



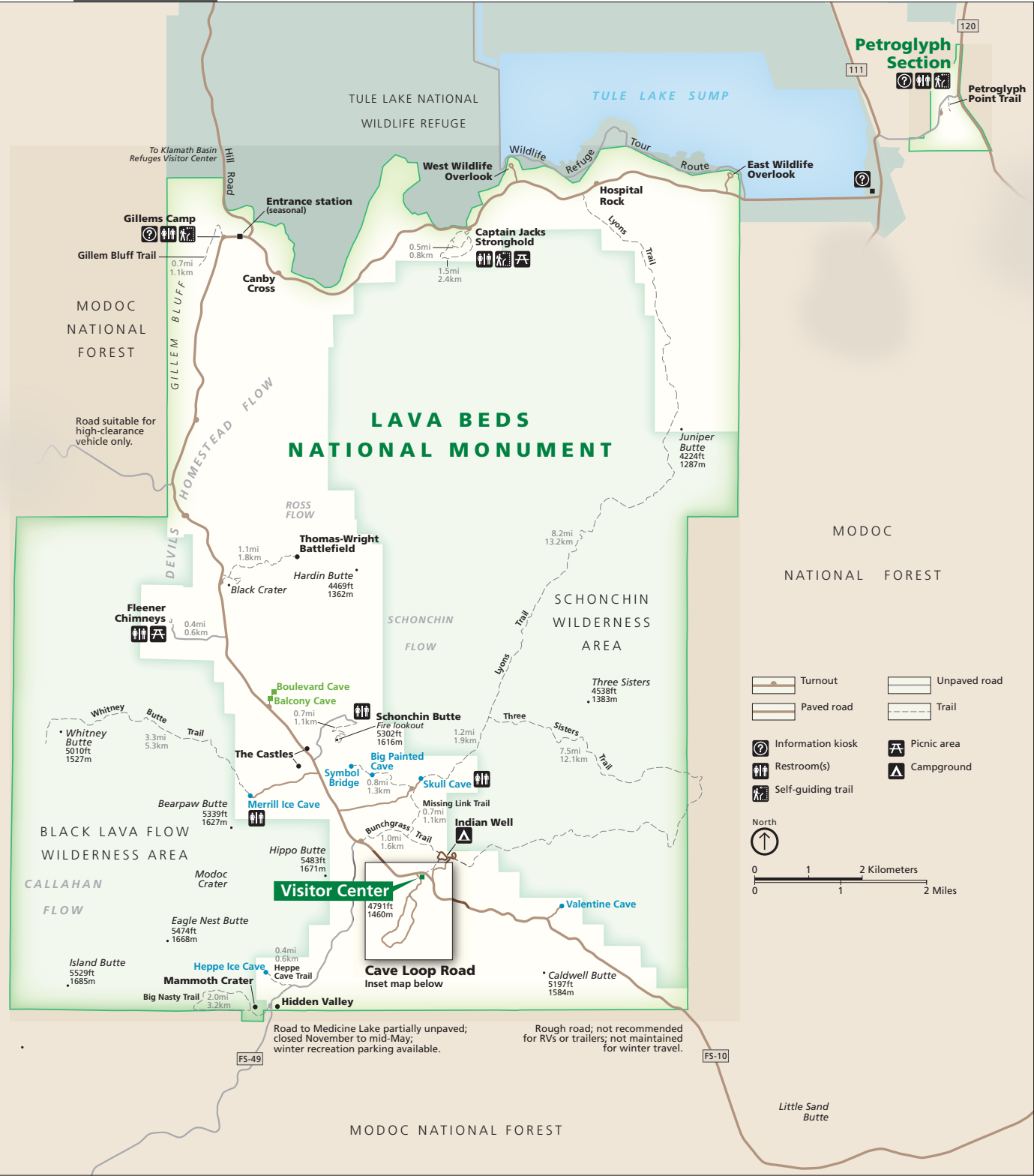
Foundation Document

Lava Beds National Monument

California

February 2017





Contents

Mission of the National Park Service	1
Introduction.	2
Part 1: Core Components	3
Brief Description of the Park.	3
Park Purpose	5
Park Significance	6
Fundamental Resources and Values	7
Other Important Resources and Values	8
Interpretive Themes	9
Part 2: Dynamic Components	10
Special Mandates and Administrative Commitments	10
Special Mandates.	10
Administrative Commitments.	10
Assessment of Planning and Data Needs	11
Analysis of Fundamental Resources and Values	11
Identification of Key Issues and Associated Planning and Data Needs	11
Planning and Data Needs.	12
High Priority Planning Needs	13
High Priority Data Needs	16
Part 3: Contributors.	21
Lava Beds National Monument	21
NPS Pacific West Region.	21
Other NPS Staff	21
Photo Credits	21
Appendixes	22
Appendix A: Presidential Proclamation and Legislative Acts for Lava Beds National Monument.	22
Appendix B: Related Federal Legislation and Executive Orders	26
Appendix C: Inventory of Administrative Commitments	27
Appendix D: Basics for Wilderness Stewardship	29
Appendix E: Past and Ongoing Park Planning Efforts	32



Mission of the National Park Service

The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The NPS core values are a framework in which the National Park Service accomplishes its mission. They express the manner in which, both individually and collectively, the National Park Service pursues its mission. The NPS core values are:

- **Shared stewardship:** We share a commitment to resource stewardship with the global preservation community.
- **Excellence:** We strive continually to learn and improve so that we may achieve the highest ideals of public service.
- **Integrity:** We deal honestly and fairly with the public and one another.
- **Tradition:** We are proud of it; we learn from it; we are not bound by it.
- **Respect:** We embrace each other's differences so that we may enrich the well-being of everyone.

The National Park Service is a bureau within the Department of the Interior. While numerous national park system units were created prior to 1916, it was not until August 25, 1916, that President Woodrow Wilson signed the National Park Service Organic Act formally establishing the National Park Service.

The national park system continues to grow and comprises more than 400 park units covering more than 84 million acres in every state, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management to ensure both the protection and enjoyment of these resources for future generations.



The arrowhead was authorized as the official National Park Service emblem by the Secretary of the Interior on July 20, 1951. The sequoia tree and bison represent vegetation and wildlife, the mountains and water represent scenic and recreational values, and the arrowhead represents historical and archeological values.

Introduction

Every unit of the national park system will have a foundational document to provide basic guidance for planning and management decisions—a foundation for planning and management. The core components of a foundation document include a brief description of the park as well as the park’s purpose, significance, fundamental resources and values, other important resources and values, and interpretive themes. The foundation document also includes special mandates and administrative commitments, an assessment of planning and data needs that identifies planning issues, planning products to be developed, and the associated studies and data required for park planning. Along with the core components, the assessment provides a focus for park planning activities and establishes a baseline from which planning documents are developed.

A primary benefit of developing a foundation document is the opportunity to integrate and coordinate all kinds and levels of planning from a single, shared understanding of what is most important about the park. The process of developing a foundation document begins with gathering and integrating information about the park. Next, this information is refined and focused to determine what the most important attributes of the park are. The process of preparing a foundation document aids park managers, staff, and the public in identifying and clearly stating in one document the essential information that is necessary for park management to consider when determining future planning efforts, outlining key planning issues, and protecting resources and values that are integral to park purpose and identity.

While not included in this document, a park atlas is also part of a foundation project. The atlas is a series of maps compiled from available geographic information system (GIS) data on natural and cultural resources, visitor use patterns, facilities, and other topics. It serves as a GIS-based support tool for planning and park operations. The atlas is published as a (hard copy) paper product and as geospatial data for use in a web mapping environment. The park atlas for Lava Beds National Monument can be accessed online at: <http://insideparkatlas.nps.gov/>.



Part 1: Core Components

The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, other important resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in future planning and management efforts.

Brief Description of the Park

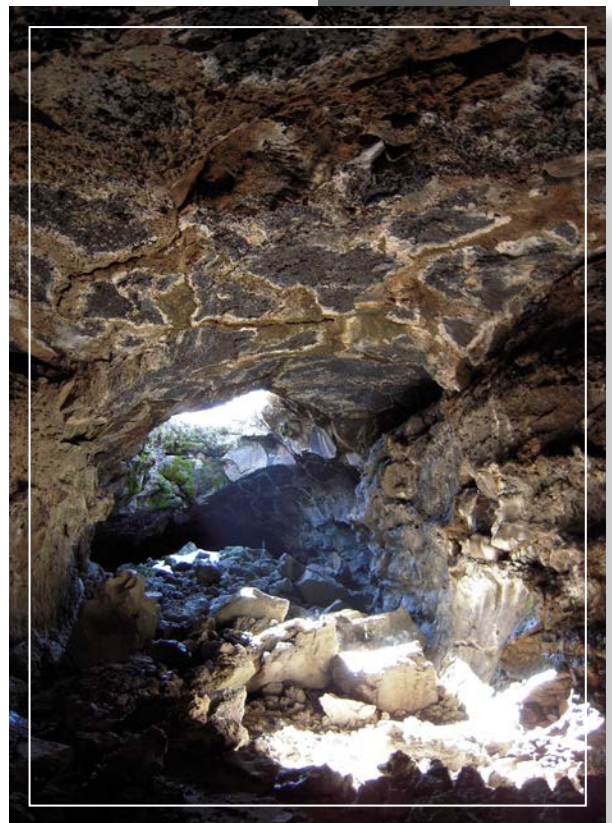
President Calvin Coolidge established Lava Beds National Monument by presidential proclamation on November 21, 1925 (Presidential Proclamation 1755, 44 Stat 2591). The monument was initially managed as part of Modoc National Forest. The National Park Service assumed responsibility for its management in 1933 as directed by Executive Order No. 6166, which transferred responsibility for management of Lava Beds and other national monuments to the National Park Service. A second presidential proclamation in 1951 transferred lands at Petroglyph Point to Lava Beds National Monument from the Bureau of Land Management. This detached unit is approximately 2 miles east of the main body of the monument.

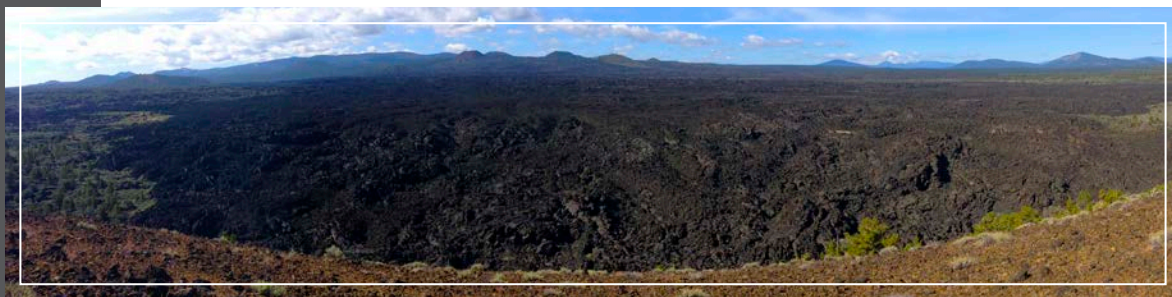
The 46,692-acre monument is in northeastern California, approximately 155 miles northeast of Redding, California, and 45 miles southeast of Klamath Falls, Oregon. Ninety-four percent of the monument lies within Siskiyou County, while the rest is in Modoc County. The monument is bordered by Modoc National Forest, Klamath National Forest, Tule Lake National Wildlife Refuge, Bureau of Reclamation and Bureau of Land Management land, as well as private lands.

Primary access to Lava Beds National Monument is from the north, over paved Siskiyou and Modoc County roads, which connect with California State Routes 161 and 139. Both roads are open year-round. From the south, access is via two Modoc National Forest roads that, in turn, connect to the state highway system. Of these two roads, the Medicine Lake Road is partly paved and is closed from late fall to late spring due to heavy winter snow. The other Modoc National Forest road (Forest Service Route 10) is paved but in poor condition and may also be closed during heavy winter snows.

The region in and around the monument is unique and diverse. It lies near the junction of the Modoc Plateau, Cascade Mountains, and Basin and Range geologic provinces and reflects those influences in its landscapes and ecosystems. The monument encompasses a small 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.

Numerous lava tube caves, American Indian rock art sites, historic battlefields and campsites, natural scenery, dramatic night sky viewing, and a high desert wilderness experience are the main attractions at Lava Beds National Monument. Volcanic phenomena are 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 nondestructive visitor exploration of these caves and other volcanic features. The northern margin of the monument is generally defined by the limits of recent lava flows and the corresponding historic shoreline of Tule Lake. While Tule Lake has been significantly altered by reclamation activities beginning in 1905, it continues to function as an important stop on the Pacific Flyway for migratory birds, drawing a variety of bird species to the monument.





The monument contains a range of vegetation communities, including ponderosa pine forest, juniper woodland, and sagebrush/bunchgrass steppe. Portions of the monument's northern boundary border the Tule Lake sump wetland margin. These areas provide habitat for a wide range of animal species including mammals, birds, amphibians, reptiles, and arthropods such as above-ground insects and cave invertebrates. The monument provides habitat for at least 14 bat species, including the Townsend's big-eared bat, which is listed as a California Species of Special Concern. Although the bat's population is declining in most areas, survey data indicate 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 and the monument itself contains archeological evidence of human occupation extending back roughly 10,000 years. Tule Lake's pre-1900s 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 lake-associated and upland animal and plant species.

By the early 1870s, as European settlement moved westward, conflicts between cultures escalated, culminating locally in the Modoc Indian War of 1872–1873. During this conflict, members from a band of Modoc took refuge within what is now called “Captain Jack’s Stronghold.” The rugged lava flows provided protection in the form of trenches and rock outcroppings that provided effective fortification and cover from mortar fire, as well as small residential shelters from U.S. Army assaults. After their defeat in the Modoc War, some of the Modoc were forcibly removed to Oklahoma, but many remained in northern California and southern Oregon among tribal neighbors such as the Klamath and Northern Paiute. American Indian tribes currently associated with Lava Beds National Monument and the surrounding areas include the Modoc Tribe of Oklahoma and The Klamath Tribes (Klamath, Modoc, and Yahooskin). The preservation of sites at Lava Beds National Monument offers a continued connection to the history and culture of these groups, and provides a touchstone for contemporary Modoc people and tribes with ties to the area.

A host of intriguing characters populate the early modern history of Lava Beds, including J. D. Howard, a cave explorer who assisted in the effort to obtain federal protection of the lava beds; homesteading families who ran sheep and an underground ice skating business; and moonshiners who set up stills in the remote caves during Prohibition. Like most NPS sites operating during the Great 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, much of which visitors can still enjoy today. In the late 1950s and through the 1960s the infrastructure of Lava Beds National Monument was further expanded during the NPS 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 units, totaling 28,460 acres within the monument, were designated wilderness by Congress under Public Law 92-493. The resulting Lava Beds Wilderness Area currently represents 61% of the monument's total land area. The sense of solitude, natural quiet, scenic views, and dark night skies associated with the wilderness areas are highly valued by visitors.

Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park unit. The purpose statement for Lava Beds National Monument was drafted through a careful analysis of its enabling legislation and the legislative history that influenced its development. The monument was established by President Calvin Coolidge via presidential proclamation on November 21, 1925, and its purpose was expanded in 1951 by President Harry S Truman under Presidential Proclamation 2925 (April 27, 1951). Truman's proclamation stated that public interest would be promoted by adding to Lava Beds National Monument the prehistoric carvings at Petroglyph Point and the contribution of the geologic interpretation of Mammoth Crater (see appendix A for presidential proclamations and legislative history). The purpose statement lays the foundation for understanding what is most important about the park.

LAVA BEDS NATIONAL MONUMENT protects and interprets volcanic and natural features of scientific interest associated with the Medicine Lake Volcano, and evidence of prehistoric and historic human settlement, use, and conflict.

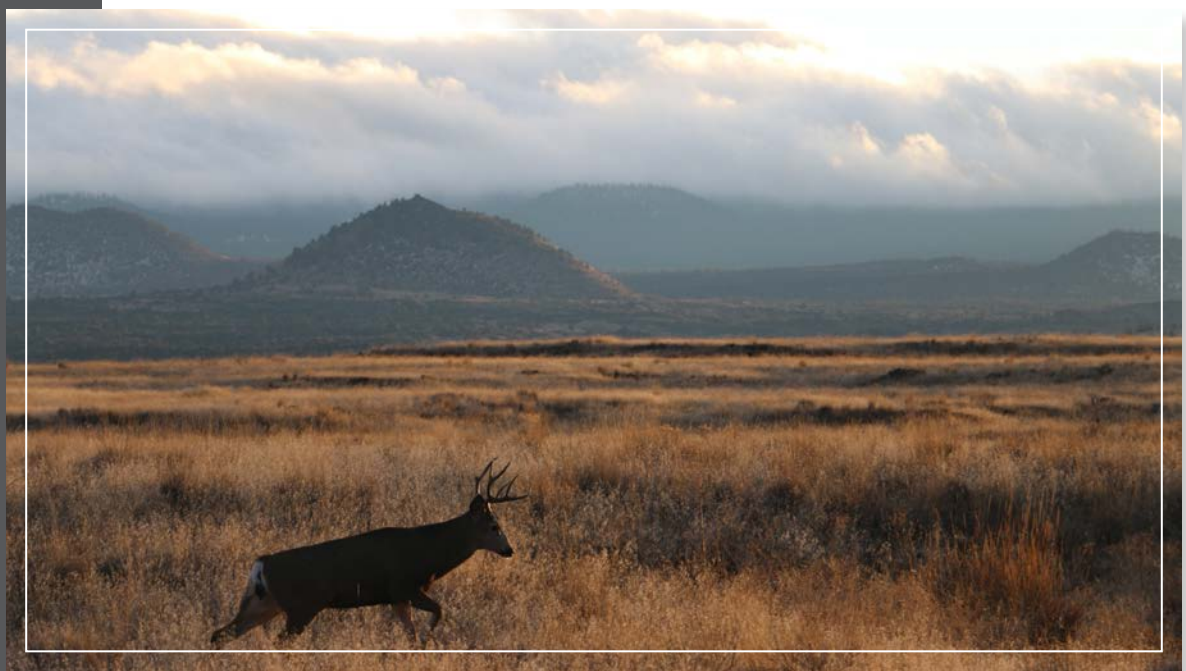


Park Significance

Significance statements express why a park's resources and values are important enough to merit designation as a unit of the national park system. These statements are linked to the purpose of Lava Beds National Monument, and are supported by data, research, and consensus. Statements of significance describe the distinctive nature of the park and why an area is important within a global, national, regional, and systemwide context. They focus on the most important resources and values that will assist in park planning and management.

The following significance statements have been identified for Lava Beds National Monument. (Please note that the sequence of the statements does not reflect the level of significance.)

1. Lava Beds National Monument protects and interprets the largest concentration of lava tube caves in the continental United States, along with unique cave environments and cave-dependent species.
2. Lava Beds National Monument contains 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.
3. Lava Beds National Monument protects and interprets objects, sites, and the rugged volcanic setting associated with the 1872–73 Modoc War.
4. 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, and a setting of continued significance to Modoc people as a part of their traditional homeland.
5. The unique volcanic landscape of the Great Basin and Cascade ecosystems within Lava Beds National Monument provides an exceptional wilderness experience.
6. Natural processes and native plant and animal species representative of the transition zone for Great Basin and Cascade ecosystems are protected and managed within Lava Beds National Monument.



Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. Fundamental resources and values are closely related to a park's legislative purpose and are more specific than significance statements.

Fundamental resources and values help focus planning and management efforts on what is truly significant about the park. One of the most important responsibilities of NPS managers is to ensure the conservation and public enjoyment of those qualities that are essential (fundamental) to achieving the purpose of the park and maintaining its significance. If fundamental resources and values are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

The following fundamental resources and values have been identified for Lava Beds National Monument:

- **Lava Tube Cave Environment.** The monument currently has more than 750 documented caves, which have formed in the monument's basalt and andesite flows.
- **Volcanic Landscape.** The volcanic landscape of Lava Beds National Monument contains a diverse assemblage of "textbook" examples of extensive igneous formations.
- **Historic Landscape of the Modoc War 1872–73.** Lava Beds National Monument contains the natural setting, views, artifacts, and structures associated with the Modoc War. The rugged volcanic setting of the national monument provides context to both prewar events and events of the war such as battles, wartime living conditions, and the relative preparedness of the Modoc versus military troops. The war would not have progressed in the same way in a different landscape.
- **Archeological Resources.** 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 and Backcountry.** There are few locations in the West where one can experience unimpaired volcanic landscapes in a protected natural setting. Lava Beds National Monument's wilderness features exceptional dark night skies, clear views, peaceful solitude, and natural quiet. The rugged caves and surface terrain create opportunities for adventure and testing wilderness skills.
- **Native Ecosystems and Processes.** Lava Beds National Monument lies near the junction of the Modoc Plateau, Cascade Mountains, and Basin and Range geologic provinces and reflects those influences in its landscapes and ecosystems. The monument contains a number of vegetation transitions from grassland to mid-elevation shrub woodland to pine forest. A diverse array of plant and animal species are found in these habitats.
- **Public Understanding, Enjoyment, and Access to Significant Park Features.** Visitors to Lava Beds National Monument have the opportunity to experience solitude and to learn about and access unique 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

Lava Beds National Monument contains other resources and values that are not fundamental to the purpose of the park and may be unrelated to its significance, but are important to consider in planning processes. These are referred to as "other important resources and values" (OIRV). These resources and values have been selected because they are important in the operation and management of the park and warrant special consideration in park planning.

The following other important resources and values have been identified for Lava Beds National Monument:

- **Collections.** 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.
- **Early Use and Development from 1873.** Lava Beds National Monument contains sites and resources associated with homesteading and ranching, early cave exploration and use, the Civilian Conservation Corps, and park development.

Interpretive Themes

Interpretive themes are often described as the key stories or concepts that visitors should understand after visiting a park—they define the most important ideas or concepts communicated to visitors about a park unit. Themes are derived from, and should reflect, park purpose, significance, resources, and values. The set of interpretive themes is complete when it provides the structure necessary for park staff to develop opportunities for visitors to explore and relate to all park significance statements and fundamental and other important resources and values.

Interpretive themes are an organizational tool that reveal and clarify meaning, concepts, contexts, and values represented by park resources. Sound themes are accurate and reflect current scholarship and science. They encourage exploration of the context in which events or natural processes occurred and the effects of those events and processes. Interpretive themes go beyond a mere description of the event or process to foster multiple opportunities to experience and consider the park and its resources. These themes help explain why a park story is relevant to people who may otherwise be unaware of connections they have to an event, time, or place associated with the park.

The following interpretive themes have been identified for Lava Beds National Monument:

- Lava Beds National Monument’s abundant lava tube caves offer outstanding opportunities for exploration and research in rare habitats.
- Lava Beds National Monument 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 National Monument.
- Outstanding, diverse, abundant, and well-preserved volcanic features at Lava Beds National Monument illustrate the powerful geologic history of a small portion of the Medicine Lake shield volcano, where activity is likely to occur again.
- More than half of Lava Beds National Monument is protected as wilderness, providing a primitive recreation experience within a pristine environment in the unique volcanic landscape of the Great Basin and Cascade ecosystems.
- Native plants, animals, and processes are protected at Lava Beds National Monument, and provide important scientific and educational opportunities as surrounding landscapes continue to change.
- Between the end of the Modoc War and the establishment of the national monument in 1925, homesteaders, ranchers, cave explorers, and bootleggers persevered through harsh conditions in the lava beds and surrounding area to fulfill independent visions for their lives.
- Since the establishment of the national monument in 1925, the era of modern visitation and services has been facilitated by federal programs such as the Public Works Administration, a Civilian Conservation Corps camp, and the NPS Mission 66 initiative.



Part 2: Dynamic Components

The dynamic components of a foundation document include special mandates and administrative commitments and an assessment of planning and data needs. These components are dynamic because they will change over time. New special mandates can be established and new administrative commitments made. As conditions and trends of fundamental and other important resources and values change over time, the analysis of planning and data needs will need to be revisited and revised, along with key issues. Therefore, this part of the foundation document will be updated accordingly.

Special Mandates and Administrative Commitments

Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand on park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memorandums of agreement. Examples include easements, rights-of-way, arrangements for emergency service responses, etc. Special mandates and administrative commitments can support, in many cases, a network of partnerships that help fulfill the objectives of the park and facilitate working relationships with other organizations. They are an essential component of managing and planning for Lava Beds National Monument.

Special Mandates

- **Wilderness.** On October 13, 1972, legislation (PL 92-493) established the designation of 28,460 acres of Lava Beds National Monument as wilderness. The two areas established surround the Callahan (Black) and Schonchin lava flows (please see appendix A for wilderness legislation).
- **Class I Clean Air.** Lava Beds National Monument is designated a Class I park under the Clean Air Act of 1977, as amended. Under section 169A, “Congress declares as a national goal the prevention of any existing impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.” The Clean Air Act bestows an “affirmative responsibility” on the federal land managers to protect these areas from the adverse effects of air pollution. Superintendents are charged with taking management actions consistent with this affirmative responsibility by integrating air resource management into NPS operations and planning. Specifically, the federal land manager is to identify and protect resources sensitive to air pollution, called Air Quality Related Values, including visibility.

Administrative Commitments

For more information about the existing administrative commitments for Lava Beds National Monument, please see appendix C.

Assessment of Planning and Data Needs

Once the core components of part 1 of the foundation document have been identified, it is important to gather and evaluate existing information about the park's fundamental and other important resources and values, and develop a full assessment of the park's planning and data needs. The assessment of planning and data needs section presents planning issues, the planning projects that will address these issues, and the associated information requirements for planning, such as resource inventories and data collection, including GIS data.

There are three sections in the assessment of planning and data needs:

1. analysis of fundamental and other important resources and values
2. identification of key issues and associated planning and data needs
3. identification of planning and data needs (including spatial mapping activities or GIS maps)

The analysis of fundamental and other important resources and values and identification of key issues leads up to and supports the identification of planning and data collection needs.

Analysis of Fundamental Resources and Values

The fundamental resource or value analysis table includes current conditions, potential threats and opportunities, planning and data needs, and selected laws and NPS policies related to management of the identified resource or value. The analysis of fundamental resources and values is not included in this foundation document. In-depth descriptions and analysis of Lava Beds National Monument's fundamental resources and values are included in the affected environment chapter of the *Lava Beds National Monument General Management Plan and Environmental Assessment*, which was published in draft form in 2010 and finalized in 2011, and in the *Lava Beds National Monument Resource Stewardship Strategy* completed in 2012.

Identification of Key Issues and Associated Planning and Data Needs

This section considers key issues to be addressed in planning and management and therefore takes a broader view over the primary focus of part 1. A key issue focuses on a question that is important for a park. Key issues often raise questions regarding park purpose and significance and fundamental and other important resources and values. For example, a key issue may pertain to the potential for a fundamental and other important resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions that are not directly related to purpose and significance, but which still affect them indirectly. Usually, a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

Key park issues are identified and described in the Lava Beds National Monument general management plan (2011). Input on park issues was gathered from NPS staff, stakeholders, and the general public. Issue topics include: access and transportation, climate change and sustainability, cultural resources, education and interpretation, facilities, visitor services and use, monument boundary and adjacent lands, museum collections, natural resources, regional cooperation and partnerships, tribal use, and wilderness. This assessment of planning and data needs prioritizes the list of plans, studies, and data needs included in the general management plan, as well as additional planning and data needs for implementing the general management plan.



Planning and Data Needs

To maintain connection to the core elements of the foundation and the importance of these core foundation elements, the planning and data needs listed here are directly related to protecting fundamental resources and values, park significance, and park purpose, as well as addressing key issues. To successfully undertake a planning effort, information from sources such as inventories, studies, research activities, and analyses may be required to provide adequate knowledge of park resources and visitor information. Such information sources have been identified as data needs. Geospatial mapping tasks and products are included in data needs.

Items considered of the utmost importance were identified as high priority, and other items identified, but not rising to the level of high priority, were listed as either medium- or low-priority needs. These priorities inform park management efforts to secure funding and support for planning projects.

Criteria and Considerations for Prioritization. The following criteria were used to evaluate the priority of each planning or data need:

- Implements actions in the general management plan, resource stewardship strategy, and/or strategic plans
- Has broad implications and addresses multiple interrelated issues
- Emergency or urgency of the issue
- Protects fundamental resources and values or prevents resource degradation
- Enhances visitor experience or understanding
- Leverages opportunities, including interagency partnership or other assistance
- Feasibility of completing the plan or study

High Priority Planning Needs

Cave Management Plan (update).

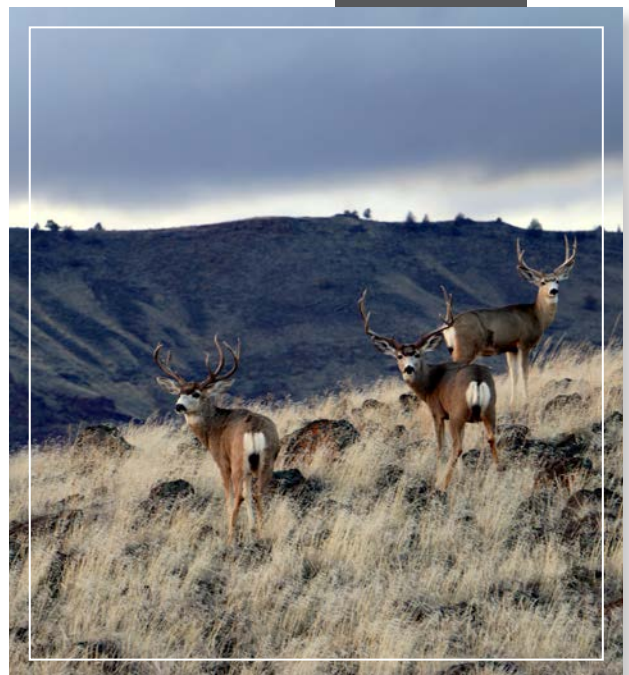
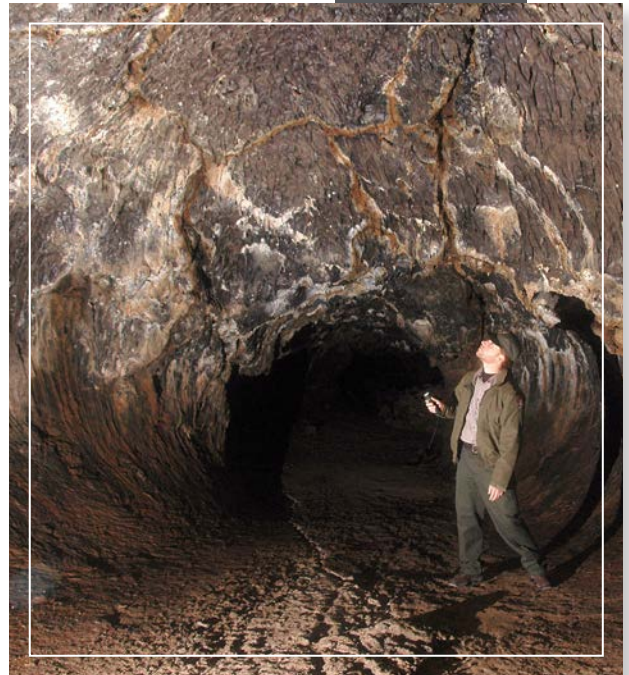
Rationale — Caves have unique environments that are extremely fragile. The caves of Lava Beds National Monument are vulnerable to a wide range of threats stemming from direct visitor impact to changes in climate. Improved access to remote sensing technology makes pristine backcountry caves increasingly easy to locate and explore. A cave management plan would guide protection of these fundamental resources, which were identified during the monument's establishment, and which are of primary interest to both researchers and park visitors. The revision of the monument's 1999 cave management plan is identified as a primary need in the 2011 general management plan, the 2012 resource stewardship strategy, and the *Lava Beds National Monument 2015–2019 Five-Year Strategic Plan* (strategic plan).

Scope — The cave management plan would provide long-term management strategies and set resource condition goals for the monument's caves. These management strategies would identify opportunities for visitors to experience the caves in Lava Beds National Monument, while working to protect the natural and cultural resources within. Partnership opportunities would also be explored through the planning process.

Data Management Plan.

Rationale — Monument data are a critical resource and form the foundation of decision-making and management, including setting project and funding priorities. Ad hoc data management leads to a substantial archiving burden, and often results in data loss. This plan would increase efficiencies across all divisions and improve monument operations. This planning need is identified in the 2011 general management plan, 2012 resource stewardship strategy, and current strategic plan.

Scope — The data management plan would adhere to servicewide data management standards and guidelines in outlining a structure for the organization of all monument data. The plan would address monument records, digital imagery, and the archiving of digital data including historic photos and rock art photos. The plan would also determine appropriately accessible locations to store these data, such that staff can reasonably find and retrieve data when needed. This would include identification of a monumentwide file structure. Records and electronic information management best management practices would be identified. The plan could also address other important documentation such as Facility Management Software Systems (database), financial business management systems, emergency medical services, and green purchasing.

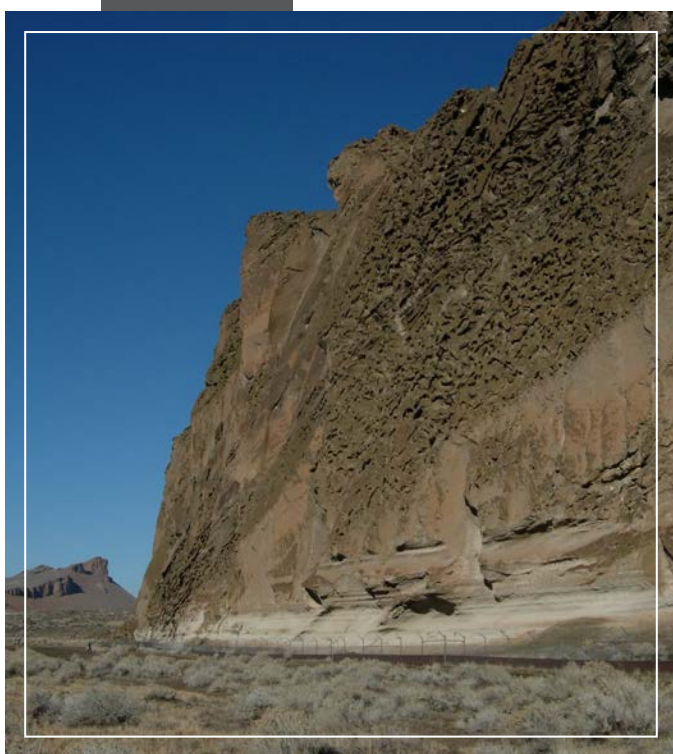




Night Sky Plan.

Rationale — The monument’s night sky is arguably one of the best natural dark experiences offered in the national park system. The night sky plan would provide comprehensive guidance for protection of the night sky and explore opportunities for visitors to learn about and enjoy night skies. For example, one of the most accessible locations for visitors to view the night sky is a former road alignment that was used to access the monument’s old dump site. The night sky plan could explore use of the old road bed for a night sky trail, providing a new opportunity for visitors in an underused area of the monument.

Scope — This plan would explore opportunities to create awareness about night sky, identify potential visitor and partnership opportunities, and outline best management practices for outdoor lighting. The plan would address night sky resource monitoring, access, trail design, and interpretive opportunities.



Petroglyph Point Site Plan.

Rationale — The Petroglyph Point unit, about a 40-minute drive from park headquarters, contains sensitive petroglyphs and archeological resources. Issues at this location include impacts on petroglyphs as a result of vandalism and erosion, disturbance to cliff-nesting wildlife, and lack of a cohesive visitor experience. Petroglyph Point is also affected by dust from traffic that traverses a local road that bisects the site. Previous park planning documents such as the 2011 general management plan, 2012 resource stewardship strategy, and the recent park strategic plan have identified the need for comprehensive site planning to resolve some of the issues facing this location.

Scope — The site plan would address visitor circulation, educational opportunities, accessibility, protection of sensitive resources, and vulnerability of site resources to climate change and natural processes such as erosion. The plan would probably involve partnership and coordination with the U.S. Fish and Wildlife Service and adjacent landowners. The scope would be broad, encompassing several divisions and projects.

Trail Management Plan.

Rationale — The monument does not have a trail management plan. Comprehensive trail system planning has great potential to enhance the visitor experience. Opportunities exist to enhance pedestrian connections between visitor areas, provide more accessible trails, create interpretive trail opportunities, and address unnecessary established and social trails. This plan is identified as a priority in the 2011 general management plan, 2012 resource stewardship strategy, and current strategic plan.

Scope — The trail management plan would identify objectives and strategies to guide the development, protection, management, maintenance, and use of the trail system within the monument over the next 15 years to meet new challenges and opportunities. The suitability of existing and proposed trail locations would be evaluated.



White-Nose Syndrome Response Plan (update).

Rationale — Lava Beds National Monument has implemented a white-nose syndrome response plan to reduce the risk of introducing this devastating bat disease into monument caves through human-assisted means, that is, by visitors using contaminated cave gear in monument caves. Lava Beds National Monument is home to 14 species of bats and protects some of the largest and most significant bat populations in all of California and the Pacific Northwest. White-nose syndrome is a frequently fatal disease that affects many hibernating bat species and has the potential to severely impact vulnerable bat populations at the monument. Therefore, the potential introduction of white-nose syndrome represents a serious threat to a critical component of both the cave and terrestrial ecosystems.

The existing response plan was completed in 2012. A plan update is needed to address ongoing movement of white-nose syndrome around the globe and across North America. The disease, first detected in New York state in 2006, has moved steadily westward over the past 10 years. In March 2016, an infected bat was found in the state of Washington, which represented a 1,300-mile westward ‘jump’ from previously known 2015 occurrences. The unexpected and unfortunate detection of the disease in Washington highlights the importance of being prepared and having response plans in place.

Scope — The monument’s white-nosed syndrome response plan uses adaptive management principles to develop or modify outreach, education, and management action in response to new research concerning the disease and new information about the method and extent of its spread. The plan update would consider new techniques for detection of infestation and decontamination of caving gear.





High Priority Data Needs

Cave Database and Monitoring.

Rationale and Scope — Caves are the most used and impacted resource at the monument. The continuation of cave mapping and the completion of a cave database and long-term monitoring protocol are critical for protection of these fundamental resources because these data would inform management strategies governing operations and visitor use. The cave database and monitoring protocol would include data related to ambient conditions, cultural resources, hibernacula, bat maternity colonies, the history of cave exploration and development, cave entrance communities, ferns, cave infrastructure assessments, cave formations, and cave inscriptions. All data captured would be used to make management decisions.

Cultural Resources Inventory (includes historic buildings/structures, roads, trails, corridors, circulation features).

Rationale and Scope — It is difficult to protect, promote, and inform management and visitors about fundamental resources and values with incomplete information. This inventory would have broad effects on management decisions for structures, trails, roads, etc. These data would also help define needs for cyclic maintenance. Cultural resource inventories are required by NPS guidelines and legislation, and are called for in the monument's 2011 general management plan, current strategic plan, and 2012 resource stewardship strategy.

Night Sky and Acoustic Resource Inventory and Monitoring.

Rationale and Scope — The monument has collected night sky and acoustic resource data in 2014. These parameters should be periodically measured to identify changes over time. Anecdotal evidence indicates that the monument's spectacular night sky has been degraded as a result of surrounding development in recent years. Data collection would allow staff to assess the source, direction, and magnitude of this change, as well as pursue targeted external partnerships to halt and/or mitigate degradation of this resource. This data need would inform the development and implementation of the night sky plan.

National Register of Historic Places Eligibility Determinations.

Rationale and Scope — Lava Beds National Monument has numerous historic buildings and structures included on the park's List of Classified Structures database for which National Register of Historic Places eligibility determinations have not been completed. These features include the superintendent's residence, service station (gas and oil house), garage/shop (operations building), Indian well pump house, Schonchin Butte fire lookout, and 18 rustic picnic tables. This documentation is required by the National Historic Preservation Act and NPS policies and guidelines and is necessary to inform monument management decisions.

Petroglyphs Damage Assessment and Monitoring.

Rationale and Scope — Petroglyphs are being lost, and monitoring would help monument staff understand future protection, preservation, and maintenance needs. This information would provide needed data for the Petroglyph Point site plan and also improve staff understanding of how to interpret this resource to the public.

Visitor Use Data (wilderness and caves).

Rationale and Scope — Visitor use data would improve staff understanding of visitor use patterns and could help predict future use. Visitor use data has implications for nearly all management decisions.



Summary of Planning and Data Needs		
Planning or Data Needs	Priority (H, M, L)	Notes
Natural Resources		
Plans		
Cave management plan	H	
Night sky plan	H	
White-nose syndrome response plan (update)	H	Recent 2015 detections in China and U.S. indicate a review/revision is necessary.
Hazard tree management plan (update)	M	
Resource stewardship strategy (update)	M	Integrate climate change considerations.
Fire management plan (7-year update)	M	Waiting for direction on how to make conversion to new spatial fire management plan format.
Integrated pest management plan	M	
Monarch butterfly habitat plan	M	Presidential Memorandum to Protect Pollinators, June 20, 2014.
Planning for adaptation to climate change	M	Integrate climate change considerations into all relevant planning needs.
Vegetation management plan	M	
Visual resource management plan	M	
Weed management plan	M	Integrate climate change considerations.
Wilderness stewardship plan update	M	
Data Needs and Studies		
Acoustic resource inventory and monitoring	H	Includes vibration monitoring in caves.
Cave database and long-term monitoring protocol	H	
Night sky assessment and monitoring	H	
Amphibian monitoring	M	
Grazing history	M	
Hazard tree assessment	M	Annual assessment and treatment.
LIDAR documentation (baseline, east side)	M	
Microbial mat assessment	M	Refers to evaluation of microbial communities located on cave walls.
Moss and lichen inventory	M	
Faunal resources radiocarbon dating	M	
Pika monitoring	M	

Summary of Planning and Data Needs		
Planning or Data Needs	Priority (H, M, L)	Notes
Natural Resources		
Data Needs and Studies (continued)		
Soil survey	M	
Vegetation communities inventory (including sagebrush, old growth juniper)	M	
Visual resource inventory	M	
Volcanic features inventory	M	
Wildlife corridor assessment	M	
Wilderness character narrative	M	
Cultural Resources		
Plans		
Museum management plans (update)	M	Includes collections storage planning.
Rock art management plan	M	Includes panel protection.
Tribal consultation plan	M	
Data Needs and Studies		
Cultural resources inventory	H	Includes historic buildings/structures, roads, trails, corridors, and circulation features.
National Register of Historic Places eligibility determinations	H	
Petroglyphs damage assessment and monitoring	H	
Archeological overview and assessment	M	
Archeological surveys	M	
Cultural affiliation study	M	
Cultural landscape inventory – Bureau of Reclamation activities on adjacent lands	M	
Cultural landscape inventories <ul style="list-style-type: none"> • Headquarters • Civilian Conservation Corps • Mission 66 	M	
Cultural landscape inventory – Lava Beds Civilian Conservation Corps	M	
Cultural landscape inventory – Modoc War (update)	M	

Summary of Planning and Data Needs		
Planning or Data Needs	Priority (H, M, L)	Notes
Cultural Resources		
Data Needs and Studies (continued)		
Cultural resources condition assessments	M	
Ethnographic overview and assessment	M	
Administration and Operations		
Plans		
Data management plan	H	
Climate Friendly Parks Program	M	Would consider vehicles.
Communication strategy	M	
Continuity of operations plan	M	Would also include relevant needs assessments including: emergency medical needs assessment, law enforcement needs assessment, search and rescue assessment.
Employee wellness plan	M	
Road maintenance plan	M	
Space plan	M	Includes reuse of structures.
Structural fire plan	M	
Data Needs and Studies		
Boundary assessment (encroachment)	M	
Visitor Experience		
Plans		
Petroglyph Point site plan	H	
Trail management plan	H	
Captain Jack's Stronghold site plan	M	
Hardin Butte site plan (restoration)	M	
North monument area site plan	M	
Schonchin Butte site plan	M	Would include restoration, interpretation, and preservation.
Data Needs and Studies		
Visitor use data (wilderness, caves)	H	

See appendix E for recently completed and ongoing planning and data collection efforts that address park issues.

Part 3: Contributors

Lava Beds National Monument

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Amy Collier, Management Assistant
David Hansen, Chief Ranger
Jessica Middleton, Chief of Cultural Resources Management
Nancy Nordensten, Chief of Natural Resources Management
Patrick Taylor, Chief of Visitor Services
Alicia Watson, Chief of Administration
Garry Wedmore, Facilities and Maintenance Work Leader
Larry Whalon, Superintendent

NPS Pacific West Region

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Appendixes

Appendix A: Presidential Proclamation and Legislative Acts for Lava Beds National Monument

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

WHEREAS, lands of the United States within the area hereinafter described in the State of California contain objects of such historic and scientific interest as to justify their reservation and protection as a National Monument;

NOW, THEREFORE, I, CALVIN COOLIDGE, President of the United States of America, by virtue of the power in me vested by Section 2 of the Act of Congress approved June 8, 1906 (34 Stat., 225), entitled, "An Act For the preservation of American antiquities", do proclaim that there are hereby reserved from all forms of appropriation under the public land laws, subject to all prior valid adverse claims, and set apart as the Lava Beds National Monument, all tracts of land owned by the United States in the State of California lying within the area described as follows:

Beginning at the quarter section corner on the east side of Section thirteen, Township forty-six North, Range three East, Mount Diablo Meridian; thence running due east to the shore line of Tule Lake; thence following the shore line of said Lake in a southerly and easterly direction to its intersection with the east line of Section seven, Township forty-six North, Range five East; thence running southerly along the section line to the southeast corner Section thirty-one, said Township; thence westerly to the northeast corner of Township forty-five North, Range four East; thence southerly to the southeast corner of said Township; thence westerly to the southwest corner of Section thirty-five, Township forty-five North, Range three East; thence northerly to the northwest corner of Section two, said Township; thence easterly to the southeast corner of Township forty-six North, Range three East; thence northerly to the point of beginning; also Lot three, Section ten, Township forty-six North, Range five East—all Mount Diablo Meridian.

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

Warning is hereby given to all unauthorized persons not to appropriate, injure, deface, remove, or destroy any feature of this National Monument, or to locate or settle on any of the lands reserved by this proclamation.

IN WITNESS WHEREOF I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this 21st day of November, in the year of our Lord one thousand nine hundred and [SEAL] twenty-five, and of the Independence of the United States of America, the one hundred and fiftieth.

CALVIN COOLIDGE

By the President:

FRANK B KELLOGG
Secretary of State.

* * * * *

Executive Order No. 6166 (June 10, 1933) transferring jurisdiction of Lava Beds National Monument from the US Forest Service to the National Park Service. (Excerpt)

Organization of Executive Agencies

WHEREAS section 16 of the act of March 3, 1933 (Public Law No. 428, 47 Stat1517), provides for

reorganizations within the executive branch of the Government; requires the President to investigate and determine what reorganizations are necessary to effectuate the purposes of the statute; and authorizes the President to make such reorganizations by Executive order; and

WHEREAS I have investigated the organization of all executive and administrative agencies of the

Government and have determined that certain regroupings, consolidations, transfers, and abolitions of executive agencies and functions thereof are necessary to accomplish the purposes of section 16;

NOW, THEREFORE, by virtue of the aforesaid authority, I do hereby order that:

Section 2. – National Parks, Buildings, and Reservations

All functions of administration of public buildings, reservations, national parks, national monuments, and national cemeteries are consolidated in an Office of National Parks, Buildings, and Reservations in the Department of the Interior, . . .

Franklin D. Roosevelt.
The White House,
June 10, 1933.

* * * * *

ENLARGING THE LAVA BEDS NATIONAL MONUMENT
CALIFORNIA

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

April 27, 1951
[No. 2925]

A PROCLAMATION

WHEREAS certain lands adjacent to the Lava Beds National Monument in the State of California, established by Proclamation No. 1755 of November 21, 1925, contain cliffs with petroglyphic carvings from a prehistoric period; and

44 Stat., Pt. 3,
p. 2591.

WHEREAS a large cinder cone, important to the geologic interpretation of the Lava Beds National Monument, is partially outside the present boundaries of the monument; and

WHEREAS it appears that the public interest would be promoted by adding the lands described in the preceding paragraphs to the Lava Beds National Monument in order to insure permanent protection to these prehistoric and geologic phenomena:

NOW, THEREFORE, I, HARRY S. TRUMAN, President of the United States of America, under and by virtue of the authority vested in me by section 2 of the act of June 8, 1906, 34 Stat. 225 (16 U. S. C. 431), do proclaim that, subject to valid existing rights, the lands within the following-described areas in California owned by the United States are hereby added to and reserved as a part of the Lava Beds National Monument, and that the privately-owned lands within such areas shall become a part of such monument upon the acquisition of title thereto by the United States:

Addition of designated lands as part of Lava Beds National Monument.

MOUNT DIABLO MERIDIAN

- T. 46 N., R. 5 E.,
sec. 3, lots 9, 10, and 32;
sec. 10, lots 1, 2, 4, 11, 12, 20, and 21, and N $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$
T. 44 N., R. 4 E.,
sec. 6, N $\frac{1}{2}$ of lot 1.

The areas described aggregate 211.13 acres.

The reservation made by this proclamation is not intended to prevent the use of the lands in T. 44 N., R. 4 E., for national-forest purposes for which they were reserved by the proclamation establishing the Shasta National Forest, and both reservations shall be effective on such lands, but the reservation for the national-monument purposes shall be the dominant reservation and any use of the lands which interferes with their preservation or protection as a part of the national monument is hereby forbidden.

Use of certain lands for national-forest purposes.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy, deface, or remove any feature of this monument as hereby extended and not to settle upon any of the lands reserved as a part of this monument.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of these lands as provided in the act of Congress entitled "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat. 535, 16 U. S. C. 1-3), and acts supplementary thereto or amendatory thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States of America to be affixed.

DONE at the City of Washington this 27th day of April in the year of our Lord nineteen hundred and fifty-one and
[SEAL] of the Independence of the United States of America the one hundred and seventy-fifth.

HARRY S TRUMAN

By the President:
DEAN ACHESON
Secretary of State

Public Law 92-493

AN ACT

October 13, 1972
[H. R. 5838]

To designate certain lands in the Lava Beds National Monument in California, as wilderness.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, in accordance with section 3(c) of the Wilderness Act (78 Stat. 892; 16 U.S.C. 1132(c)), those lands within the area generally known as the Black Lava Flow in the Lava Beds National Monument comprising about ten thousand acres, as depicted on the map entitled “Wilderness Plan, Lava Beds National Monument, California”, numbered NM-LB-3227H and dated August 1972, and those lands within the area generally known as the Schonchin Lava Flow comprising about eighteen thousand four hundred and sixty acres, as depicted on such map, are hereby designated as wilderness. The map and a description of the boundary of such lands shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

Black Lava Flow and Schonchin Lava Flow areas, Calif.
Reclassification and designation.

SEC. 2. As soon as practicable after this Act takes effect, a map of the wilderness area and a description of its boundaries shall be filed with the Interior and Insular Affairs Committees of the United States Senate and the House of Representatives, and such map and description shall have the same force and effect as if included in this Act: *Provided, however,* That correction of clerical and typographical errors in such map and description may be made.

Map and description, filing with congressional committees.

SEC. 3. The area designated by this Act as wilderness shall be known as the “Lava Beds Wilderness” and shall be administered by the Secretary of the Interior in accordance with provisions of the Wilderness Act governing areas designated by that Act as wilderness areas, except that any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this Act, and any reference to the Secretary of Agriculture shall be deemed to be a reference to the Secretary of the Interior.

Administration.

78 Stat. 890.
16 USC 1131
note.

Approved October 13, 1972.

* * * * *

Public Law 93-477 (October 26, 1974), Section 301 (5) which made slight adjustments to the northern boundary separating the monument from Tule Lake National Wildlife Refuge

AN ACT

To provide for increases in appropriation ceilings and boundary changes in certain units of the National Park System, to authorize appropriations for additional costs of land acquisition for the National Park System, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Title III – Boundary Changes

SEC. 301. The Secretary of the Interior shall revise the boundaries of the following units of the National Park System:

(5) Lava Beds National Monument, California: To add approximately 321.58 acres and to delete approximately 60.12 acres, which additions and deletions shall comprise only federally owned lands, and land deleted from the monument shall be administered by the Secretary of the Interior in accordance with the Federal reclamation laws;

Appendix B: Related Federal Legislation and Executive Orders

Public Law #	Title	Date	Summary
33 Stat 2380	Presidential Proclamation 535	November 29, 1904	Modoc Forest Reserve was established.
34 Stat 225	Presidential Proclamation 2925	April 27, 1951	Two additions totaling 211.13 acres were added to the monument. Areas included the remaining petroglyph section and a boundary adjustment at Mammoth Crater.
34 Stat 225	Antiquities Act	June 8, 1906	Provided authority for the president, by proclamation, to set aside public lands as national monuments.
34 Stat 1269	Agricultural appropriation bill	March 4, 1907	Changed name of all forest reserves to national forests.
39 Stat 535	NPS Organic Act	August 25, 1916	Established the National Park Service for the administration of all national parks and some national monuments.
41 Stat 1804	Presidential Proclamation 1575	October 1, 1920	New lands totaling 323,226 acres were added to Modoc National Forest. This additional land encompasses what is now Lava Beds National Monument.
5 USC Sections 124-132	Executive Order 6166	June 10, 1933	Administration of national monuments was placed in the Department of the Interior, including the transfer of Lava Beds National Monument from the U.S. Forest Service to the National Park Service. At the time of this proclamation, there were several parcels of land in private ownership. These parcels were subsequently acquired.
	Land acquisition	July 14, 1942	Shaw Lumber Company of Klamath Falls, Oregon, deeded 120 acres on the southeast corner of the monument to the government during an exchange of cutover land for live, merchantable land with the U.S. Forest Service. These proceedings were completed on July 10, 1943.
	Land acquisition	October 23, 1944	The monument acquired the Adams estate through condemnation proceedings for 80 acres located in the southeast corner of the monument, partially adjoining the Shaw property.
	Land acquisition	March 13, 1945	Merrill property acquired through condemnation proceedings for 160 acres. This area consisted of the Merrill Ice Cave area, previously known as Bearpaw Cave.
	Presidential Proclamation 2925	April 27, 1951	Two additions totaling 211.12 acres were added to the monument. Areas included the remaining petroglyph section and a boundary adjustment at Mammoth Crater.
	Letter from J.E. Elliott	December 8, 1972	Branch Chief Elliott (Uses, Status, and Withdrawals) sent a letter to the Modoc National Forest supervisor instructing his office to revise its status records to eliminate Lava Beds National Monument from inclusion within the national forest.
76-FR-4721	Boundary revision	January 26, 2011	Administrative jurisdiction of 132.55 acres of land associated with Petroglyph Point transferred to the National Park Service from the Bureau of Land Management and Bureau of Reclamation.

Appendix C: Inventory of Administrative Commitments

Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
General	02/11/2010	n/a	NPS, Siskiyou County Sheriff's Department	To provide law enforcement dispatch and coverage service to Lava Beds National Monument (LBE).	LBE funds dispatch service annually via purchase order.
General	07/22/2010	07/21/2015	NPS, State of California (California Highway Patrol [CHP])	Establishes standards for mutual assistance between NPS and CHP law enforcement officers.	Currently pending update.
General	01/27/2011	n/a	NPS, Modoc County Sheriff's Department	Establishes standards for mutual assistance between NPS and Modoc County Sheriff's officers.	16 USC 1.
Memorandum of understanding	11/14/2014	11/13/2019	NPS, U.S. Fish and Wildlife Service (USFWS)	To provide NPS law enforcement rangers for USFWS activities on a reimbursable basis.	Reimbursement via interagency agreement; funded annually. U.S. Department of the Interior (USDI) interagency agreement for cross designation of USDI law enforcement officers, 2007.
Cooperative agreement	09/28/2014	09/30/2019	NPS, Tulelake Multi-County Fire Protection District	To provide structural fire protection on NPS lands.	LBE/TULE does not have structural firefighting capacity.
Interagency agreement	06/22/2015	03/31/2020	NPS, U.S. Forest Service (USFS)	To provide fire dispatch service to LBE on a reimbursable basis.	Reciprocal Fire Act 42 USC; Economy Act and California Master Coop Wildland Fire Management Agreement.
Memorandum of understanding	10/04/2011	4/30/2021	NPS, USFS, Bureau of Land Management (BLM), USFWS	To document cooperation between stakeholders in order to organize a task force of professional resources for immediate need and extended attack on wildfires.	Cal-Ore Task Force.
Interagency agreement	11/01/2013	09/30/2018	NPS, USFS	To provide road maintenance and snow removal for USFS road 44N75 and Doorknob Snowmobile parking lot/trailhead on a reimbursable basis.	Service First.

Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Interagency agreement	08/01/2014	12/31/2020	NPS, USFS	To provide USFS staffing for LABE-prescribed burn treatments on a reimbursable basis.	Reciprocal Fire Act 42 USC, California Master Coop Wildland Fire Management.
Interagency agreement	07/01/2014	09/30/2018	NPS, USFS	To provide fuel on a reimbursable basis to USFS vehicles.	Service First.
Cooperating association agreement	11/10/2010	11/09/2016	NPS, Lava Beds Natural History Association	Establishes standards for stakeholders in working together to enhance visitor satisfaction and facilitate expanded appreciation of NPS.	Currently pending update.
Memorandum of understanding	05/04/2011	05/03/2016	NPS, Cave Research Foundation (CRF)	Establishes standards under which CRF will conduct cave monitoring, inventory, research, cartography, and interpretive activities within LABE.	National MOU between NPS and CRF
Interagency agreement	05/16/2014	08/01/2017	NPS, USFWS	To provide USFWS with sign fabrication services on a reimbursable basis.	Service First.
Interagency agreement	07/17/2014	05/01/2017	NPS, USGS	Provides USGS staff to conduct drought-fuels treatment research for NPS on a reimbursable basis.	Economy Act.
U.S. Government lease for real property	10/1/2014	09/30/2019	NPS, Martin Andreas	Administrative office space in Tulelake, California.	Payment established annually.
Interagency agreement	06/01/2016	05/31/2021	NPS, U.S. Postal Service	Office space for Facility Management Software System, network fire, and information technology staff in Klamath Falls, Oregon.	Outlease Agreement 404576-G01; expires 5/31/2021. Payment established annually.

Appendix D: Basics for Wilderness Stewardship

Wilderness Background Information

The 1964 Wilderness Act requires the preservation and protection of wilderness resource values within congressionally designated wilderness areas. Lava Beds National Monument encompasses two wilderness units (the Schonchin and Black Lava Flow areas) that total 28,460 acres and referred to cumulatively as the Lava Beds Wilderness. These areas were designated on October 13, 1972 under Public Law 92-493.

Most of the monument not designated as a wilderness is considered backcountry, except for roughly 1,000 acres that support developments including monument roads, administrative areas, campgrounds, and day use areas.

In 2006, the monument completed a wilderness stewardship plan that stated that, to the extent possible, the monument's backcountry and designated wilderness would be managed in the same way. The plan identified the values, management objectives, and potential threats to these areas, which include 38 miles of maintained trails and 12 miles of unmaintained trails. There are no designated campsites in the monument's backcountry, which is typically accessed via one of the nine "official" trailheads. Wilderness and backcountry areas within the monument contain exceptional resources including geologic features, natural resources, and cultural resources.

The *Lava Beds National Monument Resource Stewardship Strategy* was completed in 2012. This document identified six fundamental resources and values, which represent resources and specific attributes of each, that should be managed or monitored in order to maintain the monument's significance as a part of the national park system. The "Wilderness and Backcountry" FRV states that Lava Beds' wilderness is one of a few wild volcanic environments in the western United States where many natural processes remain intact.

Current monitoring tracks information relevant to protecting wilderness character. For decades, the monument has been actively monitoring weather at its administrative headquarters area on a daily basis in collaboration with the National Weather Service. Lava Beds National Monument is also a site location for an IMPROVE (Interagency Monitoring of Protected Visual Environments) station, which samples air quality to monitor particle concentrations that affect visibility. The resource stewardship strategy recommends additional climate monitoring within wilderness as needed to identify climate-driven trends. The monument actively manages light sources and is working toward gaining certification as an International Dark Sky Park. Visitor use is tracked on selected trails through trail counters and trail registers. Visitor registers are found at trailheads leading into the wilderness. Metal plaques are found at trailheads to identify wilderness boundaries. The wilderness boundary adjacent to Forest Service lands has been marked and posted with NPS wilderness signs.

Collection of trail register data, cyclic trail maintenance, prescribed fire, fuels management projects, and the collaboration with law enforcement on the placement and management of wilderness boundary signs along monument boundaries are the five main activities in wilderness. In 2014 the monument completed a project to restore the Hardin Butte-Powerline Road. While the restoration work occurred outside of wilderness, closing and restoring the road enhanced wilderness character by increasing the distance between the wilderness boundary and the nearest road (increased buffer area), reducing the potential for weed introduction near wilderness, and by improving the natural quality of vistas observed from within wilderness and backcountry areas.

Wilderness Character Narrative

The wilderness character narrative will be developed during the next update of the monument's wilderness stewardship plan.

Issues for Wilderness Planning

Currently, Lava Beds Wilderness contains five features that do not comply with wilderness characteristics as defined by the 1964 Wilderness Act. These features are a previously installed campground amphitheater, a paved trail, two road segments, and an NPS closed sanitary landfill that were inadvertently included within the wilderness boundary. A legislative proposal was submitted in 2005 to correct the boundary. In 2015 the legislative support data package was updated to propose a legislative wilderness boundary adjustment with following components:

- Correct wilderness acreage and boundary.
- Exclude the five improvements from wilderness.
- Add resources not designated as wilderness and improve boundary management.
- Add 675 acres and remove 274 acres from wilderness as measured by GIS.
- Net change in wilderness of +401 acres from the actual acreage of 28,059.
- Net change of 0 acres from the original 28,460 acres documented in Public Law 92-493.

In addition to the need for a boundary and acreage adjustment, a number of factors affect the character of the monument's wilderness and backcountry. Foremost among these are the visible and audible impacts from the lights and sounds of surrounding developments, towns, and cities. The lights of Tulelake, California, and Klamath Falls, Oregon, can be seen from various locations within the wilderness boundary. The air space above the wilderness is not restricted, and airplanes can be seen and heard. In the winter, snowmobile use south of the monument and diesel train engines on the Southern Pacific track 15 miles distant are audible from many locations within the wilderness. Commercial activities on lands adjacent to Lava Beds National Monument also currently affect wilderness characteristics. Generators used to pump water onto agricultural lands north of the monument can be heard in the heart of the backcountry, and agricultural practices such as field burning, aerial spraying, and field plowing can affect air quality. Nonnative plants, like cheatgrass, are present throughout a large percentage of the backcountry and pose a potentially serious threat to native plant communities.

The high potential for the expansion or addition of certain types of commercial activities is of significant concern. These include the establishment of communication towers along local highways and the development and transmission of geothermal power in the Medicine Lake highlands. Since the late 1990s, efforts have been taken to develop the geothermal resources of the highlands, which could result in long-term impacts on the wilderness viewshed.

The monument's own developed areas are located in the highest elevations of the monument and contribute to reducing wilderness values. Vehicular traffic, staff housing, motor homes in the campground, telecommunications equipment, and nighttime lighting create modern-day impacts on the wilderness setting. Historic evidence of mining, in the form of borrow pits, is found throughout the monument. The most intrusive sites have been stabilized but still show scars visible from wilderness. Historic roads which are now used as trails in wilderness contain nonnative cinder material taken from borrow pits. These red cinder deposits limit native plant growth and impact visitor travel. Social trailing to caves from designated trails threatens geologic and vegetative resources within wilderness areas. Developing baseline surveys for social trails and reviewing established trails would assist in reducing this threat.

Opportunities exist for additional data collection and enhancements to wilderness management and outreach. Additional long-term resource monitoring data and an evaluation of current operations would greatly inform future wilderness planning and management.



Opportunities for long-term resource monitoring include:

- Regular acoustic resource (including vibration) monitoring. Baseline acoustic resource data was collected in 2014. Vibration monitoring would contribute to efforts to preserve wilderness values within the cave environment.
- Regular night sky monitoring. Baseline data were collected in 2014. Monument policies are sensitive to maintaining and interpreting the monument's extraordinary dark skies. However, sources of light are increasing to the north and east from surrounding communities and agricultural areas and to the south near Tionesta. Lava Beds National Monument has been striving to obtain International Dark Sky status since 2008.
- Viewshed monitoring would include continuing to monitor changes in visibility via the IMPROVE protocol. The addition of photo monitoring would document changes in the local "skyline" visible from wilderness. The proposed NPScape monitoring protocol would contribute to this effort by quantifying changes in land use outside the monument boundary.
- Monitoring changes in climate and associated ecosystem response.

Opportunities for data collection on wilderness use and park operations include:

- Tracking visitor use in wilderness. The existing register system is unreliable in determining visitor numbers and activities.
- Assessing the impact of current fire operations on the untrammeled character of wilderness.
- Completing research and documentation on the environmental history of areas designated as wilderness which were once subject to grazing and other historic land uses such as Bureau of Reclamation activities on adjacent lands, California Conservation Corps developments, and early park development.

Opportunities for improving wilderness management include:

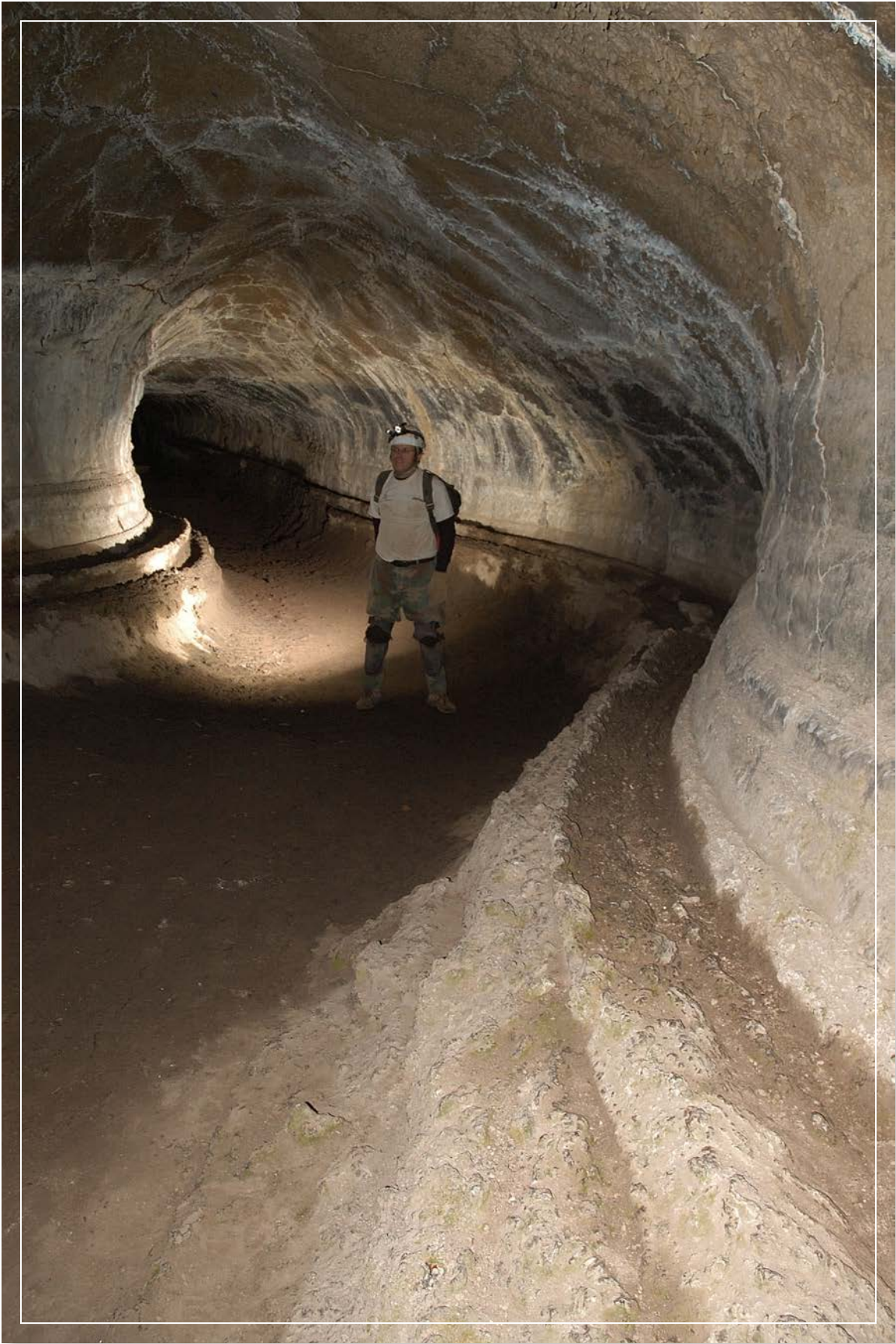
- Developing a cyclical maintenance program for trails and signage.
- Enhancing interpretive and educational tools to communicate the connections between wilderness, night sky, scenic views, air quality, native ecosystems, recreation, climate change, and other associated resources. This could include creating in-park and classroom educational materials and programs for the public.
- Conducting a visual resource inventory to identify the scenic quality and importance values of scenic views from the wilderness.

Appendix E: Past and Ongoing Park Planning Efforts

Plan	Status	Date	Update
Long-Range Monument Plans (15-20 Years)			
Accessibility transition plan	In progress	2016	
Administrative history	Complete	2009	
Cave entrance community and cave ecosystem long-term monitoring protocol	In progress	2016	
Cave management plan	Update needed	1990	Update needed 2016–2017
Cultural landscape inventory (CCC parkwide)	In progress		
Cultural landscape inventory (headquarters area)	In progress		
Cultural resource base map	In progress		
Exotic weed management strategy	Complete	2010	Review every 3 years
Fern cave management plan	Complete	2006	
Fire management plan	Complete	2005	Review annually, revise in 2017
General management plan	Complete	2011	
Historic resources study	Complete	2009	
Klamath Network vital signs monitoring plan	Complete	2007	
Landscape management plan	In progress	2016	
Long-range interpretive plan	Complete	2010	
Museum collections emergency operations plan	In progress		
Museum management plan	Complete	2001	Needs update
Rapid ethnographic assessment project	Complete		
Resource management plan	Complete	1999	Replaced by resource stewardship strategy
Resource stewardship strategy	Complete	2012	Review annually
Scope of collection statement	Complete	2012	Review annually
Site plan/improvements for Skull Cave platform	In progress	2016	
Social media plan			Review annually
Traditional use study	Complete	2008	
Vegetation management plan	Needs update	2011	
Volunteers in Parks Program plan			
Wilderness stewardship plan	Complete	2006	2021

Plan	Status	Date	Update
Mid-Range Monument Plans (Approximately 5 Years)			
Boundary management plan	Nearly complete	In progress	
Disturbed lands report	Complete	2006	
Hazard tree management plan	2008	2016	Annually, needs update
Housing management plan	Complete	2013	Every 5 years
Mushpot Cave lighting handbook	Complete	2003	2011
Natural resource condition assessment	Complete	2013	
Strategic 5-year plan / Government Performance and Results Act	Complete	2015	Annually





Pacific West Region Foundation Document Recommendation Lava Beds National Monument

February 2017

This Foundation Document has been prepared as a collaborative effort between park and regional staff and is recommended for approval by the Pacific West Regional Director.

Lawrence J. Whalon Jr.

RECOMMENDED

Lawrence J. Whalon Jr., Superintendent, Lava Beds National Monument

2-2-17

Date

for *Nathaniel*

APPROVED

Laura E. Joss, Regional Director, Pacific West Region

2/17/17

Date



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

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