The NPS will encourage and help the academic community to conduct paleontological field research in accordance with the terms of a scientific research and collecting permit.
- Fossil localities and associated geologic data will be adequately documented when specimens are collected.
- Paleontological resources found in an archeological context are also subject to the policies for archeological resources.
- Paleontological specimens that are to be retained permanently are subject to the policies for museum objects.
- The NPS will take appropriate action to prevent damage to, and unauthorized collection of fossils. To protect paleontological resources from harm, theft, or destruction, the NPS will ensure, where necessary, that information about the nature and specific location of these resources remains confidential, in accordance with the National Parks Omnibus Management Act of 1998. Park units will exchange fossil specimens only with other museums and public institutions dedicated to the preservation and interpretation of natural heritage and qualified to manage museum collections. Fossils to be deaccessioned in an exchange must fall outside of the monument's scope of collection statement. Exchanges must follow deaccessioning procedures in the Museum Handbook, Part II, and chapter 6.
- All NPS construction projects in areas with potential paleontological resources must be preceded by a preconstruction surface assessment prior to disturbance.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### VISITOR EXPERIENCE

#### POLICY GUIDANCE/ SOURCES:

NPS Organic Act, Americans with Disabilities Act, P.L. 101-336, 104 Stat. 327, 42 USC §12101

NPS Management Policies 2006; NPS-42, "Accessibility for Visitors with Disabilities," DO 6, "Interpretation and Education."

The NPS Organic Act, NPS General Authorities Act, and NPS Management Policies 2006 (§1.4, 8.1) all address the importance of national park units being available to all Americans to enjoy and experience. Current laws, regulations, and policies leave considerable room for judgment about the best mix of types and levels of visitor use activities, programs, and facilities. For this reason, most decisions related to visitor experience and uses are addressed in the alternatives. However, all visitor use of the national park system must be consistent with the following guidelines.

#### DESIRED CONDITIONS:

- Monument resources are conserved "unimpaired" for the enjoyment of future generations. Visitors have opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the monument; opportunities continue to be provided for visitors to understand, appreciate, and enjoy Lava Beds National Monument.
- Visitors have opportunities to understand and appreciate the significance of the monument and its resources, and to develop a personal stewardship ethic. Interpretive and educational programs can build public understanding of, and support for, such decisions and initiatives, and for National Park Service mission in general.
- To the extent feasible, all programs, services, and facilities in the monument are accessible to and usable by all people, including those with disabilities.

#### MANAGEMENT DIRECTION/STRATEGIES:

- The monument interpretive and educational program includes:
  - information and orientation programs that provide visitors with easy access to the information they need to have a safe and enjoyable experience;
  - interpretive programs that provide both on- and off -site presentations and are designed to encourage visitors to form their own intellectual or emotional connections with the resource. Interpretive programs facilitate a connection between the interests of visitors and the meanings of the monument;
  - curriculum-based educational programs that link monument themes to national standards and state curricula and involve educators in planning and development. These programs include previsit and post visit materials, address different learning styles, include an evaluation mechanism, and provide learning experiences that are linked directly to clear objectives. Programs develop a thorough understanding of a monument's resources in individual, regional, national, and global contexts and of the monument's place within the national park system; and
  - interpretive media that provide visitors with relevant monument information and facilitate more in depth understanding of—and personal connection with—monument stories and resources. This media will be continually maintained for both quality of content and condition based upon established standards.
- The monument will integrate resource issues and initiatives of local and national importance into the interpretive and educational programs.
- Outreach services are an active part of a balanced visitor services program.
- To the extent possible, modifications for access will benefit the greatest number of visitors, staff, and the public, and be integrated with, or in proximity to, the primary path of travel for building entrances and from parking areas.
- Access to wilderness areas should balance the intent of access and wilderness laws and find a way of providing the highest level of protection to wilderness resources.
- To the highest extent possible, people with disabilities should be able to participate in the same programs and activities available to everyone else.
- In choosing methods for providing accessibility, higher priority will be given to those methods that offer programs and activities in the most integrated setting appropriate.
- Special, separate, or alternative facilities, programs, or services will be provided only when existing ones cannot reasonably be made accessible.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### SUSTAINABLE FACILITY DESIGN

#### POLICY GUIDANCE/ SOURCES:

Executive Order 12873,  
Executive Order 12902  
NPS Management Policies  
2006

#### DESIRED CONDITIONS:

- Administrative and visitor facilities are harmonious with monument resources, compatible with natural processes, aesthetically pleasing, functional, as accessible as possible to all segments of the population, energy efficient, and cost-effective.
- All decisions regarding operations, facilities management, and development in the monument—from the initial concept through design and construction—reflect principles of resource preservation. Thus, all monument developments and operations are sustainable to the maximum degree possible and practical.
- New developments and existing facilities are located, built, and modified according to the Guiding Principles of Sustainable Design or other similar guidelines.
- Biodegradable, nontoxic, and durable materials are used in the monument whenever possible.
- The reduction, use, and recycling of materials is promoted, while materials that are nondurable, environmentally detrimental, or that require transportation from great distances are avoided as much as possible.

#### MANAGEMENT DIRECTION/STRATEGIES:

- Whenever possible and authorized, major facilities - especially those that can be shared with other agencies - should be developed outside of monument boundaries.
- When structures and facilities are no longer functional in their present locations or are determined to be inappropriately placed in important resource areas they will be removed subject to appropriate compliance.
- The NPS will design, construct, and operate all buildings and facilities so they are accessible and useable by persons with disabilities to the greatest extent reasonable.
- When plans for meeting transportation needs are updated, a determination must be made as to whether the road system should be maintained as is, reduced, expanded, reoriented, eliminated, or supplemented by other means of travel.
- NPS staff will strive to make Lava Beds National Monument's facilities and programs sustainable.
- NPS staff will have a comprehensive understanding of their relationship to environmental leadership and sustainability.
- NPS staff will support and encourage the service of suppliers and contractors that follow sustainable practices.
- Energy usage will be monitored, and energy efficient practices and renewable energy sources would be promoted wherever possible.
- Interpretive programs will mention sustainable and nonsustainable practices. Visitors will be educated on the principles of environmental leadership and sustainability through exhibits and other interpretive media.
- Monument managers will perform value analysis and value engineering, including life cycle analysis, to examine the energy, environmental, and economic implications of proposed developments.
- NPS managers will measure and track environmental compliance and performance. Audits will ensure environmental compliance, emphasize best management practices, and educate employees at all levels about environmental management responsibilities.

## SERVICEWIDE LAWS, POLICIES AND DESIRED CONDITIONS

### PUBLIC HEALTH AND SAFETY

#### POLICY GUIDANCE/ SOURCES:

NPS Management Policies 2006, Director's Order 51 and RM-51 "Emergency Medical Services;" Director's Order 30 and RM-30 "Hazard and Solid Waste Management;" and OSHA 29CFR.

#### DESIRED CONDITIONS:

- While recognizing that there are limitations on its capability to totally eliminate all hazards, the National Park Service and its partners, contractors, and cooperators work cooperatively to provide a safe and healthful environment for visitors and employees while applying nationally accepted standards.
- Consistent with mandates and nonimpairment, the NPS staff reduces or removes known hazards or applies appropriate mitigating measures, such as closures, guarding, gating, education, and other actions.

#### MANAGEMENT DIRECTION/STRATEGIES:

- A documented safety program would be maintained in the monument to address health and safety concerns and identify appropriate levels of action and activities.
- Maintenance efforts would continue to ensure that all potable water systems and waste water systems in the monument would continue to meet state and federal requirements.
- Interpretive signs and materials would be provided as appropriate to notify visitors of potential safety concerns, hazards and procedures to help provide for a safe visit to the monument and to ensure visitors are aware of the possible risks of certain activities.
- NPS staff would continue to work with local emergency and public health officials to make reasonable efforts to assist lost persons and rescue sick, injured or stranded persons.
- NPS staff would make reasonable efforts to provide appropriate emergency medical services for persons who become ill or injured.

## Chapter Two: Foundation for Planning





# Chapter Two: Foundation for Planning

The monument's purpose - a foundation for planning and management

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## Introduction

Each unit of the National Park Service needs a formal statement of its core purpose to provide a basis for all decisions to be made about a park unit – a foundation for planning and management. The foundation statement records the shared understanding of the monument's purpose, significance, resources and values, primary interpretive themes, special mandates, and the legal and policy requirements.

The foundation for planning and management, called a foundation statement, is generally developed early in the general management planning process, as part of agency scoping and data collection for a GMP.

The foundation statement for Lava Beds National Monument was initiated during a planning team workshop held in the summer of 2005. It has been further refined throughout the GMP process. The foundation statement can be used in all aspects of management to ensure that the most important objectives are accomplished before turning to items that are also important but not directly critical to achieving the park purpose and maintaining its significance. A full copy of the foundation statement is available at the monument.

## Foundation Statement Components

### PARK PURPOSE

The park purpose is a statement of why Congress and/or the president established the park as a unit of the national park system. The purpose statement provides the most fundamental criteria against which the appropriateness of all planning recommendations, operational decisions, and actions are tested. The purpose of the monument is based upon its enabling legislation, establishment by presidential proclamation, and legislative history.

The purpose of Lava Beds National Monument is:

*To protect and interpret volcanic and natural features of scientific interest, and evidence of prehistoric and historic human settlement, use, and conflict*

### PARK SIGNIFICANCE

Park significance statements express why the park's resources and values are important enough to warrant national park designation. Statements of the park's

significance describe why the park is important within a global, national, regional, and system-wide context and are directly linked to the purpose of the park. A park's significance statements are substantiated by data or consensus and reflect the most current scientific or scholarly inquiry and cultural perceptions, which may have changed since the park's establishment.

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The purpose of  
Lava Beds National  
Monument is to protect  
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and natural features of  
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### Significance Statements

Lava Beds National Monument:

- Protects and interprets the largest concentration of lava tube caves in the continental U.S., along with unique environments and cave-dependent species.
- Protects and interprets outstanding, diverse, abundant, and well preserved lava flows, cinder cones, spatter cones, Maar volcanoes, and other volcanic features associated with the Medicine Lake shield volcano.
- Protects and interprets objects, sites, and the rugged volcanic setting associated with the 1872-73 Modoc War.

- Contains archeological evidence of human occupation extending back in time to the early Holocene (10,000 years to present), exceptional rock art consisting of regionally-distinctive petroglyphs and pictographs, and a setting of continued significance to Modoc people as a part of their traditional homeland.
- Provides a wilderness experience in the unique volcanic landscape of the Great Basin and Cascade ecosystems.
- Protects and manages native plant and animal species and processes representative of the transition zone for Great Basin and Cascade ecosystems.
- Outstanding, diverse, abundant, and well-preserved volcanic features at Lava Beds illustrate the powerful geologic history of a small portion of the Medicine Lake shield volcano, where activity is likely to occur again.
- Over half of Lava Beds is protected as wilderness, providing a primitive recreation experience in the unique volcanic landscape of the Great Basin and Cascade ecosystems.
- Native plants, animals, and processes are protected at Lava Beds, and provide important scientific and educational opportunities as surrounding landscapes continue to change.

### *Secondary Significance*

- Lava Beds contains sites and resources associated with homesteading and ranching, early cave exploration and use, the Civilian Conservation Corps, and park development.

### **PRIMARY INTERPRETIVE THEMES**

Primary interpretive themes are based upon park purpose and significance. They provide the foundation on which the park's educational and interpretive program is based. Primary interpretive themes connect park resources to relevant ideas, meanings, concepts, contexts, beliefs, and values. They support the desired interpretive outcome of increasing visitor understanding and appreciation of the significance of the monument's resources.

- Lava Beds' abundant lava tube caves offer outstanding opportunities for exploration and research in rare habitats.
- Lava Beds contains the majority of the battle sites of the Modoc War of 1872-1873, which tell the story of a conflict between two cultures that endured tragedy in order to defend or acquire land.
- Abundant archeological sites, exceptional petroglyphs and pictographs, and numerous sites of traditional significance provide a link between past residents and modern peoples throughout Lava Beds.



Lava tube cave entrance, NPS Photo

### *Secondary Interpretive Themes*

- In the early 20th century, homesteaders, ranchers, cave explorers, and bootleggers persevered through difficult conditions in the lava beds to fulfill independent visions for their lives.
- Most of Lava Beds' early infrastructure was built, largely by hand, by Civilian Conservation Corps enrollees stationed at Camp Lava Beds from 1935 to 1942, beginning the era of modern visitation and services.

### **FUNDAMENTAL RESOURCES AND VALUES**

Fundamental resources and values are the most important ideas or concepts to be communicated to the public about a park and merit primary consideration during planning and management because they are critical to achieving the monument's purpose and maintaining its significance. They may include systems, processes, features, visitor experiences, stories, scenes, sounds, smells or other resources and values. Fundamental resources and values provide a valuable focus throughout the planning process and the life of the plan. They are the reasons for data collection, planning issues, management prescriptions, impact assessments, and value analyses.

Other important resources and values or secondary significance statements are those that may not be fundamental to the purpose and significance but are nevertheless determined to be particularly important in general management planning.

Fundamental and other important resources and values, which are linked directly to the significance statements, are as follows.

#### *Fundamental Resources and Values of Lava Beds National Monument*

- **Cave structures, features, ecosystems and physical processes.** The monument currently has more than 700 documented significant caves, which have formed in the monument's basalt and andesite flows.
- **Volcanic features in the monument.** The volcanic landscape of Lava Beds National Monument contains a diverse assemblage of "textbook" examples of extensive igneous formations.
- **Historic landscape, sites, archeological features, and artifacts associated with the Modoc War.** Lava Beds National Monument contains the natural environment, viewsheds, artifacts, and structures associated with the Modoc War. The rugged volcanic setting of the national monument provides context to all events of the war; pre-war conflicts, battles, living conditions between battles (and therefore troop/Modoc preparedness). The end of the war would not have been the same in another landscape.
- **Archeological features and sites of past human habitation or use.** Lava Beds National Monument contains archeological evidence of human occupation extending back in time to the early Holocene (10,000 years to present), exceptional rock art consisting of regionally-distinctive petroglyphs and pictographs, artifacts, and a setting of continued significance to Modoc people as part of their traditional homeland.
- **Wilderness values, resources and character.** There are few locations in the west where one can experience unimpaired volcanic landscapes in a protected natural setting. Low volumes of visitor use in the national monument's wilderness allows for solitude and natural quiet. The rugged caves and surface terrain create opportunities for adventure and testing wilderness skills
- **Great Basin habitat for native plant and animals.** The Great Basin habitat contains a number of vegetation transitions from grassland to mid-elevation shrub woodland to pine forest. A full array of plant and animal species are found in these habitats.
- **Natural process of fire on the landscape.** Fire contributes to maintaining natural processes, restoration of the landscape, removal of exotic species, and improves habitats for sensitive species. Fire also benefits the monument's historic landscapes by maintaining and in some cases returning these areas back to their original habitats, found during the time of the events.
- **Paleontological resources reflecting the history of flora and fauna, climate change.** While most geologic resources are non-renewable, all paleontological phenomena are scarce, fragile, and extremely scientifically valuable.
- **Monument collections, archives, documents, research and inventories related to significant resources.** The monument maintains a broad body of literature, manuscripts, oral histories, artifacts, and other associated records related to its natural and cultural resources. These collections, archives, and documents provide important insight and information about the monument's significant resources and their scientific and interpretive value.
- **Public understanding, enjoyment and access to significant park features.** Visitors to Lava Beds National Monument have the opportunity to learn about and access rare and sensitive resources such as caves, artifacts, historical landscapes, and rock art. Providing a general understanding and appreciation of these resources within their local and regional setting helps to ensure their long-term conservation.

#### *Other Important Resources and Values*

- **Evidence of a built environment and landscape changes across the monument.** Historic use of the monument is associated with several nationally significant themes including Peopling Places (homesteading and ranching), Shaping the Political Landscape (government institutions, CCC, and early park development), and Developing the American Economy (CCC). Other locally (natural history) significant themes include cave exploration and active natural resource management (reintroduction of Big Horn sheep).

## SPECIAL MANDATES AND CONSTRAINTS

Often there are special mandates or constraints that direct park planning and management decisions. The special mandates are specific directions or agreements that relate directly to the park. Mandates might be a legislative requirement or signed agreements that add another dimension to a park's purpose and significance. Mandates include the designation of an area in the park as wilderness or as an area that is managed by another entity, or designating something of international significance such as a world heritage area or biosphere reserve. Mandates may also commit park managers to specific actions and limit their ability to modify land use in a park unit, such as long term cooperative agreements, or easements.

The legislative and administrative constraints for Lava Beds National Monument include the following:

### *Wilderness*

On October 13, 1972 legislation (P.L. 92-493) established the designation of 28,460 acres of Lava Bed's National Monument as wilderness. These areas established include the Callahan (Black) and Schonchin lava flows and their surroundings.



Lava flow in snow, NPS Photo

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More than 28,000 acres of designated wilderness at the monument protect wilderness values, including opportunities for solitude and a primitive and unconfined type of recreation.

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Wilderness Area, NPS Photo