



National Park Service
U.S. Department of the Interior

Finding of No Significant Impact Environmental Assessment

General Management Plan

Lava Beds National Monument California

July, 2011

Purpose and Need for the Plan

The National Park Service has prepared a *General Management Plan* (GMP) for Lava Beds National Monument, with the purpose of establishing the overall management direction (for the next 15 to 20 years) for the monument. Legislation establishing the National Park Service (NPS) 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 GMP builds on these laws and the presidential proclamations that established Lava Beds National Monument to provide a vision for the monument's future.

The purposes of this GMP 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

This GMP is needed to meet the requirements of the National Parks and Recreation Act of 1978, and NPS policies which mandate development of a general management plan for each unit in the National Park System. The Environmental Assessment (EA) for the GMP described three alternatives for managing Lava Beds National Monument for the next 15 to 20 years, and evaluated the potential environmental consequences from implementing each alternative. The alternatives respond to NPS 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 no-action alternative described continuation of existing management, and serves as a basis of comparison for the action alternative. Public comments and suggestions received during scoping, and consideration of preliminary alternatives, informed the development of action alternatives presented in the EA for the plan.

Selected Alternative

The primary focus of the approved GMP is promoting and strengthening resource protection and restoration through stewardship, research, education, and inter-agency cooperation. The monument will strive to engage a broader public through more interpretation, education, and new visitor facilities. The actions encompassed in the selected alternative are the same as identified and analyzed as Alternative B in the EA for the *Draft General Management*

Plan (DGMP), with the exception of minor modifications incorporated based on information and comments derived from public review of the DGMP. There are no substantial additions, nor did any of these changes result in any alteration in determination of magnitude of environmental impact. These modifications are as follows:

- **Cave Loop:** The addition of a pedestrian trail at Cave Loop, as was proposed in alternative C in the DGMP, was incorporated into to the selected alternative.
- **Wildlife Overlooks:** To address concerns about the removal of the wildlife overlooks, the monument will explore the feasibility of providing parking pull-outs to maintain wildlife viewing opportunities in this area of the monument.
- **Partnerships and Research:** Changes were made to acknowledge the past and current contributions of existing research partners such as the Cave Research Foundation and the National Speleological Society, and to emphasize the expectation that such partnerships and contributions will continue to play an important role in implementing the new GMP.
- **Recreational Caving:** Changes in language were made to emphasize that recreational caving will continue to be a primary visitor activity for the monument in the new GMP.
- **Petroglyph Point:** The proposal for a raptor wildlife viewing area has been removed.
- **Climate Change:** Additional information about the NPS climate change response and adaptation policy was included in the selected alternative.
- **Volunteers:** Additional language was included to emphasize the important role of volunteers in carrying out management objectives at the monument such as interpretation and cave research.

VISITOR EXPERIENCE

The visitor experience at Lava Beds National Monument will be focused on interpretation for a greater diversity of visitors. New audiences will be sought by expanding interpretive, educational, and recreational opportunities, and information and programs on new interpretive topics (e.g., new resource management programs) will be developed. More extensive interpretation on existing topics also will be offered.

The monument will employ new technologies for interpretation and education (e.g. virtual cave tours, podcasts for audio tours, etc). More collections will be displayed at the visitor center. Fostering partnerships with schools, tribes, gateway communities and others will provide new opportunities for education. School groups and volunteers will have opportunities to participate in monument research programs. Workshops and interpretive programs about cultural and natural resources will be offered both within and outside of the monument at sites related to park significance (Modoc War battlefields, lava caves, and portions of the Medicine Lake Volcano).

Expanded monument recreational opportunities include new hiking opportunities and improved day use areas. New hiking trails primarily include short interpretive loop trails. The monument will 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 will accommodate users of varying abilities. Several day use areas are to be redesigned to better accommodate families and larger groups.

FACILITIES

A limited number of new facilities will 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. Intrusion of existing buildings on monument views will be minimized through visual screening, applying muted paint colors, installing less reflective roofing materials, and minimizing lighting requirements. Where possible, duplicative and unneeded facilities are to be removed and the sites revegetated to minimize the overall facility footprint and reduce long-term maintenance obligations.

To better accommodate new educational and research programs, the monument will construct a small addition to the current visitor center to provide classrooms, several offices, and more collections space. The monument will also explore expansion of the research center laboratory area to accommodate new research opportunities.

The monument will seek to minimize additional office space through consideration of leasing in local communities, and co-locating with other agencies, before considering new construction or enlarging existing buildings.

NATURAL RESOURCES

Habitat Restoration

The NPS will strive to actively restore native ecological communities throughout the monument. This may include restoring habitat for special status and extirpated species (e.g. sage grouse). To achieve these goals, the monument will collaborate with adjoining land management agencies in area restoration.

Research and Technical Assistance for Lava Caves

The monument will expand the geologic research program to function as a center for research and technical assistance focused on lava caves. Emphasis will be on 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 monument will continue enhancing relationships with non-governmental organizations (NGOs), such as the Cave Research Foundation, in furtherance of its research and management objectives.

CULTURAL RESOURCES

Lava Beds National Monument will function as a center for cultural resource research and learning, and expand research to address a range of regional cultural resources related to the Klamath Basin, including increased efforts to collect local oral histories. Use of the Research Center for cultural resource research and workshops would occur in coordination with the education program. New research and battle forensics will enhance interpretation and knowledge of the Modoc War sites. A wider range of cultural and historical educational programming and interpretive materials are to be developed.

CLIMATE CHANGE RESPONSE AND ADAPTATION

The effects of climate change are already evident in the nation's parks. The ability of NPS managers to support and implement effective adaptation will influence the long term structure, function and viability of resources and infrastructure within parks. Adaptation measures may include a variety of actions, some of which will evolve from existing management goals, and others that park management teams have not yet considered. The monument will follow the recommendations of the NPS Climate Change Response Strategy to address the potential impacts of climate change. The adaptation approach outlined in the NPS Climate Change Response Strategy encompasses four major components: (1) adaptation planning, (2) promoting ecosystem resilience, (3) preserving cultural heritage, and (4) protecting facilities and infrastructure. Specific goals associated with each of these components are listed below:

- Incorporate climate change considerations and responses in all levels of NPS planning.
- Implement adaptation strategies that promote ecosystem resilience and enhance restoration, conservation, and preservation of park resources.
- Develop, prioritize, and implement management strategies to preserve climate-sensitive cultural resources.
- Enhance the sustainable design, construction, and maintenance of park infrastructure.

SUSTAINABLE PARK OPERATIONS

The monument will make a concerted effort to reduce total energy used to operate. This would be accomplished by changing monument operations to use new sustainable technologies for electricity, heating, and motor vehicle fuel consumption. The monument will also strive to generate enough electrical energy on-site through alternative means such as photovoltaic panels to supply the monument's electrical consumption. Reduced visitor reliance on automobiles within the monument will be encouraged by increasing trail linkages and encouraging walking and bicycling.

MANAGEMENT OF SPECIFIC AREAS

Petroglyph Point Unit

A new visitor day use area with an educational focus is to be constructed at Petroglyph Point. The current road will be realigned southward around the petroglyphs and the existing chain link fence is to be replaced with a more

attractive barrier that protects the petroglyphs and allows for wildlife movement and photography. A new parking area, seasonally staffed ranger contact station, small picnic area, and outdoor education area will be provided as well as accessible trails connecting the new facilities with the petroglyphs.

Cave Loop Road

More interpretive media will be provided for Cave Loop caves to enhance 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. Increased monitoring of cave resources to preserve non-renewable features will occur. To encourage visitors to rely more on non-vehicle travel, a separate pedestrian trail will link the visitor center and the caves, and a pedestrian trail will be developed around cave loop. Bicycle use will be encouraged through amenities such as bike racks. The monument will strive to reduce human waste issues in caves. One or two vault toilets could be installed on the cave loop to reduce incidence of waste in caves and to better serve visitors.

Campground

The monument will explore various ways to improve the visitor experience in the campground for all types of campers (tent, RV users, and large groups). The campground will retain its current character without providing RV hook-ups (such services continue to be provided outside of the monument at local RV campgrounds). To encourage longer stays, coin operated and limited time shower buildings are to be considered for the campground.

MANAGEMENT ZONING

The majority of the monument is included in the backcountry and interpretive backcountry zones. Existing circulation patterns will be maintained; therefore, all primary roads are included in the developed zone. The developed zone also includes existing visitor facilities such as overlooks, pullouts, the visitor center, the campground, and new facilities at Petroglyph Point. The administrative zone includes the monument headquarters and housing area at Indian Well, and the maintenance area near Crescent Butte. Maps on pages 58-60 of the EA for the DGMP depict the approved zoning; the desired conditions of the management zones are also described on pages 41-46.

USER CAPACITY

Monument staff will monitor social and resource indicators, evaluate current conditions against standards, and take appropriate steps to ensure user capacity is not exceeded. Indicators and standards are defined for the GMP.

SPECIFIC MANAGEMENT ACTIONS IN THE SELECTED ALTERNATIVE

NATURAL RESOURCES	
GEOLOGIC PROCESSES AND FEATURES	<p>Expanding the geologic research program will make Lava Beds National Monument a center for research and technical assistance focused on lava caves. Program components include:</p> <p>Restoration of impacted geologic features and caves.</p> <p>Assistance to other volcanic and cave parks through management planning, cave surveys, research, and information sharing.</p> <p>Establishment of a comprehensive monitoring program for geologic resources throughout the monument.</p> <p>Working with sister parks, partners, and agencies toward regional preservation of volcanic and cave resources. Coordinated regional management of volcanic resources will focus on developing research projects, acquiring funding for preservation of resources, analyzing visitor use on a regional scale and taking steps to mitigate impacts across land management agency boundaries.</p> <p>Caves will receive greater protection through monitoring, restoration, and management plans.</p>
VIEWSHEDS/VISUAL QUALITY	<p>Intrusion of existing buildings on views throughout the monument is to be reduced through screening, muted paint colors, less reflective roofing materials, and minimizing lighting.</p> <p>The monument will work to maintain high quality viewsheds within the monument.</p> <p>Overhead utility lines will be placed underground at Petroglyph Point and cooperation with U.S. Fish and Wildlife Service will be sought to underground overhead utility lines north of the monument.</p>
DARK NIGHT SKIES	<p>Greater community outreach to preserve and restore dark night skies will be undertaken. Efforts will be taken to reduce light impacts on wilderness areas of the monument, primarily from Klamath Falls and the Tule Lake Basin.</p>
ECOLOGICAL COMMUNITIES	<p>The monument will expand comprehensive restoration efforts for native vegetation and habitat.</p> <p>The monument will increase inter-agency coordination for restoration of native habitat along the monument boundaries and coordinate with adjacent land and wildlife management agencies to restore habitat for special status or extirpated species such as the sage grouse and bighorn sheep.</p> <p>Habitat for all 14 sensitive bat species will be protected to maintain sustainable population levels.</p> <p>The monument will take steps to monitor and mitigate, where possible, the pressures of climate change on native vegetation, wildlife, cave resources, and habitat.</p>
WILDERNESS	<p>New opportunities to experience wilderness areas are to be provided through additional outreach and education programs.</p> <p>The monument will explore additional trail opportunities in wilderness areas (as guided by the 2006 Wilderness Plan).</p>
FIRE MANAGEMENT	<p>The monument will continue to implement the current fire management program including the use of suppression, wildfire (unplanned ignitions) and prescribed fire (planned ignitions).</p> <p>The monument will monitor effects of climate change and adapt fire management.</p> <p>Fire research will emphasize local agency coordination to begin to understand large landscape level nonnative plant impacts. Research is the most important means to understand how fire can be used on the landscape while limiting the current spread of nonnative species with the goal of ecosystem maintenance and restoration. Special efforts will be taken to acquire research funding to focus on controlling the spread of nonnative plants across agency boundary lines.</p> <p>The monument will coordinate with the U.S. Fish and Wildlife Service, the U.S. Forest Service, and private landowners to promote fire ecology/research and the use of wildfire (unplanned ignitions) across property lines. Efforts would be taken to coordinate across political boundaries when looking at fire on the landscape. The practice of aggressively fighting fires along borders will be coordinated and assessed for benefits.</p>

SPECIFIC MANAGEMENT ACTIONS IN THE SELECTED ALTERNATIVE

CULTURAL RESOURCES	
ARCHEOLOGY	<p>The monument will establish the cultural context of its archeological sites through analysis of existing archeological collections, research on site distribution of types, and documentation of newly discovered sites.</p> <p>The monument will expand public interpretation of archeology in collaboration with tribes, universities, and cultural resource professionals and identify selected sites that are appropriate for expanded visitor interpretation.</p>
ETHNOGRAPHIC RESOURCES	<p>Modoc War fortification preservation and rehabilitation will be facilitated by conservation studies.</p> <p>Research of cultural landscapes for treatment and public interpretation will be expanded.</p>
HISTORIC STRUCTURES	<p>Additional interpretive and educational programming and materials about the 20th century historic structures and human history within the monument will be developed.</p>
CULTURAL LANDSCAPES	<p>Modoc War fortification preservation and rehabilitation is to be facilitated by conservation studies.</p> <p>Research of cultural landscapes for treatment and public interpretation will be expanded.</p> <p>Opportunities for interpretation of additional Modoc War and Civilian Conservation Corps sites inside and outside of the monument will be developed.</p>
MUSEUM COLLECTIONS	<p>Research on current collections will be conducted. A broader understanding of cultural collections is to be pursued to promote further understanding of the thousands of items within the collections. Photo documentation of all collections, or a percentage of the collections, will be completed to provide for electronic access by researchers. Images would be posted in a manner to provide understanding while still protecting this non-renewable resource. (e.g. electronic museum tours or new/rotating displays in the visitor center).</p> <p>The monument will replicate objects and photos for hands-on educational use and programming.</p> <p>Collections management will be expanded through increased staffing, coordination, and research.</p> <p>Collections storage facilities will be improved and expanded where feasible. The research center will be assessed for potential laboratory space enhancement.</p> <p>The monument will explore new collections management opportunities with nearby parks in the Klamath network.</p>
VISITOR EXPERIENCE	
RECREATION	<p>The NPS will collaborate with the U.S. Forest Service on new recreational opportunities such as trail connections and cross-country skiing near the monument's southern boundary.</p> <p>An improved virtual cave experience will be provided.</p> <p>Several day use areas for large groups will be considered at various monument sites.</p> <p>The West Wildlife Overlook will be adapted for use as an educational event area (within or less than the existing developed footprint).</p>
	<p>Primitive backcountry campsites will be developed, as guided by the 2006 Wilderness Plan.</p> <p>The monument will work to reduce reliance on automobiles by providing additional trail linkages and encouraging walking and bicycling.</p>
INTERPRETATION AND EDUCATION	<p>The visitor experience will primarily be focused on learning and education for a wide diversity of monument visitors.</p> <p>INTERPRETATION:</p> <p>The monument will increase use of new technologies and media to improve the connection of visitors to monument resources.</p> <p>More collections will be displayed through rotating exhibits, and new exhibits will be provided at</p>

SPECIFIC MANAGEMENT ACTIONS IN THE SELECTED ALTERNATIVE

	<p>the visitor center.</p> <p>The monument will expand use of its oral history collection for historical interpretation and education.</p> <p>The number of guided cave tours will be increased.</p> <p>Expanded interpretation both within and outside the monument on topics related to park purpose and significance will occur, including:</p> <ul style="list-style-type: none"> • Archeology • Astronomy/dark night skies • Cave ecology • Natural and cultural resources research and management initiatives, including fire ecology and management, restoration ecology, and non-native species <p>Collaborative efforts to expand interpretation include:</p> <ul style="list-style-type: none"> • working with The Klamath Tribes to interpret history and pre-history, • coordination between resource management and interpretive staff to provide opportunities for visitors to learn about park research, • collaborating with the U.S. Fish and Wildlife Service to expand the interpretation of refuges and provide tours, and • identifying opportunities for the interpretation of additional Modoc War and Civilian Conservation Corps sites outside of the monument. <p>EDUCATION AND OUTREACH:</p> <p>More in-depth visitor education opportunities will be provided (such as guided tours, workshops and educational programs) throughout the monument and at related sites throughout the region.</p> <p>The monument will expand formalized relationships with local and regional schools and collaborate with regional parks on expanded outreach and education.</p> <p>The visitor center will be expanded to accommodate educational programs and provide more opportunities for teachers, students, and the general public.</p> <p>The research center will be expanded to include more laboratory space to provide more opportunities for researchers, students, and the general public to participate in research activities at the monument.</p> <p>Opportunities will be provided for public involvement in research and restoration activities. For example:</p> <ul style="list-style-type: none"> • Develop a program for high school and university level students to participate/assist in monument research. • Public archeology programs and archeology workshops will be conducted.
<p>FACILITIES AND OPERATIONS</p>	
<p>VISITOR CENTER</p>	<p>The visitor center will be expanded to accommodate educational programs and provide more opportunities for teachers, students, and the general public.</p>
<p>RESEARCH CENTER</p>	<p>The research center will be expanded to include more laboratory space to provide more opportunities for researchers, students, and the general public to participate in research activities at the monument.</p>

SPECIFIC MANAGEMENT ACTIONS IN THE SELECTED ALTERNATIVE

<p>ROADS</p>	<p>If Forest Service Route 10 remains in poor condition, the NPS will encourage visitors to enter and exit the monument via the paved and better maintained northern routes.</p> <p>The 1.8 mile segment of Lyons Trail between the main road gate and Fern Cave trailhead will be maintained as a primitive two track road limited to official vehicles. The 2.0 mile segment between the trailhead and the east boundary will also be maintained for official vehicle use, primarily for the treatment of wildland fire fuels. Natural processes will reclaim the remainder of Lyons Road.</p> <p>The monument will cease administrative vehicle use of Powerline road, and roadbed will be restored to natural conditions.</p> <p>The monument will improve maintenance of the unpaved Medicine Lake Road, within the monument, to reduce summer season wash boarding.</p> <p>The East and West Wildlife Overlooks and roads will be removed and revegetated. A portion of the West Wildlife Overlook road will be retained as an unpaved road and maintained for special events. The monument would explore opportunities to provide several parking pull-outs in the vicinity of the existing wildlife overlooks to maintain wildlife viewing opportunities in the northern end of monument.</p> <p>The monument will encourage bicycle use on roads where appropriate. . Bicycle facilities, such as racks, would be provided at appropriate locations.</p>
<p>TRAILS AND TRAILHEADS</p>	<p>The monument will explore making accessibility improvements to Captain Jacks Stronghold, Gillems Camp, Hospital Rock, and Petroglyph Point trails so that they are more accessible to all visitors.</p> <p>The monument will provide more trail opportunities with an emphasis on traditional interpretive methods (such as printed trail guides) or new technologies (such as podcasts). For example, a geology interpretive trail will be constructed at one of three sites in the northern portion of the monument (Gillems Bluff, Thomas Wright Battlefield, or Fleener Chimneys).</p> <p>Additional trail opportunities will be provided in wilderness areas (as guided by the 2006 Wilderness Plan).</p> <p>The monument will seek to develop trail loops/connections to national forest lands and refuges, including Gillems Bluff.</p> <p>Enhanced trail/pedestrian connections between visitor areas will be created, including connecting Schonchin Butte to Symbol Bridge trail and connecting the campground to Valentine Cave.</p> <p>Unnecessary established and social trails will be removed. This action would require coordination with other agencies and organizations.</p>
<p>BOUNDARY ADJUSTMENTS</p>	<p>The current boundary is maintained. The monument will work with the U.S. Forest Service to protect resources outside of the monument related to park purpose and significance, and to acquire or trade private timberlands along monument boundary into U.S. Forest Service ownership.</p>
<p>PARTNERSHIPS AND REGIONAL COOPERATION</p>	<p>The monument will increase interagency cooperation for resource protection and restoration including:</p> <p>Cooperate with U.S. Fish and Wildlife Service in efforts to: 1) establish wetlands on lands along northern edge of the monument, and 2) provide coordinated interpretation such as guided tours along the wildlife tour route</p> <p>Cooperate with U.S. Forest Service on land management in areas surrounding the monument.</p> <p>Increase tribal involvement (e.g. NPS employment, and interpretation and education programs).</p>

SPECIFIC MANAGEMENT ACTIONS IN THE SELECTED ALTERNATIVE

	<p>The monument will offer partners a greater role in research, restoration, education, and monitoring.</p> <p>The monument will expand relationships with gateway communities to provide signage and interpretation, and participate in a larger number of community events.</p> <p>The monument will increase participation in community outreach programs (e.g. dark night skies program).</p> <p>For sites outside the monument that are related to park purpose and significance, new partnerships/agreements with schools, affiliated tribes, surrounding agencies, and gateway communities would be developed to provide new educational and interpretive opportunities.</p>
<p>RESEARCH</p>	<p>Research activity remains the primary use of the research center. The research center will be expanded for greater use by researchers, teachers, and the general public.</p> <p>The monument will continue to strengthen relationships with NGOs, such as the Cave Research Foundation, in furtherance of its research and management objectives.</p> <p>The monument will involve high school and college students in science and research projects, and establish formal relationships with colleges and universities to encourage more research in the monument.</p> <p>Informal opportunities will be provided for visitors to learn about various monument research and management activities.</p> <p>The monument will initiate a citizen-scientist program, possibly in partnership with other agencies (e.g. citizen science program to monitor pika populations).</p> <p>The monument will become a center for cultural resource research and learning. Research publications would be provided and the monument would enter into new research partnerships. Research efforts to address a range of regional cultural resource issues related to the Klamath Basin would be expanded.</p> <p>Through research, the monument will investigate impacts of climate change on cultural resources, as well as past human responses to climate change.</p> <p>The monument will increase efforts to collect local oral histories.</p> <p>Cultural resource research will inform the education program.</p> <p>The monument will conduct additional research to better understand the full context of all topics related to the Modoc War. This could include surveys, fortification studies, and battlefield reviews.</p>
<p>COMMERCIAL SERVICES</p>	<p>The Lava Beds Natural History Association continues to function as a cooperating association for the monument.</p> <p>The monument will assess limited seasonal food and drink service in the vicinity of the visitor center for commercial feasibility.</p> <p>The monument will consider allowing commercial interpretive tours consistent with the general management plan and NPS service-wide policies.</p> <p>The monument will continue to authorize the concession contract for visitor convenience items which is currently held by the Lava Beds Natural History Association.</p>
<p>PARK OPERATIONS AND SUSTAINABILITY</p>	<p>The monument will strive to reduce as much energy use as possible, including offsetting total electrical use, by generating electricity on-site using alternative sources such as grid tied photovoltaic panels. The monument would also explore using the best available, energy saving vehicle technology for monument operations (e.g. plug in hybrids).</p> <p>The monument will consider leasing or co-locating with other agencies outside the monument before considering new construction or modification of existing buildings inside of the monument for new office space.</p> <p>Facilities will be retrofitted with sustainable materials/building methods where appropriate.</p> <p>Pedestrian trail linkages between visitor areas will be provided in order to encourage visitors to not use their automobiles for short trips within the monument.</p> <p>The monument will continue to implement actions identified in the Lava Beds National Monument Climate Friendly Action Plan.</p>

SPECIFIC MANAGEMENT ACTIONS IN THE SELECTED ALTERNATIVE

SAFETY AND LAW ENFORCEMENT	<p>More safety and preparedness information will be provided for visitors.</p>
STAFFING <small>*Terms used</small> Permanent Staff: An appointment or hire to a federal position that has no time limit established with it Term Staff: Nonpermanent appointment expected to last longer than one year, but less than four years	<p>Additional staffing would include:</p> <ul style="list-style-type: none"> ▪ 1 Shared/Partner: (Science Advisor that could be located at partner university) ▪ 5 Permanent* Staff: (1 education specialist, 1 resource management specialist, 1 law enforcement, 2 maintenance) ▪ 2 Term* Staff: (1 interpreter, 1 full-performance physical science tech) ▪ 8 Part-time/Seasonal Staff: (4 interpreters, 4 resource management techs) <p>A full-performance physical scientist is required for enhanced cave management restoration work.</p>
AREA-SPECIFIC ACTIONS	
PETROGLYPH POINT	<p>New visitor facilities include a parking area, seasonal visitor contact station, outdoor education area and a visitor day use area that accommodates families and school groups, picnic tables, shade structures, and toilets. Accessible trails would connect these facilities to the petroglyphs. The fence would be replaced with a new protective structure to improve viewing and allow for wildlife movement.</p> <p>The through road will be realigned to the south and remain unpaved, and the existing road is to be removed and revegetated.</p> <p>On-site seasonal staffing will provide expanded educational and interpretative services as well as visitor orientation to the entire monument.</p> <p>The monument will interpret other resources in addition to rock art (e.g. geology, wildlife, vegetation, astronomy, homesteading).</p> <p>The monument will conduct research and monitoring on sensitive species potentially impacted by visitor use.</p> <p>The monument will seek to improve protection efforts at Petroglyph Point by increasing ranger presence, improving facilities, and implementing remote sensing technologies.</p> <p>The monument will replace the existing inadequate parking pullout and improve visitor access to the Coppock flag site.</p>
CAVE LOOP ROAD	<p>Social trails are to be removed and sites restored. A pedestrian trail will be provided around Cave Loop.</p> <p>More rangers will be present at peak times to educate visitors about minimum impact caving, and increased monitoring of cave resources would occur to preserve non-renewable features.</p> <p>More in-depth information and educational materials for caves on the cave loop (e.g. cave guides) will be provided.</p> <p>In order to encourage visitors to use modes of travel other than their cars, the monument will provide a separate pedestrian trail between the visitor center and the caves, and encourage bicycle use through installing bike racks.</p> <p>One or two vault toilets could be installed on the loop to reduce human waste issues in caves.</p>
CAMPGROUND	<p>The monument will explore various ways to improve the visitor experience in the campground for all types of campers (tent, recreational vehicle (RV) users, and large groups), using techniques such as separation and screening. The campground will retain its current character without providing RV hook-ups (these services are provided outside of the monument at local RV campgrounds).</p> <p>To encourage longer visitor stays, addition of one or two new shower buildings to the campground will be evaluated.</p>

Mitigation Measures

To ensure that implementation of the selected alternative protects unimpaired natural and cultural resources and the quality of the visitor experience, the following mitigation measures and best management practices will consistently be applied to actions prescribed in this plan. In addition, the monument will prepare appropriate environmental

reviews (NEPA and NHPA compliance documents, etc.) for any for future actions not fully analyzed in the EA. As part of the environmental review, the monument would avoid, minimize, and mitigate adverse impacts when practicable. The Resource Management staff oversee mitigation activities and enact reporting protocols.

MANAGEMENT AND PROTECTION OF NATURAL RESOURCES

Air Quality

- Implement a dust abatement program. Standard dust abatement measures includes the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate with native species.
- Minimize NPS vehicle emissions by using the best available technology whenever possible.
- Encourage the public and commercial tour companies to employ methods that reduce emissions.
- Employ sustainable designs that reduce energy demands, thus reducing pollutant production.

Soundscapes / Natural Quiet

- Implement standard noise abatement measures during monument operations, including: scheduling to minimize impacts in noise-sensitive areas, using the best available noise control techniques wherever feasible, using hydraulically or electrically powered impact tools when feasible, and locating stationary noise sources as far from sensitive uses as possible.
- Locate and design facilities to minimize objectionable noise.
- Minimize idling of motors when power tools, equipment, and vehicles are not in use.
- Muffle above ambient noise whenever possible to reduce noise impacts.

Night Skies (Lightscapes)

- In developed and administrative zones, install energy-efficient lights equipped with timers and/or motion detectors so that light would only be provided when it is needed to move safely between locations.
- In developed and administrative zones, use low-impact lighting, such as diffused light bulbs, and techniques such as downlighting to prevent light spill and preserve the natural lightscape.

Soils

- Build new facilities only on soils suitable for development. Minimize soil erosion by limiting duration of soil exposure and by applying erosion control such as erosion matting, silt fencing, and sedimentation basins in construction areas to reduce erosion, surface scouring, and discharge to water bodies. Once work is completed, revegetate construction areas with appropriate native plants in a timely period.

Vegetation

- Monitor areas used by visitors (e.g., trails, campsites) for signs of native vegetation disturbance. Use public education, revegetation of disturbed areas with native plants, erosion control measures, and barriers to control potential impacts on plants from erosion or social trails.
- Develop revegetation plans for disturbed areas and require use of genetically appropriate native species. Revegetation plans will specify species to be used, seed/plant source, seed/plant mixes, site-specific restoration conditions, soil preparation, erosion control, ongoing maintenance and monitoring requirements, etc. Salvaged vegetation is to be used to the fullest extent possible.
- Continue to implement and improve the monument's existing program to remove and prevent the spread of nonnative species. Standard measures include the following elements: use only weed-free materials for road and trail construction, repair, and maintenance; ensure equipment arrives on site free of mud or seed-bearing material; use weed-free certified seeds and straw material; identify areas of noxious weeds pre-project; treat noxious weeds or noxious weed topsoil before construction (e.g., topsoil segregation, storage, herbicide treatment); when depositing ditch spoils along the roads, limit movement of material to as close as possible to the excavation site; scrupulously and regularly clean areas that serve as introduction points for invasive plants (campgrounds, staging areas, and maintenance areas); revegetate with genetically

appropriate native species; inspect rock and gravel sources to ensure these areas are free of noxious weed species; and monitor locations of ground-disturbing operations for at least three years following the completion of projects.

Wildlife

- Employ techniques to reduce impacts on wildlife, including visitor education programs, restrictions on visitor and monument activities, and law enforcement patrols.
- Implement a wildlife protection program, with standard measures such as project scheduling (season and/or time of day), project monitoring, erosion and sediment control, fencing or other means to protect sensitive resources adjacent to project areas, disposing of all food-related items or rubbish, salvaging topsoil, and revegetating.
- Monitor wildlife deaths from visitor and/or management activities (e.g. road kill) and implement appropriate management actions in response.

Special Status Species

Mitigation actions will occur during normal park operations as well as before, during, and after projects to minimize immediate and long-term impacts on rare, threatened, and endangered species. These actions may vary by project area, and additional mitigation measures may be added depending on the action and location. Many of the measures listed for vegetation, wildlife, and water resources would also benefit rare, threatened, and endangered species by helping to preserve habitat.

- Conduct surveys for rare, threatened, and endangered species as warranted.
- Locate and design facilities/actions/ operations to avoid or minimize the removal of rare, threatened, and endangered species habitat. If avoidance is infeasible, minimize and compensate for adverse effects as appropriate and in consultation with the appropriate resource agencies.
- Plan work in areas in or near special status bird habitat as late as possible in the summer/fall.
- Conduct work outside of critical periods for the specific species when possible.
- Develop and implement restoration and/ or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of nonnative plants and wildlife on rare, threatened, and endangered species.
- Carry out surveys and monitoring for special status species.
- Protect and preserve critical habitat features, such as nest trees, whenever possible.

MANAGEMENT AND PROTECTION OF WILDERNESS VALUES

The monument's 2006 wilderness stewardship plan provides specific desired conditions for wilderness resources, visitor experiences, and management protocols. Monitoring would be conducted to ensure that conditions are meeting established standards and to determine if mitigation measures have been successful.

Minimum Requirement Process

The Wilderness Act directs that agencies administer wilderness in a manner that preserves the wilderness character. The minimum requirement process is used to avoid or reduce management intrusions on wilderness character and values. It provides a method for developing, evaluating, and selecting actions which are least disruptive to wilderness character and values, while facilitating administration of the wilderness. The process is applied to all management actions, programs, and activities within the monument that may affect wilderness and potential wilderness.

The minimum requirement concept is applied as a two-step process. The first step determines whether a proposed management action is appropriate and necessary for the administration of the area as wilderness and does not cause an unacceptable impact to wilderness resources and character. The second step determines the techniques and types of equipment needed to ensure that impacts on wilderness resources and character are minimized. If the project is found to be appropriate and necessary, then the management method (tool or technique) is selected that would result in the least amount of impact to wilderness; cost is usually not a decisive factor in this determination.

The minimum requirement process provides a formalized method for developing alternative ways to address an issue, and to evaluate each alternative's effects on wilderness character and wilderness resources. The minimum requirement process is incorporated into the appropriate environmental compliance.

MANAGEMENT AND PROTECTION OF CULTURAL RESOURCES

Protecting the monument's cultural resources is essential for understanding the past, present, and future relationship of people with monument resources and the expressions of our cultural heritage. The monument will pursue strategies to protect its cultural resources, including museum collections and archeological, historic, ethnographic, and archival resources, while encouraging visitors and employees to recognize and understand their value, and which allow the integrity of the monument's cultural resources to be preserved unimpaired. They also ensure that the monument is recognized and valued as an outstanding example of resource stewardship, conservation education and research, and public use.

Some of the monument's cultural resources are within designated wilderness. The Wilderness Act specifies that the designation of any areas of the park system as wilderness "shall in no manner lower the standards evolved for the use and preservation of" such unit of the park system under the various laws applicable to that unit (16 USC 1133(a)(3)). Thus, the laws pertaining to historic preservation also remain applicable within wilderness but must generally be administered to preserve the area's wilderness character. In accordance with NPS management policies, cultural resources that have been included in wilderness would be protected and maintained according to the pertinent laws and policies governing cultural resources, using management methods that are consistent with the preservation of wilderness character and values (6.3.8). These laws include the National Historic Preservation Act, the Archeological Resources Protection Act, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act, and Executive Order 13007 that addresses government-to-government consultation.

Adverse impacts on properties listed in or determined eligible for listing in the National Register of Historic Places, will be avoided if possible. If adverse impacts cannot be avoided, mitigation will be developed through a consultation process with all interested parties. In accordance with NPS management policies, any proposed adverse effects would be evaluated to determine whether the proposed actions constitute impairment of cultural resources.

ARCHEOLOGICAL RESOURCES

Archeological surveys will precede ground-disturbance required for new construction or removal of eligible historic properties. Known archeological resources are to be avoided to the greatest extent possible. If national register-eligible or-listed archeological resources cannot be avoided, an appropriate mitigation strategy is to be developed in consultation with the state historic preservation officer and associated American Indian tribes. If unknown archeological resources are discovered during project work, work in the immediate vicinity of the discovery is halted until the resources can be identified, evaluated, and documented and an appropriate mitigation strategy developed, if necessary, in consultation with the state historic preservation office and associated American Indian tribes.

HISTORIC STRUCTURES/BUILDINGS

All project work relating to historic structures/buildings will be conducted in accordance with the guidelines and recommendations of the Secretary of the Interior's Standards for the Treatment of Historic Properties and with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings. Typical mitigation measures for historic structures/buildings include measures to avoid adverse impacts, such as rehabilitation and adaptive reuse, designing new development to be compatible with surrounding historic properties, and screening new development from surrounding historic resources to minimize impacts on cultural landscapes and ethnographic resources.

Adaptive use may be employed to ensure that buildings remain in good condition. When not being adaptively used, the best approach for preserving these structures is regular preservation maintenance, which ensures that roofs and walls as well as supporting structural elements are maintained in a sound, weather-resistant condition. An example of adaptive use is using historic structures to house park operations.

Historic structures are to be maintained or stabilized until appropriate maintenance is undertaken. Benign neglect is not considered an appropriate management strategy. No national register-listed or -eligible structure will be removed

or allowed to decay naturally without prior review by park and region cultural resource specialists, including approval by the NPS regional director and consultation with the state historic preservation office. Before a national register-listed or -eligible structure is removed, appropriate documentation recording the structure will be prepared in accordance with Section 110(b) of the National Historic Preservation Act, and the documentation submitted to the Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) or Historic American Landscape Survey (HALS) program.

Historic structures that have been included within wilderness are to be protected and maintained according to the pertinent laws and policies governing cultural resources using management methods that are consistent with the preservation of wilderness character and values. Laws pertaining to historic preservation remain applicable within wilderness but must generally be administered to preserve the area's wilderness character (16 USC 1133 (a) (3)). The responsible decision-maker will include appropriate consideration of the application of the provisions of the Wilderness Act in analyses and decision-making concerning cultural resources.

CULTURAL LANDSCAPES

All project work relating to cultural landscapes is to be conducted in accordance with the guidelines and recommendations of the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes. Typical mitigation measures for cultural landscapes include measures to avoid adverse impacts, such as designing new development to be compatible with surrounding historic properties and screening new development from surrounding cultural landscapes to minimize impacts on those landscapes. Adaptive use is the best strategy to ensure that landscapes remain in good condition.

ETHNOGRAPHIC RESOURCES

The NPS will continue to consult with federally recognized Native American tribes with treaty resources in the monument on a government-to-government basis to identify ethnographic resources and develop appropriate strategies to mitigate impacts on these resources. Such strategies include continuing to provide access to traditional use or spiritual areas and screening new development from traditional use areas to minimize impacts on ethnographic resources. Consultations with American Indians linked by ties of kinship, culture, or history to park lands would address the inadvertent discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony, and all provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed.

MUSEUM COLLECTIONS

Mitigation measures related to museum collections consist of conservation of a collection through proper storage, handling, and exhibit of objects as specified in the NPS Museum Handbook and NPS Director's Order No. 24, NPS Museum Collections Management.

SCENIC RESOURCES

- Mitigation measures are designed to minimize human-made visual intrusions. These include the following:
- Where appropriate, use facilities such as boardwalks and fences to route people away from sensitive natural and cultural resources while still permitting access to important viewpoints.
- Design, site, and construct facilities to minimize adverse effects on natural and cultural resources and visual intrusion.
- Select colors and textures for built facilities that blend into the visual environment.
- Provide vegetative screening, where appropriate.

SOCIOECONOMIC ENVIRONMENT

Throughout implementation of the approved GMP, Lava Beds National Monument will pursue partnerships with tribes, local communities, and county governments to further identify potential impacts and corresponding mitigating measures that would best serve the interests and concerns of both the NPS and the local communities.

SUSTAINABLE DESIGN AND AESTHETICS

Sustainable practices will be considered in selecting building materials and sources, and building location and siting. Design standards specific to the monument will be developed in all repair, rehabilitation, and construction projects. Projects will use sustainable practices and resources whenever practicable by recycling and reusing materials, by minimizing materials, by minimizing energy consumption during the project, and by minimizing energy consumption throughout the lifespan of the project.

Other Alternatives Evaluated

Two other GMP alternatives were considered for Lava Beds National Monument. Alternative A (no action) consisted of continuation of existing monument management trends, and served as the basis for evaluating and comparing the other alternatives. Under Alternative A, the National Park Service would have continued to manage Lava Beds National Monument as it has since the approval of the 1996 General Management Plan. The natural resource program would have continued to focus on inventorying and monitoring, resource protection, preservation, mitigation, and applied research efforts. The cultural resource program would have continued to focus on protecting archeological resources, museum collections, historic buildings and structures, and cultural landscapes. Visitor opportunities would continue to be focused on significant sites within the monument. Expansion of educational and interpretive programs would be limited by facilities and staffing.

Management under Alternative C would have focused on expanding outreach efforts, visitor programs, and recreational opportunities in an effort to meet both current and changing visitor needs. Natural and cultural resource management would have remained largely the same as in Alternative A. The monument would have improved trails and visitor facilities to support diversified recreational opportunities throughout the monument.

Environmentally Preferred Alternative

The environmentally preferable alternative is defined as “the alternative that will promote national environmental policy as expressed in Section 101 of the National Environmental Policy Act.” Section 101 states that it is the continuing responsibility of the federal government to . . .

1. fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. preserve important historic, cultural, and natural aspects of our national heritage; and maintain, wherever possible, an environment which supports diversity, and a variety of individual choices;
5. achieve a balance between population and resource use which would permit high standards of living and a wide sharing of life’s amenities; and
6. enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The Council on Environmental Quality states that the environmentally preferred alternative is “the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources (46 FR 18026 – 46 FR 18038).”

The environmentally preferable alternative was determined to be Alternative B (the selected alternative). This alternative best satisfies the national environmental goals—it provides the highest level of protection of natural and cultural resources while concurrently providing for a wide range of neutral and beneficial uses of the environment. This alternative maintains an environment that supports a diversity and variety of individual choices, and it integrates resource protection with an appropriate range of visitor uses and understanding. This alternative surpasses the other alternatives in realizing the full range of the Section 101 national environmental policy goals. The no-action alternative (alternative A) does not provide as much resource protection or visitor opportunities as alternative B. In addition, the alternative B would significantly expand educational opportunities, research, and

restoration of resources at the monument resulting in a better understanding of the monument's resources, thus better equipping the monument in fulfilling criteria 3, 4, and 5.

Alternative A, while accurately describing the current management direction and the best efforts of the staff, fails to satisfy the NEPA requirements outlined above when compared to alternatives B and C. A shortage of funding for staff, programs, facilities, and services limits the monument's effectiveness in achieving criteria 4 and 6.

Alternative C would provide for more visitor use opportunities, but there also would be a higher potential for more impacts to natural resources in comparison with the preferred alternative. For example, while alternative C provides a considerable amount of new visitor opportunities, these opportunities have more potential for increased visitor use in sensitive areas of the monument such as Petroglyph Point and high use visitor caves. Alternative C does not provide nearly as many opportunities to enhance resources through restoration or to provide as many opportunities for improved understanding of resources from expanded research efforts. Thus, alternative C would not satisfy criterion (attain the widest range of beneficial uses of the environment without degradation), criterion 4 (preserve important aspects of our national heritage), or criterion 6 (enhance the quality of renewable resources) as well as the preferred alternative satisfies these criteria.

Alternatives Considered But Dismissed

Prior to completing the EA for the DGMP, the planning team developed four preliminary alternatives for public review, which were as follows:

- Concept A: Continue Current Management
- Concept B: Expanded Resource Preservation and Restoration
- Concept C: Diversified Recreation Opportunities
- Concept D: Interpretation and Education

The Choosing by Advantages method for identifying the preferred alternative in the EA resulted in the combination of alternative actions primarily from Alternatives B and D to create the preferred alternative. These actions best met the goals for the general management plan. Since most components from the former Alternatives B and D were included in the preferred alternative, these alternatives were ultimately dropped from consideration in the DGMP.

Why the Selected Alternative Has No Significant Effect on the Quality of the Human Environment

As defined in 40 *Code of Federal Regulations* (CFR) Section 1508.27, significance is determined by examining the following criteria:

IMPACTS THAT MAY BE BOTH BENEFICIAL AND ADVERSE

The selected alternative will result in both beneficial and adverse impacts. None of these impacts result in more than a moderate level of impact. Long-term, moderate beneficial impacts were identified for dark night skies, viewsheds/visual resources, geologic resources, vegetation, visitor use and experience, interpretation and education, access and transportation, monument operations, carbon footprint, and the socioeconomic environment. Other beneficial impacts range from negligible to moderate in intensity and were identified for air quality, soundscape resources, cave resources, wildlife and wildlife habitat, archeology, ethnographic resources, and museum collections. Beneficial impacts are primarily the result of enhanced visitor outreach, education, and interpretation; increasing proactive management and protection of resources through research, monitoring, and restoration; and increased emphasis on controlling nonnative species.

Negligible to moderate adverse impacts were identified for visual resources and viewsheds, dark night skies, soundscapes, soils, cave resources, geologic resources, vegetation, wildlife and wildlife habitat, cultural landscapes, and wilderness resources. Long-term impacts are primarily localized as a result of an increased potential for inadvertent and deliberate visitor-related impacts, such as trampling and soil disturbance. These impacts would be mitigated through monitoring, careful siting, restoration, the user capacity program, and other measures. Some of these impacts would be short-term as result of construction activities for new trails and facilities.

DEGREE OF EFFECT ON PUBLIC HEALTH OR SAFETY

Visitor safety remains a priority under the approved plan. None of the actions will adversely affect public health or safety. Several of the actions will beneficially affect public health and safety, including enhanced visitor education and interpretation and providing more formalized visitor opportunities in designated areas, where appropriate.

UNIQUE CHARACTERISTICS OF THE GEOGRAPHIC AREA SUCH AS PROXIMITY TO HISTORIC OR CULTURAL RESOURCES, PARK LANDS, PRIME FARMLANDS, WETLANDS, WILD AND SCENIC RIVERS, OR ECOLOGICALLY CRITICAL AREAS

While Lava Beds National Monument contains nationally significant archeological and historical resources, and significant scientific resources, no adverse effects to these historic or cultural resources were identified. The monument does not contain prime farmlands, designated wild and scenic rivers, or ecologically critical areas.

DEGREE TO WHICH EFFECTS ON THE QUALITY OF THE HUMAN ENVIRONMENT ARE LIKELY TO BE HIGHLY CONTROVERSIAL

None of the selected actions have potential to be highly controversial. At the conclusion of the public review and comment period on November 30, 2010, the Park had received 46 comments from the public and agencies. Given the minimal nature of these comments, there is no evidence that the effect on the quality of the human environment will be highly controversial.

DEGREE TO WHICH THE POSSIBLE EFFECTS ON THE QUALITY OF THE HUMAN ENVIRONMENT ARE HIGHLY UNCERTAIN OR INVOLVE UNIQUE OR UNKNOWN RISKS

The anticipated effects on the human environment, as analyzed in the EA, are not highly uncertain or unique, nor were any unknown risks identified.

DEGREE TO WHICH THE ACTION MAY ESTABLISH A PRECEDENT FOR FUTURE ACTIONS WITH SIGNIFICANT EFFECTS OR REPRESENTS DECISION IN PRINCIPLE ABOUT A FUTURE CONSIDERATION

Implementation of the selected alternative will neither result in significant adverse effects to the human environment nor set a precedent for future actions that could have significant effects.

WHETHER THE ACTIONS ARE RELATED TO OTHER ACTIONS WITH INDIVIDUALLY INSIGNIFICANT BUT CUMULATIVELY SIGNIFICANT IMPACTS

As noted in the EA for the DGMP, the actions proposed under the preferred alternative could contribute a slight amount to the overall adverse cumulative impacts on monument resources. The majority of these cumulative impacts result from non-NPS actions, including regional growth and development (air quality, dark night skies, viewsheds/visual resources), overflights (soundscapes), agricultural practices (potential to spread nonnative species), natural processes including erosion and sediment deposition (archeological resources), and unauthorized collecting (ethnographic resources). These non-NPS actions result in negligible to moderate adverse impacts on monument resources. The beneficial effects of the selected alternative will off-set some of these adverse effects, and this alternative will add an appreciable amount to the beneficial cumulative impacts by increasing resource protection, restoration efforts, and modest new visitor opportunities. Partnership efforts will also help to minimize adverse impacts on monument resources.

DEGREE TO WHICH THE ACTIONS MAY ADVERSELY AFFECT DISTRICTS, SITES, HIGHWAYS, STRUCTURES, OR OBJECTS LISTED ON NATIONAL REGISTER OF HISTORIC PLACES OR MAY CAUSE LOSS OR DESTRUCTION OF SIGNIFICANT SCIENTIFIC, CULTURAL, OR HISTORICAL RESOURCES

At this time, there is not enough information to make a determination of effect consistent with section 106 of the National Historic Preservation Act for the actions related to ethnographic resources, archeological resources, and

museum collections. Actions that have the potential to effect resources eligible for or listed on the National Register of Historic Places will be incorporated into a programmatic agreement that is tied to the GMP. The programmatic agreement would identify proposed actions for which further section 106 consultation is required, such as any ground disturbing construction activities associated with new trail development, building additions, and proposed facilities at Petroglyph Point. Table 22 in Chapter 6 of the EA for the GMP, "Consultation and Coordination" listed future section 106 compliance required for GMP implementation.

In the interim, no historic properties would be inalterably changed without consultation with the state historic preservation office and the Advisory Council on Historic Preservation, as appropriate. Archeological sites will be protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable and when disturbance is unavoidable appropriate treatment would follow in consultation with the California State Historic Preservation Office and the Klamath Tribes.

DEGREE TO WHICH THE ACTIONS MAY ADVERSELY AFFECT AN ENDANGERED OR THREATENED SPECIES OR ITS CRITICAL HABITAT

There are no federally listed threatened or endangered species documented in the monument. However, with an increased emphasis on restoration of ecological communities under the selected alternative will improve the monument's ability to identify and protect these species. Because of the broad, strategic nature of the GMP, the selected alternative does not call for any site-specific developments. The National Park Service will consult with the U.S. Fish and Wildlife Service in the future on a project-by-project basis.

Public Involvement

OVERVIEW

The monument released the EA and Draft General Management Plan (DGMP) for public review in September 2010. In August 2010, the planning team produced a newsletter that was distributed in the local community, at the monument visitor center, and to the DGMP mailing list. The newsletter announced the release of the DGMP, provided a summary of the alternatives described in the DGMP, and listed a range of opportunities for the public and stakeholders to review and comment on the document.

The public comment period was open from September 6, 2010 to November 30, 2010. The planning team distributed copies of the DGMP to organizations and individuals on the GMP mailing list and at public and stakeholder meetings. The DGMP was also made available for review and comment on the NPS's Planning, Environment and Public Comment website. News releases announcing the availability of the DGMP and the public meetings schedule were distributed to local media, and a feature newspaper story was published in the *Herald and News*, a Klamath Falls area newspaper, prior to public meetings held near the monument.

Two public meetings were held, one in Klamath Falls, Oregon on October 5, 2010, and one in Tulelake, California on October 6, 2010. The purpose of the public meetings was to present the DGMP to the public and to record their comments. Five people attended the public meetings. Planning team members also met with two San Francisco Bay Area chapters of the National Speleological Society, the leadership of the Klamath Tribes, and the U.S. Fish and Wildlife Service staff of the Klamath Basin Refuges.

SUMMARY OF COMMENTS

Forty-six written comments were received during the public comment period through letters, e-mails, and the NPS Planning, Environment and Public Comment website. A variety of views were expressed, but a good majority of the comments received were from members of caving and cave research-related organizations, including the Cave Research Foundation and members of the National Speleological Society.

Primary concerns emerging from the public comments included: 1) a desire to see research play a more prominent role in the general management plan, 2) greater recognition of the monument's existing research partnerships with cave-related interest groups, 3) greater recognition and management direction for caving and cave management, and 4) a desire to see that the monument research center continues to be used for research purposes. Other concerns

included suggestions for improving interpretation and education opportunities, concerns about proposed facility development (Petroglyph Point, Trails, Research Center, and Roads), concerns about the removal of wildlife overlooks, and concerns about management of the monument's collections.

A summary of public comments and NPS responses to those comments is provided in Attachment 1. Minor edits and text corrections to the DGMP derived from public comments are documented in Errata which has been prepared as an attachment to the EA.

Appropriate Use, Unacceptable Impacts, and Impairment

Sections 1.5 and 8.12 of 2006 Management Policies underscore that not all uses are allowable or appropriate in units of the national park system. Actions under the selected alternative were screened to determine consistency with applicable laws, executive orders, regulations, and policies; consistency with existing plans for public use and resource management; actual and potential effects to park resources; total costs to the NPS; and whether the public interest would be served. Based on this evaluation, the selected alternative is considered an appropriate use of the monument lands.

Through the designation of user capacity indicators and standards, the monument would monitor any activities that could impact resources and take appropriate management actions to prevent or restore any resource damage. As a whole, the selected alternative provides the best combination of management approaches for protecting monument resources while considering the area for appropriate future uses that are consistent with NPS Management Policies. Furthermore, the selected alternative is consistent with the park's purpose as stated in its enabling legislation. Therefore, the NPS finds that the actions envisioned in the GMP are an appropriate use. Because the application of mitigating measures is expected to be successful in ensuring that no major adverse impacts will occur, implementation of the selected alternative will not result in any unacceptable impacts.

In analyzing potential for impairment in the EA for this GMP, the National Park Service took into account that if an impairment were likely to occur, such impacts would be considered to be major or significant under the Council on Environmental Quality's (CEQ) regulations. Taking this into consideration, the National Park Service's *Interim Technical Guidance on Assessing Impacts and Impairment to Natural Resources* states that, "not all major or significant impacts under a National Environmental Policy Act (NEPA) analysis are impairments." However, all impairments to NPS resources and values would constitute a major or significant impact under NEPA. If an impact results in impairment, the action should be modified to lessen the impact level. If the impairment cannot be avoided by modifying the proposed action, that action cannot be selected for implementation." (NPS, Natural Resource Program Center, July 2003).

The National Park Service has determined that implementing the selected alternative will not constitute an impairment to the integrity of Lava Beds National Monument's resources or values as described by NPS *Management Policies* (NPS 2006 Section 1.4). This conclusion is based on the environmental analysis of the alternatives, public comments received, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in 2006 NPS *Management Policies*. The EA for the DGMP determined that there were less than major adverse impacts on air quality, dark night skies, viewsheds and visual resources, soundscapes, cave resources, geologic resources, soil resources, vegetation and wildlife, federal and state-listed species, archeological resources, cultural landscapes, historic structures, and visitor use and experience.

Overall, the approved GMP results in benefits to monument resources and values, enhances opportunities for visitor enjoyment, and implementation will not result in any impairment or unacceptable impacts.

Conclusion

Based on the environmental analysis as documented in the EA, together with the capability of the mitigation measures to avoid, reduce, or eliminate impacts, and with the due consideration for the nature of public comments, results in determination that the approved plan is not a major federal action significantly affecting the quality of the human environment. Negative environmental impacts that could occur are no more than minor to moderate in intensity, nor would any impairment of park values occur. There are no unacceptable impacts on public health,

public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial environmental consequences, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the selected alternative will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this plan and thus will not be prepared. Any plan elements, programs and other activities can be implemented as soon as practicable but not sooner than 30 days following the date of the approval of the General Management Plan.

RECOMMENDED: *J. Johnson*
SUPERINTENDENT, LAVA BEDS NATIONAL MONUMENT

DATE: 7/20/11

APPROVED: *Patricia J. Newbauer*
REGIONAL DIRECTOR, PACIFIC WEST REGION
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DATE: 7/26/11