

# general management plan

january 1981

## LASSEN VOLCANIC



NATIONAL PARK / CALIFORNIA

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December 1980

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December 1980

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Western Region

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**LASSEN VOLCANIC**  
NATIONAL PARK CALIFORNIA

general management plan



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## SUMMARY

The planning process to produce a general management plan for Lassen Volcanic National Park became embroiled in controversy when it was discovered that the major visitor facilities at Manzanita Lake were located in the path of a potential rockfall-avalanche. These facilities were closed in 1974, and since that time, extensive studies have been conducted to determine the feasibility and cost of providing these services in another location.

The National Park Service will not develop food, lodging, or other commercial facilities to replace those at Manzanita Lake. The National Park Service will cooperate with the Forest Service and the private sector in planning for any needed facilities outside the park boundaries. The Manzanita Lake and Lost Creek campgrounds, which are in a low risk area, will be retained for the foreseeable future but closed when adequate replacements are developed in the immediate vicinity.

The major emphasis of the plan is to provide, in cooperation with the Forest Service, an improved level of visitor information, orientation, and interpretation facilities and services. Interpretive centers are proposed for the southwest and northwest entrances, and exhibits will be improved throughout the park.

The downhill skiing facilities at the southwest entrance will be removed when adequate replacement facilities are developed in the vicinity. The National Park Service recognizes that this could take 15 to 20 years. The current downhill ski facilities do not meet National Park Service standards; improvements will be permitted to assure a quality, safe visitor experience within the current capacity of the area.

Other proposals in the plan are primarily directed towards removing, replacing, or renovating obsolete facilities. The only significant change will occur at Juniper Lake, where development will be relocated to the southeast corner of the lake and the current developed areas will be restored to natural conditions.

In conjunction with other plans (resource management, backcountry use, etc.) the general management plan assures that the natural and cultural resources of the park will not suffer from excessive levels of visitor use and development while providing a variety of opportunities for enjoyment and understanding by a varied segment of the general public.





# THE PARK AND ITS ENVIRONS



## INTRODUCTION

Lassen Volcanic National Park was established to protect the "most recent" volcanic activity in the coterminous United States and its related biotic and cultural resources for the benefit and enjoyment of park visitors. The 1980 eruption of Mount Saint Helens in Washington does not alter the significance of the park. Rather, it enhances the value of Lassen as it provides current evidence of what once happened in the park, and the two areas provide complimentary laboratories for the study of natural processes.

One vivid way of conceiving of Lassen is to consider it a living museum of natural history. Contrasting markedly with the fiery, potentially destructive volcãnoes are the cool, tranquil forests and meadows. The succession of these plant communities from the fire and rubble of volcanic activity is a continual process. Despite a short growing season, Lassen provides an environment for an intermingling of flora and fauna of both the southern Cascades and the northern Sierra Nevada.

Man's attempts to migrate through Lassen and to cope with an environment dominated by volcanic forces are evident in the historic remains. An interesting cultural legacy complements the natural history, showing man's relationship to the environment.

Since the park was established in 1916, visitors have come primarily by automobile and on foot to see the incredible variety of volcanic features. Over the years traditional use patterns have evolved, facilities have been developed, and the park has continued to grow in popularity. Increased use, inadequate facilities, many developed in the 1930s, and environmental problems associated with public use have led to the preparation of a new general management plan for the park.

The emphasis of this plan is on providing a quality visitor experience, with appropriate facilities and with minimal impact upon the numerous natural and cultural resources within the park and adjoining area.

The plan recognizes that the park is, by its very nature, a potentially hazardous environment. The visitor to the park accepts some risk; the National Park Service seeks to reduce this risk to minimal levels.

Only by protecting the fragile beauty of volcanic landscapes, by perpetuating the delicate ecosystems, by assessing cultural sites for preservation, and by providing visitors with a quality experience can the park continue to fulfill its purpose. Impairment of resources for any reason ultimately degrades the quality of the visitor experience. Thus the above objectives are mutually supportive.

## THE PARK

The turn-of-the-century movement to preserve natural wonders in the Lassen Peak region culminated in two presidential proclamations in 1907. These documents established Cinder Cone National Monument and Lassen Peak National Monument.

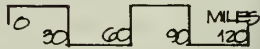
In 1914, eight years after "extinct" Lassen Peak was set aside as a national monument, the volcano erupted, spewing forth lava, ash, and clouds of hot gas in a spectacular testament of the mountain-making process. As a result of renewed public interest in Lassen Peak, Congress established Lassen Volcanic National Park On August 9, 1916.

Lassen Peak dominates the park and is a focal point of visitor interest. However, it is no more impressive in origin than other volcanic features in the park. Towering landforms join Lassen Peak in a rugged skyline. Southwest of the peak, Brokeoff Mountain and other remnants of an ancient collapsed volcano, Mount Tehama, form a glaciated caldera. In the northeast corner of the park, symmetrical Cinder Cone overshadows Fantastic Lava Beds and colorful Painted Dunes. Devastated Area, northeast of Lassen Peak, is the slowly healing evidence of the cataclysmic mudflow and fiery cloud of 1915. The boiling hot springs, hissing fumeroles, and gurgling mudpots at Sulphur Works and Bumpass Hell are constant reminders that Lassen Peak is officially classed as an active volcano; the 1980 eruption of Mount Saint Helens in Washington is adequate evidence that the Cascade Range is still "alive."





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# REGION

LASSEN VOLCANIC NATIONAL PARK

## THE REGION

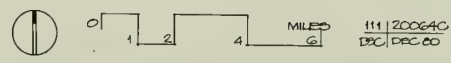
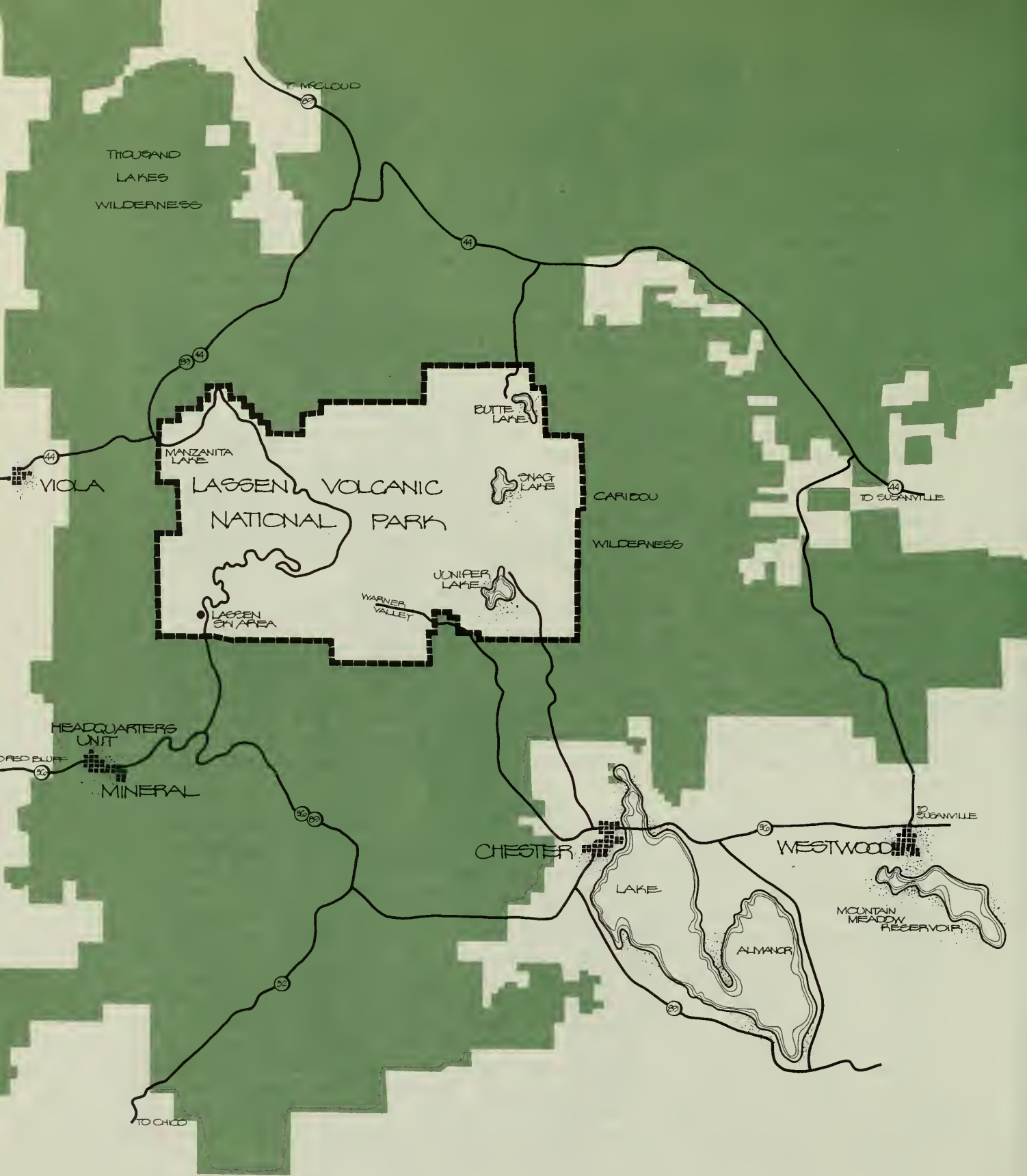
Lassen Volcanic National Park is located at the southern end of the Cascade Range and only a few miles from the northern terminus of the Sierra Nevada. The park is east of the Sacramento Valley, which is part of the populous Central Valley of California. About 85 percent of the park visitors are from California, with many coming from Sacramento and the Bay Area, only a day's drive away. Californians are noted for their mobility, and the state has the highest per capita auto ownership in the world. That and the easy access by road contribute to Lassen's weekend destination appeal. The cooler temperatures at Lassen provide an additional stimulus to Californians desiring time away from their lowland homes. Even more important, though, are the scenic wonders, volcanic curiosities, and fascinating plant and animal communities that are fundamental to the Lassen experience.

Interstate 5, located about 50 miles west of the park, is the principal artery of north-south travel along the West Coast. In combination with major state highways, the interstate makes Lassen accessible from most population centers in California and Oregon.

Gateway towns west of the park are Red Bluff and Redding, both about 50 miles distant. Located on Interstate 5, these communities provide the nearest year-round accommodations. East of the park are the smaller gateway towns of Chester and Susanville, respectively 30 and 65 miles from the park. Only 9 miles south, the resort community of Mineral is the site of park headquarters. Several resorts in the area offer a variety of accommodations and facilities where vacationers may remain a few days or several weeks. Few are open in the winter on any regular basis.

Lassen Volcanic National Park is situated among resources well suited to public use. The region is famed for its scenic, forested mountains and numerous lakes; accordingly, the park is but one facet of a land use complex important to the nation for its timber, water, and recreational resources. Besides eight national forests and three California state parks, several areas of the National Park System are readily accessible to regional visitors and are within a day's drive of the park. North of Lassen along the Cascade crest are Lava Beds National Monument and Crater Lake National Park. Other important volcanic areas north of the park, most of them administered by the Forest Service, supplement the interpretive story at Lassen. For example, the Hat Creek district of Lassen National Forest, immediately north of Lassen Volcanic National Park, contains volcanic features, such as Subway Lava Cave, that have been developed for public use. Other important features administered by the Forest Service in the southern Cascades include the Medicine Lake caldera and glass flows near Lava Beds National Monument.

In the future, the use of private automobiles may be inhibited because of increasing prices for limited quantities of fuel. As a result, public transportation by train and bus may increase in importance. Amtrak already serves the southern Cascades, and Redding and Klamath Falls are established stops for visitors. With trains already bringing visitors to



**VICINITY**  
 LASSEN VOLCANIC NATIONAL PARK

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the region, bus service could be developed within the region to serve Lassen and the numerous other volcanic resources along the Cascades. Thus, in future planning for Lassen Volcanic National Park, trends in development should not preclude possibilities for public transportation. In the broad context of regional recreation opportunities, Lassen is a key link in the chain of visitor experiences available in the Sierra Nevada and Cascades. The park is completely surrounded by Lassen National Forest. The Forest Service recognizes that timber-growing areas adjacent to the park can be managed to reduce visual disturbance to the park scene. Vista management also is practiced along roads approaching the park, and the resulting travel-influence zones set the mood for a natural area experience at Lassen.

The common boundary between Lassen Volcanic Wilderness and Caribou Wilderness in Lassen National Forest requires biagency planning. The extent to which the shared wilderness resource will be interconnected for public use, if at all, and the commonality of management will continue to be subjects of mutual concern.

Finally, the future of the park is inseparably tied to planning responses and actions of governmental and private entities other than the National Park Service. Lassen is a relatively small national park, higher in elevation than most of the surrounding national forest. The park has limits for development, not only because it is a natural area with three-quarters of its land in wilderness, but also because most areas not in the shadow of geologic hazards have steep slopes or are ecologically fragile. Planning to date indicates that all the facilities and roads needed for supporting public use of the park cannot be accommodated inside the boundary. As a result, the Forest Service will be joining with the National Park Service to plan for visitor facilities and services vital to the future use of the park and the adjacent forest.

## MANAGEMENT ZONING

Within the framework of legislative mandates and National Park Service policies, a system of classifying land has been developed to meet the special needs of Lassen Volcanic National Park. The categories of land have been influenced by legal constraints such as wilderness areas, resources like outstanding volcanic and cultural features, public health and safety, existing patterns of visitor use, and future development needs as identified in this plan. Land classification provides a control for future use and management of the park. The following descriptions annotate the Management Zoning map.

### Natural Zone - 105,324.88 Acres

Lassen Volcanic National Park is primarily a natural area with outstanding geologic features. The majority of the lands are classified in the natural zone. This zone is further refined into three subzones.

Protected Natural Area Subzone - 78,952.00 Acres

This subzone is comprised of all of the designated wilderness of the park. These lands are protected by law from development other than trails and minimal necessary administrative structures. Outstanding geologic features and historic sites such as the Nobles Emigrant Trail, a National Register site, occur within this subzone as shown on the management zoning map. Where zones overlap, the acreages have been included only in the protected natural area subzone. A study of possible wilderness additions will be conducted when inholdings have been acquired and could lead to substantial additions to this subzone.

Outstanding Natural Features Subzone - 4,172.00 Acres

This subzone consists of those outstanding geologic features for which the park was established. These areas are, for the most part, readily visited by roads and short trails. Facilities and services such as boardwalks, overlooks, interpretive devices, and talks are provided. (Some of these outstanding natural features are also included in the protected natural area subzone.)

Natural Environment Subzone - 22,200.88 Acres

These areas provide a transition zone between developments and park roads and protected areas of the park. They are managed to conserve natural resources as much as possible. Should future development be required to serve increasing visitor needs, selected areas within this subzone would be considered.

Historic Zone - 555.00 Acres

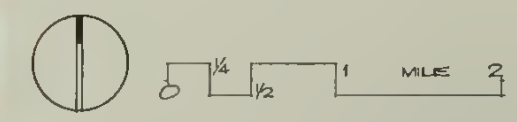
Cultural features are described under specific areas of the plan. Generally these sites are too small to map on a parkwide management zoning map and their locations are indicated by a symbol. A detailed parkwide study of cultural resources is in progress to determine the location of historical and archeological features, to evaluate their significance, and to recommend strategies for preserving these resources. A separate cultural resources management plan will be prepared to complement the natural resources management plan. As additional cultural resources are identified, the acreage within this zone will be revised, affecting acreage within other zones.

Preservation Subzone - 505.00 Acres

The Nobles Emigrant Trail corridor, a 200-foot-wide swath across the northern part of the park, comprises the major acreage within this subzone. (Approximately 74 acres of this National Register property are included in the protected natural area subzone.)



- NATURAL ZONE**
- PROTECTED NATURAL ZONE (WILDERNESS)
  - OUTSTANDING NATURAL FEATURE
  - NATURAL ENVIRONMENT
- HISTORIC ZONE**
- PRESERVATION
  - \* ADAPTIVE USE/PRESERVATION
- PARK DEVELOPMENT ZONE**
- GENERAL DEVELOPMENT
  - TRANSPORTATION



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HEADQUARTERS

# MANAGEMENT ZONING

LASSEN VOLCANIC NATIONAL PARK

Adaptive Use/Preservation Subzone - 50.00 Acres

This subzone includes structures being used for administrative purposes but of sufficient historic importance to merit preservation of their original character and appearance. These structures include a potential historic district of rustic administrative, residential, and maintenance buildings, including most of the older, wooden buildings, at the headquarters complex at Mineral; the Horseshoe Lake, Summit Lake, and Warner Valley ranger stations; and the Prospect Peak and Mount Harkness fire lookouts. The Sulphur Creek archeological district is included in this subzone rather than the preservation subzone because of the winter sports activities that affect part of the district.

Park Development Zone - 418.00 Acres

General Development Subzone - 317.00 Acres

These lands are reserved for development, both existing and proposed, including administrative facilities, visitor service facilities, formal campgrounds, scenic overlooks accessible by automobile, the ski area, and utilities for these developments. Within this subzone approximately 89 acres are utilized for administrative and residential facilities and 298 acres are utilized for recreation and visitor services.

The proposed development site in Manzanita Meadows is not within the park boundary and has not been included in the management zoning. Should this area be added to the park, approximately 5-10 acres would be added to this subzone.

Transportation Subzone - 101.00 Acres

Roads to be retained are located within the transportation subzone, which passes through other subzones. Minor development associated with the road corridor (pullouts, picnic areas, small overlooks, etc.) are included in this subzone.

The total park acreage according to the master deed list is 106,297.88 acres. A boundary survey was completed in 1978 and resulted in minor changes to the park acreage.



# THE PLAN





## THE VISITOR EXPERIENCE

Visitors to Lassen Volcanic National Park are generally passing through the park as part of a vacation trip which may include other attractions in the vicinity or may be part of an extensive tour of the West Coast. Approximately 24 percent of the visitors in 1979 remained overnight in the park. It is not known how many of the visitors remain in the region and return to the park for more than the typical one-day visit.

The park offers a variety of experiences. An overview can be obtained on a one-day visit by driving the park road and stopping at some of the interpretive waysides. To fully explore the diverse features would require many days or even weeks.

This plan places emphasis on providing a quality experience for the short-term visitor, but those who remain longer will also benefit from these proposals. While many visitors to the park are repeat visitors and know where they want to go and what they want to do, improved orientation will assist all visitors in planning an enjoyable experience, and improved interpretation will add meaning to their visit.

The Lassen Park Road is the primary access route to the remarkable features of the park. Other areas within the park are reached by road spurs from highways to the north and south of the park boundary, but over 90 percent of the visitors use the park road. Not only does this road lead to the major volcanic features of the park, it also serves the major campgrounds and provides numerous access points to backcountry trails and routes up Lassen Peak, and although only a portion remains open in winter, it provides for winter use near the park entrances.

At present, only minimal orientation facilities are available at the two main entrances. Improved information/orientation facilities will better present the park (and the region) by providing a general introduction to the features to be seen within an overall framework of the violent activity which led to the establishment of the park. Visitors with special interests will be able to plan their visit to suit their specific interests. Visitors with a general interest will find the waysides and features more informative because of their introduction to the park. They will also be encouraged to visit other features in the vicinity which complement the Lassen story.

Having planned their visit at one of the park entrances, visitors may choose to go to specific areas or follow a series of wayside exhibits along the park road and adjacent trails. Each of these waysides will cover a particular aspect of the Lassen story. One may emphasize the tremendous forces which shaped the landscape, another the heroic efforts of the pioneers who struggled across the landscape. Visitors will constantly be reminded that Lassen is still potentially dangerous and could again become active at any time. For those who have the time, a variety of interpretive programs will be available at the two major entrances and various locations within the park.

Overnight visitors, and particularly backcountry users, will be able to experience the park on different terms than the typical day visitor. With more time available they may choose to sit by a mountain stream or seek the summit of one of the many peaks. They can participate in a guided walk or living history program or seek solitude along one of the numerous trails. Evening programs will be available at many of the campgrounds to provide relaxation and further interpretation.

Winter visitors will find a different park. Most roads are closed and access is only by foot on skis or snowshoes. The orientation/interpretation facilities at the two major entrances will remain open during the winter. Approximately 70 percent of the winter visitors participate in some form of winter recreation--a challenging winter ascent of Lassen Peak, backcountry snow-camping, a leisurely cross-country ski trip in the Manzanita Lake area, a snowshoe walk to the Sulphur Works, downhill skiing at the south entrance, or family playing in the snow.

Whatever time of the year a person chooses to visit the park, there will be staffed facilities where information will be available to assist in planning, and interpretation will offer insight to the unique features of Lassen Volcanic National Park.





## INTERPRETATION

Interpretation is the key to understanding the park resources. The interpretive theme at Lassen is volcanic activity and its effect upon landscapes, biotic resources, and man. Man does not experience Lassen without a certain degree of trepidation because he knows that eruptive violence has occurred here, even in this century, and he is curious about the "pulse" of active volcanoes in the park. Interpretive programs will emphasize the drama and consequences of past eruptions, and monitoring of the volcanoes will continue to be interpreted to underscore man's respect for uncontrollable natural phenomena.

The biotic features of a Cascadian environment also will be interpreted, focusing on how life adapts to changeable volcanic landscapes, as well as on the beauty of mountain plants and wildlife. Visitors will have opportunities to learn about the history of man in this region, including the rigors of pioneer travel, man's struggles and failures in adapting to nature, and his growing awareness of the threat posed by active volcanoes as evidenced by the 1980 eruption of Mount Saint Helens.

Closure of the Loomis Museum at Manzanita Lake has created a void in interpretive services that will be filled when new interpretive facilities are built near the northwest entrance (on Forest Service land) and southwest entrance (on Park Service land). Resources managed by both the National Park Service and the Forest Service will be interpreted in these facilities. The contributions of the Loomis family to the development and understanding of Lassen Volcanic National Park will be commemorated in the new interpretive center near the northwest entrance. This center will be accessible to visitors approaching the park on state highways from both the north and the west. An understanding of volcanic features and recreational opportunities in Lassen National Forest will add to the story of volcanoes in the park (Subway Lava Cave, for example, is an outstanding feature in the Hat Creek district of the forest that has no counterpart inside the park). In the winter, this center will serve visitors to the recreational facilities in Lassen National Forest as well as those visiting the park.

The story of ancient Mount Tehama--its growth, collapse, and eventual erosion by ice and water--will be told graphically at the southwest interpretive facility. Sulphur Works and Bumpass Hell will also be introduced here to both summer and winter visitors. In the winter, visitors will have the opportunity to take interpretive snowshoe hikes to Sulphur Works and will be given information about interesting cross-country skiing routes.

These new facilities will provide a coherent story, so that features along the road will become more meaningful to visitors as they travel through the park. In other areas of the park wayside exhibits, self-guiding trails, and special interpretive programs will emphasize the features of the particular area.

Park information brochures will be printed in several languages. Closer coordination and cooperative efforts with other agencies, in particular the Forest Service, will ensure that visitors are aware of natural and cultural features and recreational opportunities throughout the region.

## VISITOR USE AND DEVELOPMENT

The plan for Lassen Volcanic National Park recognizes that visitation and development will continue in areas of volcanic hazards. It was recognized during the development of this plan that if all risks to human life were to be avoided, the park would be virtually closed to all visitor use, and the wonders of the park could only be observed from a distance. Thus, it is recommended that visitors should be warned of the potential dangers, but should not be prohibited from using high-risk areas. To reduce visitor exposure to known hazards, development will be removed from high-risk areas. Seismic monitoring equipment has been installed, and an emergency operations plan is in effect. In all probability, advance warning will allow evacuation of visitors prior to major volcanic or seismic activity. However, the possibility of a sudden, catastrophic event remains. Much as San Franciscans live with the knowledge that a major earthquake will occur, the visitor to Lassen must accept the fact that natural events of a violent nature could occur at any time.

### Lassen Park Road

The 30-mile transpark road intersects an array of volcanic features, crosses several distinct life zones, and offers access to a variety of hikes ranging from short nature walks to lengthy wilderness treks. For most park visitors, the scenic road corridor is the foundation of the Lassen experience. Little could be gained by altering the existing circulation patterns. Consequently, the diversity of visitor activities along the road will be maintained, and modifications will be made only where necessary to rectify unsafe conditions. The increasing number of visitors will be accommodated only up to the capability of the resources to sustain this use. There are many opportunities to enjoy and understand the park as one drives the park road. The use of numbered roadside markers and a guidebook will continue. Many visitors are unaware that the guidebook is available until they are well along the road; they are available at concession facilities, interpretive/information centers, ranger stations, and the entrance stations, but this needs more emphasis to assure visitors have the opportunity to obtain one.

Most of the major stops along the park road serve visitors well. Some parking areas become crowded, but expansion is not proposed. Wayside exhibits are being and will continue to be improved as part of a comprehensive upgrading plan to improve all of the interpretive presentations.

The Devastated Area wayside is poorly designed; visitors now cross the road to take pictures and the exhibits are not attractively sited. The area will be redesigned to provide a more attractive and safer viewing situation and improved access for disabled persons. Some parking areas need minor revisions to improve circulation and provide for bus access.

Kings Creek Meadows (a popular picnic area), Lake Helen and Emerald Lake, Bumpass Hell, and the Sulphur Works will remain popular day use areas, and there will be little change other than routine maintenance, safety improvements, upgraded exhibits and signing, and provision for access for disabled persons where feasible.



CLOSED IN 1974

MANZANITA LAKE

- LASSEN PARK LODGE, CABINS, DINING ROOM, STORE, GAS STATION
- EMPLOYEE RESIDENCES
- LUDWIG MUSEUM
- TRAILS

MANZANITA CAMPGROUND

- AMPHITHEATER,
- 190 UNIT CAMPGROUND REOPENED 1976
- TRAILS

MANZANITA CHUTES

- TEMPORARY DEVELOPMENT
- RANGER STATION
- INTERPRETIVE FACILITY
- EMPLOYEE RESIDENCES
- MAINTENANCE FACILITIES

LASSEN PARKING TRAILS

DEVELOPMENT

SULPHUR WORKS

- PARKING AREA
- TRAILS

BUMPER

- PARK
- TRAIL

LASSEN

- SKI L
- SKI L
- PARK
- 24 UNIT
- TRAIL

PARK HEADQUARTERS AT

- ADMINISTRATION, MAINTENANCE
- RESIDENCE FACILITIES



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UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

# EXISTING DEVELOPMENT

LASSEN VOLCANIC NATIONAL PARK

**CLOSED IN 1974**  
**MANZANITA LAKE**  
 ● LASSEN PARK LODGE, CABINS, DINING ROOM, STORE, GAS STATION  
 ● EMPLOYEES  
 ● RESIDENCES  
 ● LUDWIG MUSEUM  
 ● TRAILS

**LOST CREEK**  
 ● 10 UNIT GROUP CAMP / 45 UNIT CAMPGROUND  
 ● EMPLOYEE TRAILERS

**BUTTE LAKE**  
 ● 98 UNIT CAMPGROUND  
 ● RANGER STATION  
 ● EMPLOYEE RESIDENCE AND TRAILERS  
 ● TRAILS

**MANZANITA CAMPGROUND**  
 ● AMPHITHEATER  
 ● 190 UNIT CAMPGROUND REOPENED 1976  
 ● TRAILS

**HAT CREEK**  
 ● TRAIL  
 ● PRIVATE LAND AND DEVELOPMENT

**MANZANITA CHUTES**  
 ● TEMPORARY DEVELOPMENT  
 ● RANGER STATION  
 ● INTERPRETIVE FACILITY  
 ● EMPLOYEE RESIDENCES  
 ● MAINTENANCE FACILITIES

**DEVASTATED AREA**  
 ● PARKING AREA

**SUMMIT LAKE**  
 ● 93 UNIT CAMPGROUND  
 ● RANGER STATION  
 ● TRAILS

**LASSEN PEAK PARKING AREA**  
 ● TRAILS

**JUNIPER LAKE**  
 ● 18 UNIT CAMPGROUND  
 ● RANGER STATION  
 ● EMPLOYEE RESIDENCE  
 ● TRAILS  
 ● PRIVATE LAND AND DEVELOPMENT

**SULPHUR WORKS**  
 ● PARKING AREA  
 ● TRAILS

**BUMPASS HELL**  
 ● PARKING AREA  
 ● TRAILS

**WARNER VALLEY**  
 ● 15 UNIT CAMPGROUND  
 ● RANGER STATION  
 ● TRAILS

**DRAKESBAD**  
 ● GUEST LODGE  
 ● TRAILS

**LASSEN SKI AREA**  
 ● SKI LIFT AND SLOPES  
 ● SKI LODGE  
 ● PARKING AREA  
 ● 24 UNIT CAMPGROUND  
 ● TRAILS

**PARK HEADQUARTERS AT MINERAL**  
 ● ADMINISTRATION, MAINTENANCE  
 ● RESIDENCE FACILITIES

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UNITED STATES DEPARTMENT OF THE INTERIOR  
 NATIONAL PARK SERVICE

# EXISTING DEVELOPMENT

LASSEN VOLCANIC NATIONAL PARK

## Northwest Entrance

The northwest entrance to the park serves visitors approaching from the west (usually through Redding) or from the north. The latter may already have visited other areas of volcanic activity while the former are ready for their introduction to the unique features of the area.

Visitor Facilities--A new interpretive center will be developed in Manzanita Meadows adjacent to the park entrance. This will be a joint operation of the National Park Service and the Forest Service where visitors may receive information about the features of the park and the forest. The National Park Service will build the facility on Lassen National Forest land. Temporary information facilities and the district office now located at the park entrance will then be removed.

The interpretive center will be sited to take advantage of views of Lassen Peak and will include--in addition to the information/orientation facility--an auditorium, exhibit space, outdoor amphitheater, and offices for National Park Service and Forest Service employees. The new center will remain open for winter interpretive activities, but on a modest scale compared to the summer operations.

The need for and feasibility of providing commercial visitor services such as food, camping supplies, gas, and equipment rental will be addressed during Forest Service land use planning efforts scheduled for completion in 1983. If there is a proven need and these services are not likely to be provided on private land, Forest Service policies could permit their development in Manzanita Meadows or other areas adjacent to the northwest portion of the park. These facilities would serve summer visitors to the park and forest and winter visitors who primarily would be using recreation facilities on Forest Service lands.

Administrative Facilities--A joint National Park Service/Forest Service maintenance, fire cache, and employee housing area will be developed northwest of Chaos Jumbles to replace the temporary facilities now located in Manzanita Meadows. A new sewage treatment facility will be constructed west of the park in Manzanita Meadows to serve all of the development in the area.

A new entrance station will be provided near the park entrance; the historic entrance station and residence will be removed.

Manzanita Lake Area--The rustic lodge, cabins, general store, Loomis Museum, and employee residences were closed in 1974 because of their location in the avalanche path originating at Chaos Crags. The nearby campground was also closed temporarily, but it has been partially reopened since it was not in the direct path of potential avalanches. Limited day use has been permitted, but not encouraged, in the Manzanita Lake area. This policy will continue in the future.

The historic Loomis Museum and seismograph building and the Loomis residence will be retained, but not be reopened, until the new interpretive center is developed, then they will be removed. Some of the

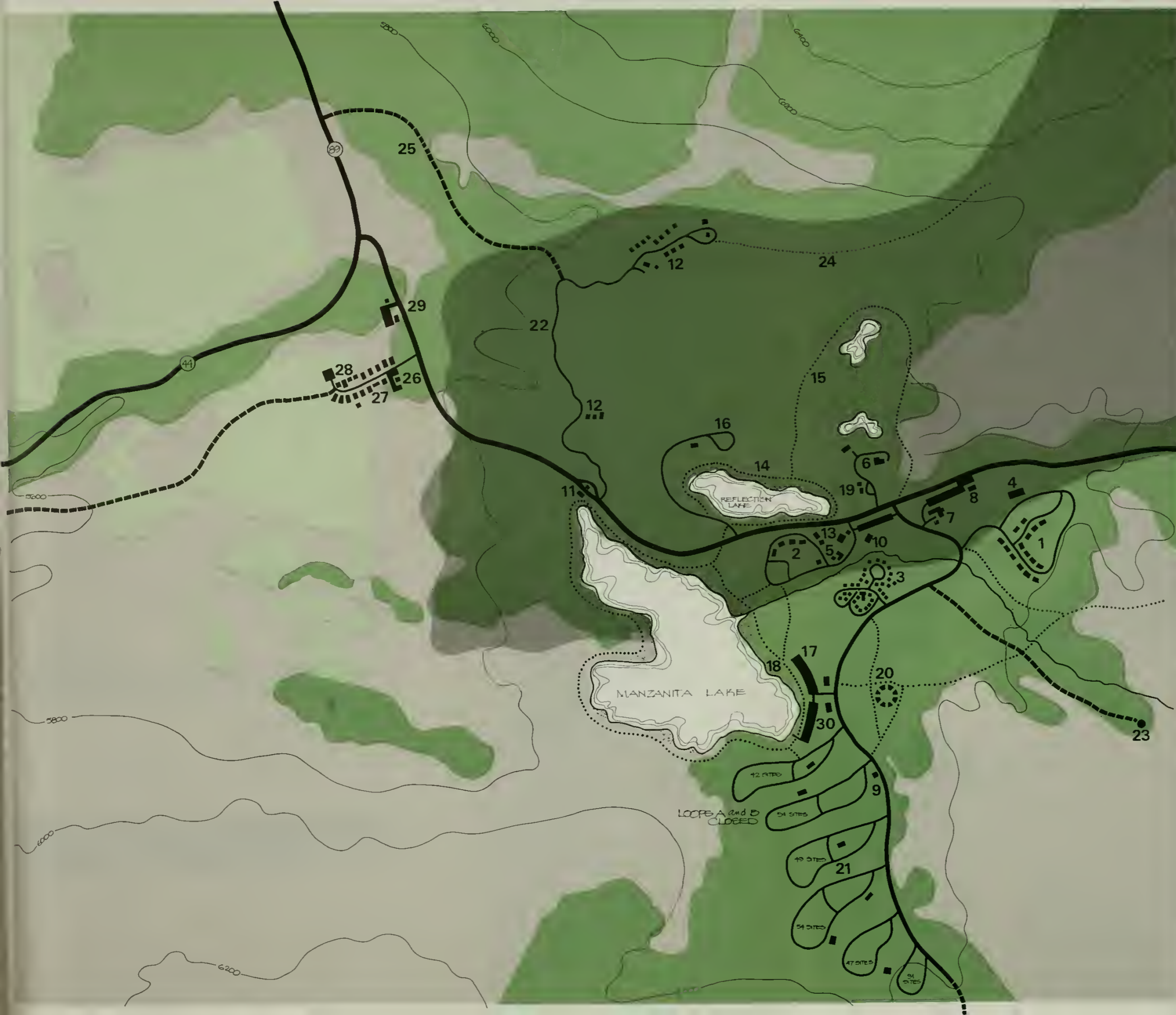
fine exhibits in the museum, while somewhat outdated, will be restored to their original appearance and relocated to the new interpretive center. Other structures in the area will be removed and, where feasible, reused in accordance with the memorandum of agreement with the Advisory Council on Historic Preservation (see appendix D in the Final Environmental Impact Statement). Excess paving will be removed, and an extensive grounds rehabilitation program will be undertaken to restore the vegetation and encourage new growth in the overmature forest.

The National Park Service does not intend to replace the stores, lodging units, and restaurants removed from the Manzanita Lake area. If there is a demand for overnight lodging, new facilities should be developed in nonhazardous areas outside the park. Replacement facilities were previously proposed to be built west of the park in Manzanita Meadows (section 13), which is rated as a moderate to low risk area. With the eruption of Mount Saint Helens, it became obvious that a major capital expenditure for these kinds of facilities should not be undertaken by the National Park Service even though the potential for loss of life was relatively low. It is hoped that this decision will lead to private capital development of overnight facilities on both the northwest and south sides of the park. The National Park Service will cooperate, in any manner possible, with the Forest Service, local governments, and the private sector to encourage development of these facilities outside the park.



The campground at Manzanita Lake will remain in use for the foreseeable future. The National Park Service and the Forest Service will cooperatively plan for the location of campgrounds in less hazardous areas adjacent to the park, and if these are developed, the Manzanita Lake campground will be removed. In the interim, loops A and B will be reopened for camping, the amphitheater will be fully renovated, and the camper service building will be expanded to allow restoration of shower and laundry facilities while also retaining the general store and gas station in that building. Day parking will remain limited, and visitors will be encouraged to use other areas within the park. The visitors at Manzanita Lake should be aware that they are in a potentially dangerous area. Orientation at the new interpretive center and various exhibits will serve to remind them of this fact.

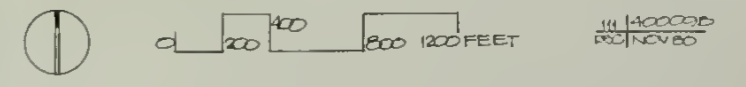




- 1 PINE CABINS
- 2 CEDAR CABINS
- 3 BUDGET CABINS
- 4 DORMITORY
- 5 LODGE / DINING ROOM
- 6 MANAGER'S RESIDENCE
- 7 STORE / SNACK COUNTER
- 8 GAS STATION
- 9 CAMPER SERVICE STORE / COMFORT STATION
- 10 RANGER OFFICE (LOOMIS RESIDENCE)
- 11 ENTRANCE RESIDENCE / STATION
- 12 SUMMERTOWN RESIDENTIAL / MAINTENANCE AREA
- 13 LOOMIS MUSEUM
- 14 REFLECTION LAKE NATURE TRAIL
- 15 LILY POND NATURE TRAIL
- 16 REFLECTION LAKE PICNIC AREA
- 17 MANZANITA LAKE PICNIC AREA
- 18 SWIMMING AREA
- 19 RANGER RESIDENCE
- 20 AMPHITHEATER
- 21 CAMPGROUND
- 22 SEWAGE TREATMENT
- 23 WATER INTAKE
- 24 HISTORIC TRAIL
- 25 CORRALS
- 26 TEMPORARY MAINTENANCE
- 27 TEMPORARY RESIDENCES
- 28 HELIPAD
- 29 TEMPORARY INFO STATION / DISTRICT RANGER STATION
- 30 CAMPGROUND ENTRANCE STATION AND RANGER STATION

- MIXED CONIFEROUS FOREST
- BRUSH AND MEADOW
- CUT WINDROWED BRUSH SEEDLING
- CHACO JUMBLES

NOTE: FACILITIES ON OR IMMEDIATELY ADJACENT TO CHACO JUMBLES HAVE BEEN CLOSED EXCEPT FOR THE ENTRANCE STATION AND THE LASSEN PARK ROAD

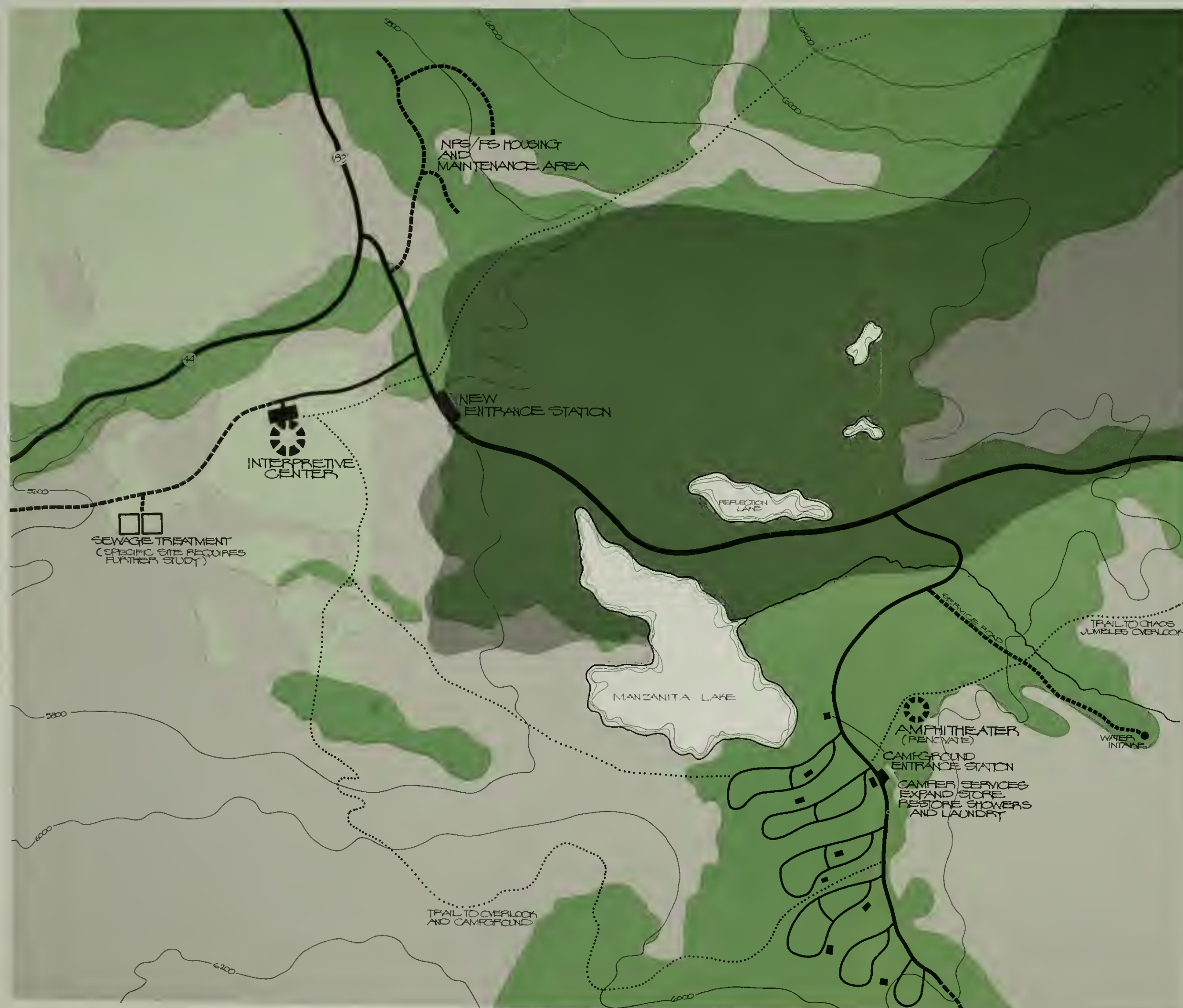


# NORTHWEST ENTRANCE EXISTING CONDITIONS

LASSEN VOLCANIC NATIONAL PARK

LOOPS A and B CLOSED

12 SITES  
54 SITES  
19 SITES  
54 SITES  
47 SITES  
54 SITES



- MIXED CONIFEROUS FOREST
- BRUSH AND MEADOW
- CUT WINDROWED BRUSH SEEDLING
- CHAOS JUMBLES

NOTE: LONGRANGE - CAMPGROUND AND RELATED FACILITIES TO BE REMOVED WHEN ALTERNATE FACILITIES ARE DEVELOPED OUTSIDE OF PARK

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE



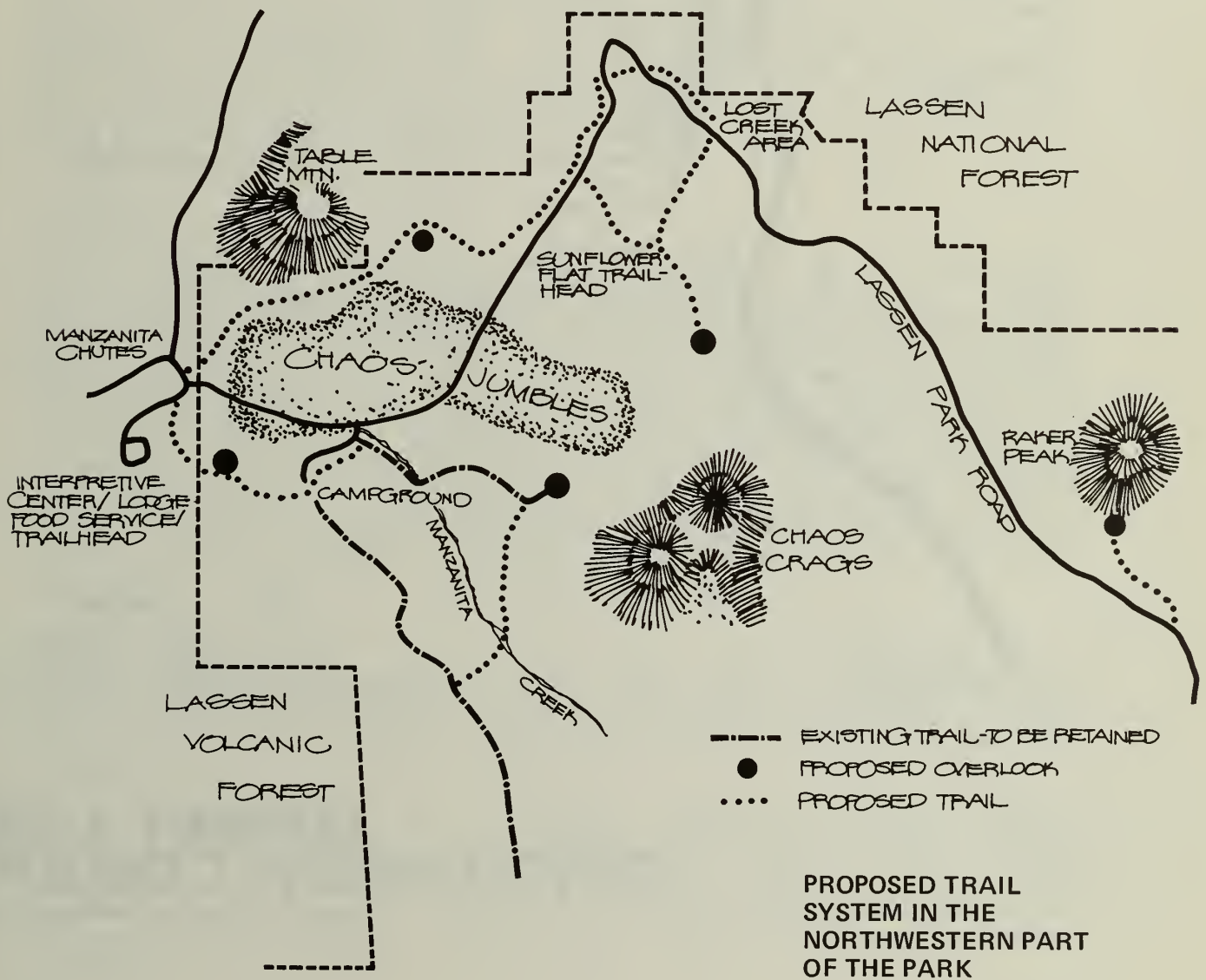
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# NORTHWEST ENTRANCE DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK

Trail System--A new trail system will be developed in the northwest area of the park, primarily to relocate trails from areas of high risk. New trails will connect the interpretive center with the campground and to an overlook above the campground where a panoramic view of the Chaos Jumbles/Manzanita Lake area is available. In addition to these, other trails will be developed for day hiking outside of Chaos Jumbles. Portions of the trail west of Sunflower Flat will coincide with the Nobles Emigrant Trail. Interpretive waysides will be provided at several scenic points with views of Chaos Jumbles, Manzanita Lake, and Lassen Peak. Parking areas, wayside exhibits, and possibly picnic areas will be developed at trail access points.

In addition to new trails in the areas around Chaos Jumbles, a trail with overlooks will be built on Raker Peak to provide vantage points for interpretation of the mudflow and cloud of fire that created the Devastated Area in 1915.



TO MANZANITA LAKE  
12 MILES

33

34

EMPLOYEE RESIDENCES  
RANGER STATION - TRAILHEAD  
CONTACT STATION - PARKING

OVERFLOW  
TRAILHEAD  
PARKING

P

P

FOOT TRAIL

33 34

4 3

SERVICE ROAD

CORRAL AND  
HORSEMEN  
CAMPGROUND

NORTH UNIT - 48 CAMPSITES

P

TRAIL TO ECHO  
AND TWIN LAKES

SUMMIT

LAKE

P

SOUTH UNIT - 45 CAMPSITES

TRAIL TO WARNER VALLEY  
HORSESHOE LAKE

HORSE TRAIL

6800

TO MINERAL  
25 MILES



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0 600 FEET  
1320

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

# SUMMIT LAKE DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK

Specific trail and wayside exhibit proposals will be developed in a new interpretive prospectus to be prepared for the park; this may lead to minor modifications of the above proposals.

Routine trail maintenance throughout the park may produce minor trail relocations or alterations for reasons of safety or for reduction of resource deterioration in fragile areas.

### Lost Creek

The Lost Creek (Crags) campground was reorganized and expanded following the temporary closing of the Manzanita Lake campground in 1974--the former group campsites were converted to 45 individual sites, and 10 new group campsites were developed a short distance away. An amphitheater, using equipment from the Manzanita Lake amphitheater, was also constructed to serve the enlarged campground. While originally intended as a temporary improvement to replace some of the closed campsites at Manzanita Lake, the Lost Creek campground as now developed will be retained until replacement facilities can be provided in less hazardous locations. The two employee trailers will be replaced with more permanent but moveable quarters on the same sites.

### Hat Creek

An unsurfaced road along Hat Creek provides access to a trailhead and private inholdings that are about 2 miles north of Hat Lake. Private inholdings on Hat Creek consist of five small unimproved lots totaling 3.61 acres. These lands will be purchased on a willing-buyer willing-seller basis. The National Park Service now owns all of the cabins in this area. The former owner of one of these cabins has retained a 25-year right of occupancy. When all of the properties are under NPS management, the remaining cabins will be removed, and the area scarified and replanted with native vegetation. The road will be closed at its juncture with the Lassen Park Road, and a small trailhead parking area will be developed there. The Hat Creek road will then be allowed to revert to a trail.

### Summit Lake

Summit Lake, at the midpoint of the park road, is popular with day visitors, overnight campers, and backcountry users beginning trips at the trailhead. The 93-unit campground and day parking areas will remain.

Development at Summit Lake is generally constrained by rocky slopes, fragile wetlands, and easily contaminated surface water. Previous studies of Summit Lake indicated counts of coliform bacteria that may be unfavorable for pursuing activities such as fishing and swimming. Existing sewage treatment facilities in the campground were suspected as a source of this pollution.

To correct this situation, the leach fields for the north unit have been upgraded, and the leach fields for the south unit have been abandoned. Sewage from the south unit is now collected in vaults and transported to treatment facilities outside the park. The portable toilets that were installed in the south unit at the same time the vaults were installed will be replaced with permanent structures.

The corral and small campsite with pit toilet will remain in use, serving as a starting point for backcountry trail riders. Overnight use with pack or riding stock is permitted only in this campsite and not in the backcountry. The present trailhead parking area is frequently full, and cars are left along the park road and in day parking areas. An overflow parking area for approximately 25 cars will be developed in the area of a former borrow pit. Access will be along an existing service road.

The historic ranger station/residence near the trailhead parking area will be retained, and an additional residence for a seasonal employee will be constructed. A contact station for backcountry information and permits will be constructed near the trailhead.

Monitoring of water quality will continue to ensure that the changes in sewage treatment methods have corrected the lake pollution problem. It may prove necessary to modify other land use activities in the area if the pollution problem continues.

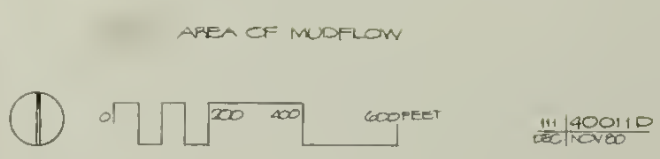
### Southwest Entrance

Prior to the early 1960s the first stop as one entered the park through the southwest entrance was at the Sulphur Works. With increasing visitation, the Sulphur Works became overcrowded, and an A-frame building, known as the Chalet, was constructed closer to the park entrance to serve as a visitor orientation facility with concession food, curio, and winter sports services.

Budget constraints caused reduction of the original plan for the Chalet to about one-half the size needed, and the building has never served adequately for any of its intended functions. The Chalet is very costly to operate because of the inefficient, energy-consuming design, is in violation of current codes, is unaccessible to the disabled, and does not lend itself to cost-effective expansion or remodeling. Orientation facilities are limited to an A-frame kiosk placed next to the Chalet in the summer; there are no interpretive facilities. In the winter the first-aid room serves as the primary visitor contact point.

For these reasons the building will be replaced with a larger but more efficient structure. The new structure will contain National Park Service and Forest Service orientation, information, and interpretation facilities and concessioner visitor services and will also provide space for winter sports equipment rental and other related services.

With adequate facilities the year-round interpretive program can be expanded to serve all visitors to the park. The summer program will emphasize an introduction to the park; the winter program will include



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# SOUTHWEST ENTRANCE DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK

snowshoe walks and other activities, as well as informative programs in the interpretive center. The story of ancient Mount Tehama will be a year-round feature, as will the Forest Service exhibits and information.

The new structure will require the removal of some parking spaces, which will be replaced at the south end of the parking area. Until the new building can be constructed, temporary structures located adjacent to the Chalet will continue to be used both summer and winter.

A trailer will continue to serve as temporary National Park Service employee housing in the summer. A small maintenance building will be constructed south of the parking area.

The existing southwest campground adjacent to the parking area will be retained at its present size of 24 sites.

Winter use has been a tradition in this area since the early 1930s. A small downhill ski facility was originally located near the Sulphur Works and was later moved to the present location. Snowshoeing, cross-country skiing, and snow-camping have always been popular activities but have seen a dramatic increase in the last decade. Approximately 30 percent of the winter visitors, however, do not participate in winter sports. Some come just to see the snow; others to play in it. Some are along because other family members came for more active recreation. The proposed interpretive center will provide expanded opportunities for these winter visitors.

As all forms of winter use have increased, the downhill ski facilities have become overcrowded. Inefficient circulation, long lift lines, short runs, and an undersized beginner skiing area, which is supportive of the traditional family atmosphere, have been problems for a number of years. National Park Service policy precludes new downhill skiing facilities. However, where such facilities have been provided based on previous policy, their use may continue.

The long-range objective of the National Park Service will be the removal of the downhill ski facilities when comparable or better facilities are developed in the vicinity. Recognizing that this could take 15 to 20 years, the facilities at Lassen will be renovated to meet current standards to provide a safe and less congested experience. Ski industry specialists have been consulted and have recommended minimal improvements that will not increase slope capacity but will reduce waiting times and relieve congestion in the lower slope areas. The cost of the lift improvements will be amortized over a 20-year period, allowing removal of the downhill ski facilities at the end of this time.

The Poma lift will be replaced with a chair lift on a new alignment, allowing more efficient use of the slope by advanced skiers, providing easier (and less fatiguing) access to intermediate runs, and permitting the revegetation of the highly visible scar below the Poma lift. Where necessary, hazard trees will be removed for visitor safety. The intermediate rope tow will be realigned to reduce congestion and allow easier crossing of the slopes by cross-country skiers. The beginner rope tow may also be realigned, but in the same general area, to provide more efficient use of the beginner slope.





The capacity of the ski slopes and parking area will not increase; lift ticket sales will continue to be limited to approximately 800 each day. The improvements will significantly reduce congestion on the slopes, reduce waiting time and thus allow more runs, and should significantly reduce accidents due to congestion and fatigue. The traditional, family-oriented aspects of the ski facility will remain until such time as they may be made obsolete by the development of new facilities in the surrounding region.

Parking in the 250-space parking area will remain inadequate on peak winter days; attendant directed parking will be utilized on these days and could increase the usable capacity of the parking area by 10 to 30 percent. Car pooling, the use of charter buses, and shuttle busing from nearby resorts will be encouraged.

The sewage treatment system, which is inadequate to serve normal summer loads and peak winter loads, is being replaced by a modern system located a short distance outside the park. This will bring the facility into conformance with current codes and eliminate the pollution problems that have occurred in the past. Commercial power will be extended to the area to provide more reliable and less costly power; the noisy and foul-smelling generator will be converted to provide emergency power. Ski tows will be converted to electric power to provide a more reliable drive system and to eliminate the noise and odor of the current engines. These changes will reduce fossil fuel consumption and reduce noise and air pollution levels in the immediate area. The present water system is adequate to meet projected needs.

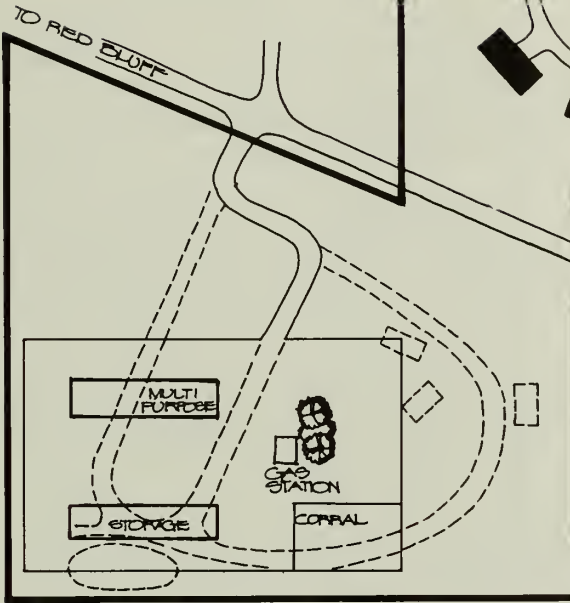
These improvements will provide a much needed year-round visitor service facility of adequate size at the southwest entrance, enhancing the quality of the visitor experience while, at the same time, continuing the traditional uses of Lassen Volcanic National Park.

### Headquarters

The park headquarters is located on a detached site of 75 acres near the town of Mineral. The administration building, maintenance facilities, and housing are fine examples of early park architecture and site planning. Even the newer housing blends well with the older structures and the attractive setting. However, the staff has outgrown the administration building, and some of the older residences and maintenance buildings provide substandard living and working conditions and are expensive to operate and maintain.

The conflicts between maintenance facilities and a residential area have been increasing as the park staff has expanded and additional housing has been constructed. To separate the maintenance and housing areas and to provide efficient facilities, new maintenance buildings--an equipment storage building, a gas station, a fire cache, and a multipurpose shop building--will be developed across California 36 from the present housing/maintenance area. Standby power will be provided, and the entire facility, including corrals and outdoor storage areas, will be fenced.

CALIFORNIA  
STATE HIGHWAY  
MAINTENANCE CAMP



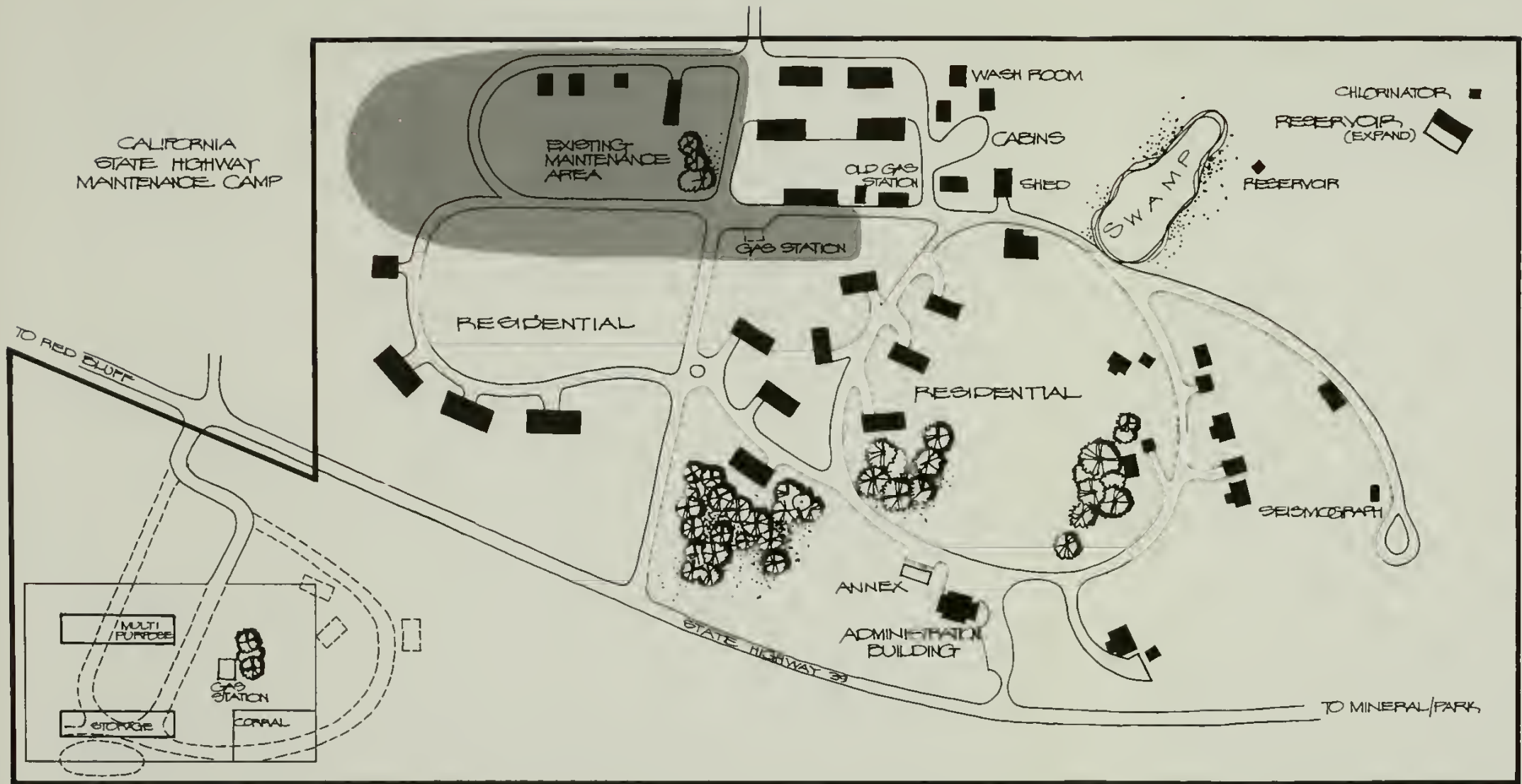
POTENTIAL RESIDENTIAL EXPANSION  
EXISTING  
PROPOSED  
REMOVE

NO SCALE

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# HEADQUARTERS DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK



- POTENTIAL RESIDENTIAL EXPANSION
- EXISTING
- PROPOSED
- - - REMOVE

NO SCALE  
 111/40013  
 DSC/NOV 80

# HEADQUARTERS DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK

Fewer permanent employees have been utilizing park housing in recent years, primarily due to the desire to acquire equity through home ownership. Thus, there is currently a surplus of housing, and it appears that future needs can be met through renovation of the older residences. Space for additional housing, if needed, is available.

An annex close to, but not attached to, the present administration building is proposed to provide adequate office space for the park staff and to free space in the main building for necessary visitor information/orientation services. Further study at the comprehensive design phase may indicate that some of the old maintenance structures could be renovated to provide needed office space rather than constructing an annex to the headquarters building.

The headquarters complex is being evaluated for historical/architectural significance and is being considered for historic district nomination to the National Register of Historic Places. New construction in the area must be compatible with the older facilities. The administration building is listed on the National Register; the old gas station has been determined eligible for the National Register, and other structures may prove eligible when further evaluation is completed. Many of these older residences are within the potential historic district and will require historic structures reports prior to any extensive renovation.

Water system improvements--a larger reservoir and improved treatment facilities--will be needed to provide an adequate water supply and to meet the latest water quality standards. Commercial power and community sewage appears adequate to serve future development.

The Development Concept map is conceptual and is not intended to show specific locations for proposed structures. A comprehensive design will be prepared following future site and cultural resources studies. New construction will generally be confined to previously prepared or disturbed sites. Following the removal of excess structures, the unneeded roads, paving, and related development will be removed, and those areas scarified and replanted with native vegetation.

### Warner Valley

Warner Valley, in the south-central part of the park, is a forested area interspersed with beautiful meadows. The principal uses are daytime hiking to nearby geothermal features--Devils Kitchen, Boiling Springs Lake, and Terminal Geyser--and overnight lodging at Drakesbad Guest Ranch, a small rustic resort.

The clientele of Drakesbad highly value their repeated visits to the serene valley offering swimming, fishing, horseback riding, and hiking. Buildings at the ranch, most concealed within the forest margin, include a lodge, kitchen/dining facility, and cabins. Across the meadow to the south is a swimming pool heated by hot springs water and a bathhouse.

Drakesbad will be retained as a concessioner-operated guest ranch. The ranch will be maintained without enlarging its capacity for guests or altering its style of architecture so as to continue as a low-impact

facility. The hay barn and cookhouse, associated with the pioneer owner, Alexander Sifford, although determined eligible for nomination to the National Register of Historic Places, have been recorded and removed. They had deteriorated to the point that their integrity was severely impaired.

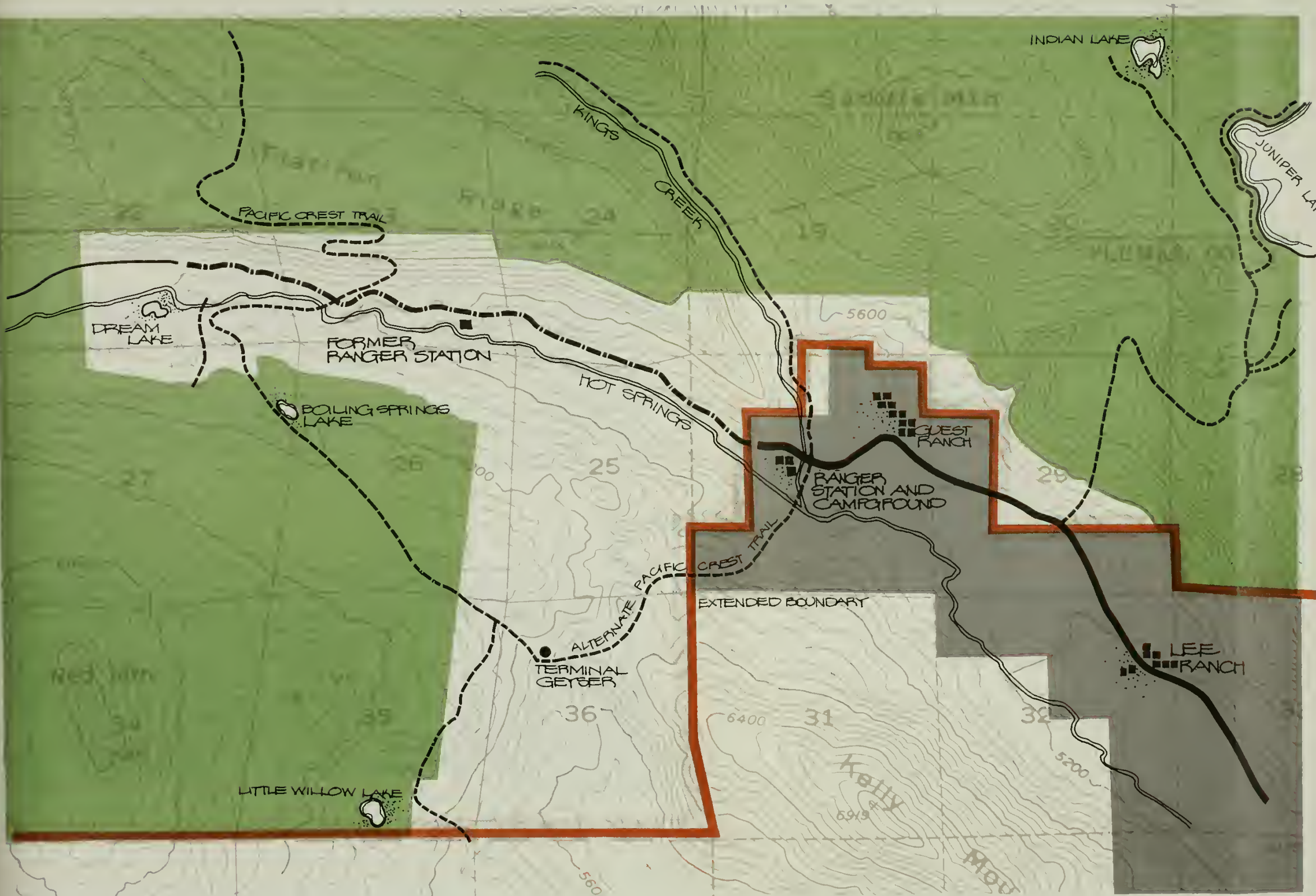
The winding, tree-bordered access road into Warner Valley will be maintained as an unsurfaced, low-speed, light-duty access route. In a few places, improved cross-drainage and safer sight-distances will be provided, but the road will not be improved to a higher standard.

In the narrow part of the valley occupied by the first 2 miles of road, steep slopes leave little space for development. A primitive 15-site campground in this area has virtually no potential for expansion and will be retained at its present capacity.

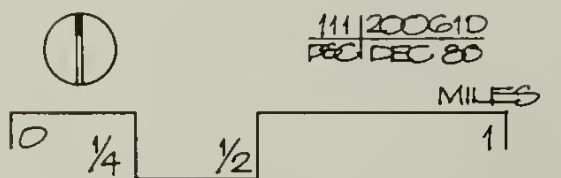


The existing ranger station in Warner Valley is on the National Register of Historic Places. It will be retained in its present location, as will the small picnic area and the present trail system.

The 566 acres of privately owned land in section 36, south of Warner Valley (T. 30 N., R. 5 E.), were acquired by the National Park Service in April 1980, when geothermal exploration threatened significant park features. Terminal Geyser, a perpetual steam vent that is an outstanding natural feature of the park, is located in the northwest quarter of this section. Both harvesting of timber and development of geothermal power, which is characterized by industrial sites and high-noise-level testing of steam wells, were potential uses of section 36 that were Incompatible with preservation of national park values, leading to the acquisition of this land within the park boundary.



WILDERNESS  
 PRIVATE LAND



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UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

# WARNER VALLEY DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK

### Juniper Lake

Juniper Lake, the largest body of water in Lassen, is in the southeast corner of the park. An unsurfaced road provides access to the southeast side of the lake and continues along the east shore to a trailhead at the north end of the lake. A continuation of the road reaches the private lands along the northwest shore. The primitive 18-site campground, often filled to capacity, is on the southeast side of the lake.

Private inholdings at Juniper Lake consist of 2.25 acres of 11 small lots, with improvements limited to eight summer cabins. These lands and improvements will also be purchased on a willing-buyer willing seller basis, as stated in the December 1979 Land Acquisition Plan. Previously acquired NPS-owned cabins are being removed.

When all of the private lands are acquired and the buildings removed, the access road will be closed at the south end of Juniper Lake, and most of this beautiful lakeshore will undergo scenic restoration. A trail around the lake will be served by a new trailhead/contact facility, residence, and parking area at the end of the road.

The campground will be relocated to an area southeast of its present location, where it will have less impact on the lakeshore; the number of sites will be determined by a carrying capacity study. Sewage treatment and a water system will be developed to serve the new public and management facilities.

### Butte Lake

Butte Lake, located in the northeast corner of the park, is an irregularly shaped body of water formed and bounded by lava flows along its southwest shore. The nearby Fantastic Lava Beds, Painted Dunes, and Cinder Cone are outstanding volcanic features of very recent origin, the latest activity having been observed by pioneers in 1851.

The 98-site campground, comfort stations, ranger station/residence, and corral will be retained at Butte Lake. Two new employee residences for seasonal personnel will be constructed on a previously prepared site, replacing trailers that are hauled into the area each summer. A deteriorated structure that serves as a fire cache/storage building will be replaced by a new structure in a more central location. The access and campground roads paving project, halted due to insufficient funds, will be completed.





TO HORSESHOE LAKE

TO INSPIRATION POINT

CRYSTAL LAKE

GLEN LAKE

JUNIPER LAKE

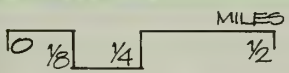
▲ CAMPGROUND

■ RANGER STATION AND TRAILHEAD

TO WARNER VALLEY

MT. HARKNESS

TO CHESTER

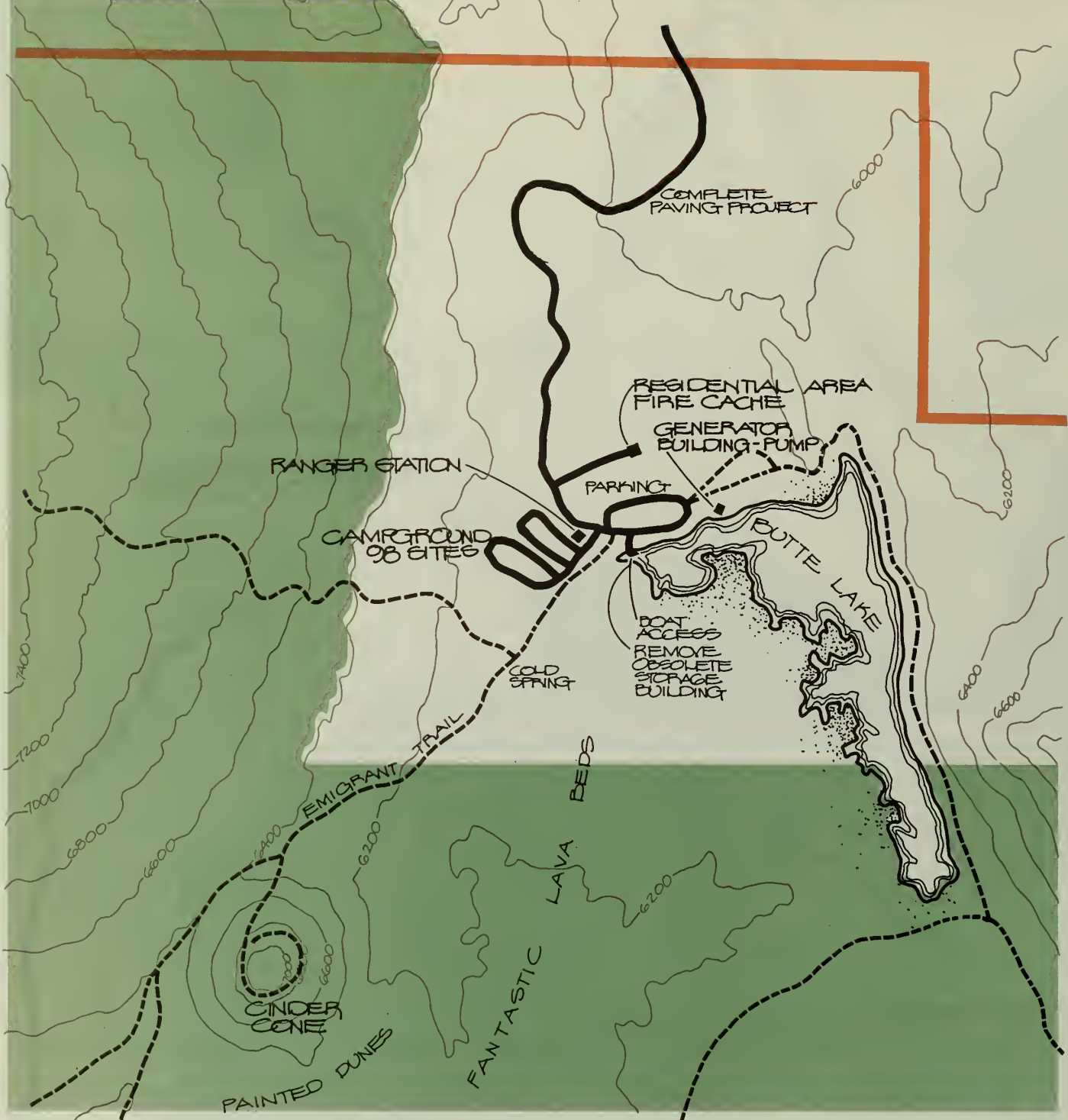


■ WILDERNESS


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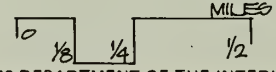
# JUNIPER LAKE DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK



 WILDERNESS

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# BUTTE LAKE DEVELOPMENT CONCEPT

LASSEN VOLCANIC NATIONAL PARK



CINDER CONE / SNAG LAKE

## ACCESSIBILITY FOR DISABLED VISITORS

While many of the features of the park will remain inaccessible to some disabled visitors, the essence of the park experience will be available to all visitors. Most disabled visitors travel with a companion and this opens the way to many experiences they might not be able to accomplish alone. The National Park Service plans to remove barriers where feasible, ensure that the major new facilities are fully accessible, and provide special facilities where there is an indicated need or opportunity.

Comfort stations throughout the park are being remodeled, and many barriers such as curbs are being removed or replaced with ramps. A number of sites within the campgrounds will be equipped with accessible tables and level sites, located close to comfort stations, and signed with the international sign of accessibility. Similar facilities will be provided at picnic areas.

Perhaps the greatest area of improvement can be made at wayside exhibits, where parking area curbs, rough terrain, and exhibit placement provide barriers to the disabled. As these exhibits are replaced over the years, full accessibility will be provided where feasible. In some areas interim measures can be taken to ensure accessibility.

Many of the trails to special features would be difficult for some disabled persons to navigate; the terrain and fragile resources preclude major changes to improve accessibility. An analysis will be made of the various trails, improvements will be made where feasible, and the routes will be rated for accessibility. A brochure will be prepared (or the park folder modified) to indicate the degree of difficulty and the problems to be encountered on various trails.

Providing this information not only will assist the disabled to plan their park visit but also will benefit families with young children, the elderly, and those with special problems. Accessibility for the disabled benefits all park visitors.

## CAPACITY

Visitation to Lassen Volcanic National Park is relatively low in comparison with other major western parks. Although some popular areas do become crowded, the park cannot be considered overcrowded. Generally, campsites are available in the park, although the more popular sites are filled early. When Manzanita Lake Lodge was in operation, the occupancy rate was high, particularly on weekends, and there was some indication that additional lodging units would have been economically feasible. The cabins at Drakesbad are very popular, and there is rarely a vacancy during the operating season.

This plan does not propose an overall capacity for the park, but the proposed levels of development at the southwest and northwest entrances, Summit Lake, Butte Lake, Warner Valley, and major waysides are considered to be the maximum desirable. Visitation forecasts for the park do not indicate a significant increase in visitation during the life of this

plan. However, there may be a moderate surge in visitation due to increased interest in volcanic areas following the eruption of Mount Saint Helens. Continuing resources management studies will monitor the impacts of visitor use, and capacity levels will be derived for specific areas as needed.

## RESOURCES MANAGEMENT

A natural resources management plan for Lassen Volcanic National Park has been prepared and was subject to a separate public review. The principal concern of the natural resources management plan is the restoration of the terrestrial and aquatic ecosystems of the park that most probably existed prior to technological disturbance by man. Wildfire, insect infestation, and plant disease will be managed as natural controlling agents in the forest ecosystem. In addition, a backcountry management plan has been implemented to provide visitors with enjoyable backcountry recreation while protecting the scenic and ecological integrity of the Lassen Volcanic Wilderness. When inholdings have been acquired, the current wilderness boundaries will be reevaluated and revisions recommended if appropriate.

Further research and studies to better understand the resources of the park are major components of the natural resources plan. These studies will include, but not be limited to, monitoring air and water quality, analyzing thermal areas and animal habitats, observing human use of the park, and studying the effects of that use. These studies are ongoing and are intended to provide information that will aid in formulating the detailed design plans that will follow this conceptual plan. There has been no evidence during the preparation of this plan that any rare, threatened, or endangered species will be affected by the proposals.

A detailed parkwide historic resource study will be conducted to determine the exact locations of features such as the Supan Wagon Road and Nobles Emigrant Trail. This study will also describe and evaluate the significance of the Supan Wagon Road and structures that are little known at present and could be affected by this plan. In addition, surveys and reports on all other historic and archeologic resources in the park will be conducted in compliance with Executive Order 11593. The proposals in this plan have been developed in consultation with the state historic preservation officer and the Advisory Council on Historic Preservation.

## IMPLEMENTATION

This General Management Plan contains the long-range strategy for management of Lassen Volcanic National Park and ensures compliance with a wide variety of legislative and executive requirements, management policies, and procedures. The Final Environmental Impact Statement accompanying this plan provides specific details on the proposals, their impacts on the park, and proposals for mitigating the impacts. The mitigating measures in the final statement are an integral part of this plan.

Implementation of the proposals will not occur immediately upon approval of the plan. Further studies requiring additional environmental analysis must be conducted before some proposals, such as the development at park headquarters and Manzanita Meadows, can be funded or implemented. Following approval of the plan, priorities will be determined and funding will be requested through normal budgetary channels. Generally, those projects that improve environmental quality will receive the highest priority. While some actions may be implemented in the immediate future, all projects must compete with funding requests from other units of the National Park System, and some of the proposed actions may require several years to implement.



# APPENDIXES





## A: LEGISLATION

CINDER CONE NATIONAL MONUMENT, CALIFORNIA  
BY THE PRESIDENT OF THE UNITED STATES OF AMERICA  
A PROCLAMATION

[No. 753—May 6, 1907—35 Stat. 2131]

WHEREAS, the elevation in the State of California, within the Lassen Peak National Forest, known as "Cinder Cone", and the adjacent area embracing a lava field and Snag Lake and Lake Bidwell, comprising chiefly public lands, are of great scientific interest, as illustrations of volcanic activity which are of special importance in tracing the history of the volcanic phenomena of that vicinity;

AND WHEREAS, it is provided by section two of the Act of Congress, approved June eighth, nineteen hundred and six, entitled, "An Act For the preservation of American antiquities," "That the President of the United States is hereby authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected;"

NOW, THEREFORE, I, Theodore Roosevelt, President of the United States of America, by virtue of the power in me vested by section two of the aforesaid act of Congress, do proclaim that there are hereby reserved for appropriation and use of all kinds under all of the public land laws, subject to all prior valid adverse claims, and set apart as a National Monument, all the tracts of land, in the State of California, shown as the Cinder Cone National Monument on the diagram forming a part hereof.

The reservation made by this proclamation is not intended to prevent the use of the lands for forest purposes under the proclamation establishing the Lassen Peak National Forest, but so far as the two reservations are consistent they are equally effective. In all respects in which they may be inconsistent the National Monument hereby established shall be the dominant reservation.

Warning is hereby given to all unauthorized persons not to appropriate, injure or destroy any feature of this National Monument or to locate or settle upon 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 6th day of May, in the year of our Lord one thousand nine hundred and seven, and of the Independence of the United States the one hundred and thirty-first.

THEODORE ROOSEVELT.

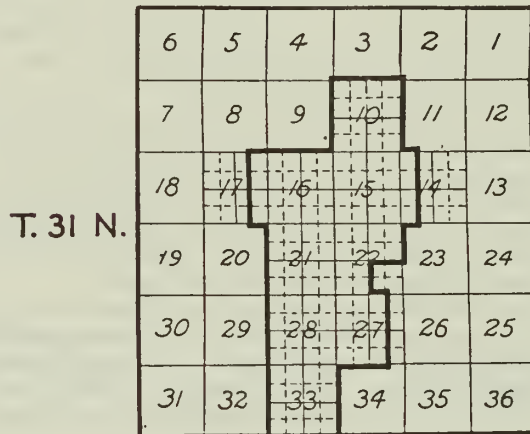
By the President:  
ROBERT BACON,  
*Acting Secretary of State.*

**CINDER CONE NATIONAL MONUMENT  
WITHIN LASSEN PEAK NATIONAL FOREST  
CALIFORNIA  
1907**

MT. DIABLO MERIDIAN AND BASE  
FOREST SERVICE, U.S. DEPT. OF AGRICULTURE

— NATIONAL MONUMENT BOUNDARY

R. 6 E.



LASSEN PEAK NATIONAL MONUMENT,<sup>2</sup> CALIFORNIA  
BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 754—May 6, 1907—35 Stat. 2132]

WHEREAS, Lassen Peak, which is situated upon public land in the State of California, within the Lassen Peak National Forest, marks the southern terminus of the long line of extinct volcanoes in the Cascade Range from which one of the greatest volcanic fields in the world extends, and is of

special importance in tracing the history of the volcanic phenomena of that vicinity,

AND WHEREAS, it is provided by section two of the Act of Congress, approved June eighth, nineteen hundred and six, entitled, "An Act For the preservation of American antiquities," "That the President of the United States is hereby authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of

LASSEN PEAK NATIONAL MONUMENT  
 WITHIN LASSEN PEAK NATIONAL FOREST  
 CALIFORNIA  
 1907

MT. DIABLO MERIDIAN AND BASE  
 FOREST SERVICE, U.S. DEPT. OF AGRICULTURE  
 ——— NATIONAL MONUMENT BOUNDARY

R. 4 E.

T.31 N.

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| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |

[DIAGRAM FORMING A PART OF PROCLAMATION  
 DATED MAY 6, 1907.]

which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected;”

NOW, THEREFORE, I, Theodore Roosevelt, President of the United States of America, by virtue of the power in me vested by section two of the aforesaid act of Congress, do proclaim that there are hereby reserved from appropriation and use of all kinds under all of the public land laws, subject to all prior valid adverse claims, and set apart as a National Monument, all the tracts of land, in the State of California, shown as the Lassen Peak National Monument on the diagram forming a part hereof.

The reservation made by this proclamation is not intended to prevent the use of the lands for forest purposes under the proclamation establishing the Lassen Peak National Forest, but so far as the two reservations are consistent they are equally effective. In all respects in which they may be inconsistent the National Monument hereby established shall be the dominant reservation.

Warning is hereby given to all unauthorized persons not to appropriate, injure or destroy any feature of this National Monument or to locate or settle upon 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 6th day of May, in the year of our Lord one thousand nine hundred and seven, and of the Independence of the United States the one hundred and thirty-first.

THEODORE ROOSEVELT.

By the President:

ROBERT BACON,

*Acting Secretary of State.*

An Act To establish the Lassen Volcanic National Park in the Sierra Nevada Mountains in the State of California, and for other purposes, approved August 9, 1916 (39 Stat. 442)

Lassen Volcanic  
National Park,  
Calif.  
Established,

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That all those certain tracts, pieces, or parcels of land lying and being situate in the State of California and within the boundaries particularly described as follows, to wit: Beginning at the northeast corner of section three, township thirty-one, range six east, Mount Diablo meridian, California; thence southerly to the southeast corner of said section; thence easterly to the northeast corner of the northwest quarter of section eleven, said township; thence southerly to the southeast corner of the southwest quarter of section fourteen, said township; thence easterly to the northeast corner of the northwest quarter of section twenty-four, said township; thence southerly to the southeast corner of the southwest quarter of section twenty-five, said township; thence westerly to the southwest corner of section twenty-six,

Description.

said township; thence southerly to the southeast corner of section thirty-four, said township; thence westerly along the sixth standard parallel north, allowing for the proper offsets, to the northeast corner of section three, township thirty north, range six east; thence southerly to the southeast corner of section twenty-seven, said township; thence westerly to the southwest corner of the southeast quarter of section twenty-eight, said township; thence northerly to the northwest corner of the southeast quarter of said section; thence westerly to the southwest corner of the northwest quarter of said section; thence northerly to the northwest corner of said section; thence westerly to the southwest corner of the southeast quarter of section twenty, said township; thence northerly to the northwest corner of the southeast quarter of said section; thence westerly to the range line between ranges five and six east; thence southerly along said range line to the southeast corner of township thirty north, range five east; thence westerly along the township line between townships twenty-nine and thirty north to the southwest corner of section thirty-three, township thirty north, range five east; thence northerly to the northwest corner of said section; thence westerly to the southwest corner of the southeast quarter of section twenty-nine, said township; thence northerly to the northwest corner of the southeast quarter of said section; thence westerly to the southwest corner of the northwest quarter of said section; thence northerly to the northwest corner of said section; thence westerly to the southwest corner of the southeast quarter of section twenty, township thirty north, range four east; thence northerly to the northwest corner of the southeast quarter of section eight, said township; thence easterly to the northeast corner of the southwest quarter of section nine, said township; thence northerly to the township line between townships thirty and thirty-one north; thence easterly along the sixth standard parallel north, allowing for the proper offsets, to the southwest corner of section thirty-three, township thirty-one north, range four east; thence northerly to the northwest corner of section twenty-one, said township; thence easterly to the range line between ranges four and five east; thence northerly along said range line to the northwest corner of fractional section eighteen, township thirty-one north, range five east; thence easterly to the southwest corner of section twelve, said township; thence northerly to the northwest corner of section one, said township; thence easterly along the township line between townships thirty-one and thirty-two north to the northeast corner of section three, township thirty-one north, range six east, the place of beginning, are hereby reserved and withdrawn from settlement, occupancy, disposal, or sale, under the laws of the United

States, and said tracts are dedicated and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people of the United States under the name and to be known and designated as the Lassen Volcanic National Park; and all persons who shall locate or settle upon or occupy the same, or any part thereof, except as hereinafter provided, shall be considered trespassers and be removed therefrom: *Provided*, That nothing herein contained shall affect any valid existing claim, location, or entry under the land laws of the United States or the rights of any such claimant, locator, or entryman to the full use and enjoyment of his land: *Provided further*, That rights of way for steam or electric railways, automobiles, or wagon roads may be acquired within said Lassen Volcanic National Park under filings or proceedings hereafter made or instituted under the laws applicable to the acquisition of such rights over or upon the national forest lands of the United States when the construction of such roads will not interfere with the objects of the national park, and that the United States Reclamation Service may enter upon and utilize for flowage or other purposes any area within said park which may be necessary for the development and maintenance of a Government reclamation project; that no lands located within the park boundaries now held in private, municipal, or State ownership shall be affected by or subject to the provisions of this Act: *And provided further*, That no lands within the limits of said park hereby created belonging to or claimed by any railroad or other corporation now having or claiming the right of indemnity selection by virtue of any law or contract whatsoever shall be used as a basis for indemnity selection in any State or Territory whatsoever for any loss sustained by reason of the creation of said park. (U.S.C., title 16, sec. 201.)

**Trespassing forbidden.**

**Previous. Valid claims not affected.**

**Rights of way. (Repealed by 46 Stat. 1043. See p. 199.)**

**Reclamation Service use.**

**Present ownership not affected. Indemnity selections.**

**Regulations of control, etc.**

**SEC. 2.** That said park shall be under the exclusive control of the Secretary of the Interior, whose duty it shall be, as soon as practicable, to make and publish such rules and regulations not inconsistent with the laws of the United States as he may deem necessary or proper for the care, protection, management, and improvement of the same. Such regulations being primarily aimed at the freest use of the said park for recreation purposes by the public and for the preservation from injury or spoliation of all timber, mineral deposits, and natural curiosities or wonders within said park and their retention in their natural condition as far as practicable and for the preservation of the park in a state of nature so far as is consistent with the purposes of this Act. He shall provide against the wanton destruction of the fish and game found within said park and against their capture or destruction for purposes of merchandise or profit, and generally shall be authorized to take all such measures as

shall be necessary to fully carry out the objects and purposes of this Act. Said Secretary may, in his discretion, execute leases to parcels of ground not exceeding ten acres in extent at any one place to any one person or persons or company for not to exceed twenty years when such ground is necessary for the erection of buildings for the accommodation of visitors and to parcels of ground not exceeding one acre in extent and for not to exceed twenty years to persons who have heretofore erected, or whom he may hereafter authorize to erect, summer homes or cottages. Such leases or privileges may be renewed or extended at the expiration of the terms thereof. No exclusive privilege, however, shall be granted within the park except upon the ground leased. The regulations governing the park shall include provisions for the use of automobiles therein and the reasonable grazing of stock. (U.S.C., title 16, sec. 202.)

Leases to accommodate visitors, etc. (This section so far as it relates to summer cottages repealed by 46 Stat. 1043. See p. 199.)

SEC. 3. That the Secretary of the Interior may also sell and permit the removal of such matured or dead or down timber as he may deem necessary or advisable for the protection or improvement of the park. (U.S.C., title 16, sec. 203.)

Timber disposal.

SEC. 4. That the Secretary of the Interior may exact such charges as he deems proper for leases and all other privileges granted hereunder. (U.S.C., title 16, sec. 203.)

Charges.

SEC. 5. That no appropriation for the maintenance, supervision, or improvement of said park in excess of \$5,000 annually shall be made unless the same shall have first been expressly authorized by law.

Limit on appropriations. Repealed by 42 Stat. 503. See p. 189 below.



**An Act to designate certain lands in the Lassen Volcanic National Park, California, as wilderness. (86 Stat. 918)**

*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)), certain lands in the Lassen Volcanic National Park, which comprise about seventy-eight thousand nine hundred and eighty-two acres, and which are depicted on the map entitled "Recommended Wilderness, Lassen Volcanic National Park, California" numbered NP-LV-9013C and dated August 1972, are hereby designated as wilderness. The map and the description of the boundaries of such lands shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

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 Committee of the United States Senate and 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 legal description and map may be made.

SEC. 3. The wilderness area designated by this Act shall be known as the "Lassen Volcanic Wilderness" and shall be administered by the Secretary of the Interior in accordance with the 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.

SEC. 4. Section 1 of the Act of August 9, 1916 (39 Stat. 443; 16 U.S.C. 201) is amended by deleting the words "that the United States Reclamation Service may enter upon and utilize for flowage or other purposes any area within said park which may be necessary for the development and maintenance of a Government reclamation project" and the semicolon appearing thereafter.

Approved October 19, 1972.

Other acts relating to Lassen Volcanic National Park are summarized as follows:

Act of April 29, 1922, repealing Section 5 of the act of August 9, 1916, relative to limitation on appropriations for Lassen Volcanic National Park (42 Stat. 503)

Act of Legislature of California, approved April 20, 1927, ceding to the United States exclusive jurisdiction over Lassen Volcanic National Park

Act of April 26, 1928, accepting cession by California of exclusive jurisdiction over lands embraced within Lassen Volcanic National Park (45 Stat. 463)

Act of March 27, 1928, providing for the naming of a mountain or peak within Lassen Volcanic National Park in honor of Hon. John E. Raker, deceased (45 Stat. 371)

Act of April 26, 1928, adding certain lands to Lassen Volcanic National Park (45 Stat. 466)

Act of May 21, 1928, authorizing the exchange of public lands for state lands in California, the state lands so acquired to become a part of Lassen Volcanic National Park (45 Stat. 644)

Act of January 19, 1929, revising the boundaries of Lassen Volcanic National Park (45 Stat. 1081)

Act of March 1, 1929, consolidating or acquiring alienated lands in Lassen Volcanic National Park (45 Stat. 1443)

Act of April 19, 1930, authorizing the exchange of certain land now within Lassen Volcanic National Park for certain private land adjoining the park and adjusting the park boundary accordingly (46 Stat. 222)

Act of July 3, 1930, providing for the addition of certain lands to the Lassen Volcanic National Park (46 Stat. 853)

Act of January 26, 1931, providing for uniform administration of the national parks, prohibiting permits for summer homes, etc., and acquiring rights-of-way in Lassen Volcanic National Park (46 Stat. 1043)

Act of August 10, 1961, providing for the addition of certain lands to the Lassen Volcanic National Park (75 Stat. 319)

Act of April 11, 1972, excluding approximately 482 acres from Lassen Volcanic National Park (86 Stat. 120)

Act of October 19, 1972, repealing provisions of the act of August 9, 1916, authorizing reclamation projects within the park (86 Stat. 910)

## B: MANAGEMENT OBJECTIVES

The following statement by the superintendent of Lassen Volcanic National Park reflects park management's needs and goals relative to this general management plan.

### PROVIDE FOR MANAGEMENT AND USE THAT DO NOT IMPAIR PRESENT OR PAST EVIDENCES OF VOLCANIC ACTIVITY

#### RESTORE AND MAINTAIN THE TERRESTRIAL AND AQUATIC ECOSYSTEMS AS THEY MOST PROBABLY EXISTED PRIOR TO TECHNOLOGICAL DISTURBANCE BY MAN

- Develop and execute continuing research programs for natural resources

- Implement a resources management plan based on data from natural resource research

- Monitor and manage fire, insect infestation, and plant disease as natural controlling agents in the forest ecosystem

- Restore the original aquatic ecosystem of the park while allowing recreational fishing to continue in places and at levels that do not degrade the natural environment

- Allow Manzanita and Reflection lakes to remain in their present condition while not disturbing historic structures associated with their alteration

- Collect background data and formulate management plans for deer and beaver in the parks in cooperation with the California Department of Fish and Game and the U.S. Forest Service

### PRESERVE AND MAINTAIN THE HISTORIC RESOURCES

- Identify and assess the significance of cultural resources

- Develop and execute continuing research programs for cultural resources

- Complete a cultural resources management plan

### ACHIEVE A COMPATIBLE PATTERN OF LAND USE IN THE VICINITY OF THE PARK THROUGH REGIONAL PLANNING

- Participate with government agencies and private interests in planning for management and use of resources which affect scenic, natural, cultural, and recreational values near the park

- Cooperate with other public and private entities in identifying Lassen's role in the larger regional context of serving public recreational needs in the north Sierra/south Cascade travel region

## ACQUIRE PRIVATE INHOLDINGS WITHIN THE PARK BOUNDARY

Private lands within the park boundary will be acquired on a willing-seller, willing-buyer basis or under other circumstances as indicated in the December 1979 Land Acquisition Plan

## PROVIDE PUBLIC USE AND MANAGEMENT FACILITIES NECESSARY TO VISITOR USE AND FOR PROTECTION OF PARK RESOURCES WITHIN LEVELS CONSISTENT WITH THE PRESERVATION OF THE NATURAL ENVIRONMENT

Maintain the existing character of the Lassen ski area as a day use facility, providing a variety of recreational activities and appealing to family groups in the Lassen region

Retain Drakesbad as a guest ranch without enlarging its capacity so that it continues to provide a satisfactory level of experience, with relatively little impact on the environment

Provide a system of trails that offers a variety of hiking opportunities in areas of scenic and natural significance while minimizing the impacts of visitor use in wilderness and in environmentally fragile areas

Implement the backcountry management plan to provide for enjoyable backcountry recreation while protecting the scenic and ecological integrity of the Lassen Volcanic Wilderness

Provide facilities and essential park housing in safer locations where they will support visitor use while providing the least possible impact on resources of Lassen Volcanic National Park and Lassen National Forest; these objectives will be undertaken in cooperation with the U.S. Forest Service

## ACHIEVE AND MAINTAIN A SAFE AND HEALTHFUL ENVIRONMENT FOR VISITORS AND EMPLOYEES

Provide facilities and public activities in areas affording low exposure to geologic hazards

Upgrade utility systems in existing developed areas to comply with applicable federal, state, and local standards

## PROVIDE AN INTERPRETIVE PROGRAM THAT PROMOTES UNDERSTANDING AND APPRECIATION OF PARK RESOURCES IN BOTH WINTER AND SUMMER SEASONS

Develop the interpretive program to emphasize the following themes:

Volcanism and its impact on the associated natural and historic resources

Biotic features that typify a Cascadian volcanic environment

Influences of man in the use and development of Lassen  
Volcanic National Park

REGULATE PARK USE TO ASSURE THAT RESOURCE QUALITY IS NOT  
IMPAIRED

Determine visitor carrying capacities and manage facilities to control  
adverse use and overcrowding



C: PRELIMINARY COST ESTIMATES FOR MAJOR PROPOSALS

Estimates are for construction costs in 1980 dollars. Minor projects (primarily in the maintenance category) are not included. Costs include comprehensive design, but not the costs of plans, supervision, overhead, etc.

NORTHWEST ENTRANCE (MANZANITA LAKE/MANZANITA MEADOWS)

Immediate Actions

|   |                |
|---|----------------|
| Renovate and expand camper services building*     | \$ 60,000      |
| Rehab campground amphitheater, reopen loops A & B | <u>140,000</u> |

SUBTOTAL \$ 200,000

Comprehensive Design. SUBTOTAL \$ 400,000

NPS Housing/Maintenance Area and Areawide

Utility System

|   |                |
|---|----------------|
| Sewage treatment system and sewer lines   | \$1,100,000    |
| Other utilities (water, power, telephone)   | 108,000        |
| Access and circulation roads  | 154,500        |
| Three 3-bedroom residences  | 180,000        |
| Relocate Pine Cabins  | 80,600         |
| Relocate maintenance building/gas station   | 33,600         |
| Obliterate temporary residential/maintenance area   | 13,400         |
| Obliterate structures, foundations, access roads in Chaos Jumbles housing/maintenance areas | <u>175,000</u> |

SUBTOTAL \$1,845,100

NPS Visitor Use Facilities

|  |               |
|--|---------------|
| Entrance station   | \$ 107,500    |
| Entrance and exit lanes  | 33,600        |
| Directional signs  | 13,400        |
| Access roads and parking                                       | 100,000       |
| Interpretive center/offices                                    | 1,747,200     |
| Amphitheater--500-800 seats in Manzanita Meadows               | 500,000       |
| Adjacent grounds development                                   | 300,000       |
| Obliterate temporary visitor contact area, relocate structures | <u>60,500</u> |

SUBTOTAL \$2,862,200

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\*Laundry and shower facilities cannot be reopened until adequate wastewater treatment facilities have been provided.

## REMOVAL OF OLD FACILITIES/GROUNDS RESTORATION

|  |                |
|--|----------------|
| Demolition of remaining structures, foundations,<br>etc., in Chaos Jumbles | \$ 268,800     |
| Demolition of roads, paths, parking areas                                  | 900,500        |
| Grounds restoration (initial cost)   | <u>436,000</u> |
| SUBTOTAL   | \$1,605,300    |
| TOTAL  | \$6,912,600    |

## TRAIL SYSTEM (northwest part of park)

|  |                |
|--|----------------|
| Construct approximately 12 miles backcountry trails                              | \$ 240,000     |
| Wayside exhibits   | 60,000         |
| Construct Sunflower Flat trailhead (spur road,<br>parking, picnic area, toilets) | <u>210,000</u> |
| TOTAL  | \$ 510,000     |

## LOST CREEK CAMPGROUND

|                                 |            |
|---------------------------------|------------|
| Install two portable residences |            |
| TOTAL                           | \$ 120,000 |

## HAT CREEK

|   |               |
|---|---------------|
| Remove cabin, restore grounds                           | \$ 10,000     |
| Develop trailhead parking and scarify Hat Creek<br>road | <u>36,000</u> |
| TOTAL   | \$ 46,000     |

## DEVASTATED AREA WAYSIDE

|  |            |
|--|------------|
| Improve parking, circulation, and exhibits |            |
| TOTAL                                      | \$ 480,000 |

## SUMMIT LAKE

|   |                |
|---|----------------|
| Construct trailhead contact station                 | \$ 48,000      |
| Construct three-bedroom residence with utilities    | 60,000         |
| Construct overflow parking area                     | 18,000         |
| Upgrade utility systems/construct permanent toilets | <u>120,000</u> |
| TOTAL   | \$ 246,000     |

## SOUTHWEST ENTRANCE (LASSEN SKI AREA)

|  |                |
|--|----------------|
| Comprehensive design                         | \$ 225,000     |
| Sewage treatment plant                       | 1,210,000      |
| Upgrade utility systems                      | 200,000        |
| Replace Chalet                               | 3,720,000      |
| Exhibits                                     | 48,000         |
| Construct chairlift/remove Poma lift         | 684,000        |
| Lift renovation/conversion to electric power | 140,000        |
| Extend commercial power to area              | <u>995,000</u> |
| TOTAL  | \$7,222,000    |



### HEADQUARTERS

|   |               |
|---|---------------|
| Comprehensive Design  | \$ 180,000    |
| Construct maintenance facilities--multipurpose shop and vehicle storage buildings, gas station, fire cache, standby power, fencing, roads, and utilities (solar power not included in estimate) | \$1,920,000   |
| Construct administration building annex and renovate old administration building  | 360,000       |
| Renovate older residences   | 400,000       |
| Rehabilitate utility systems and reservoir  | 240,000       |
| Remove excess structures, roads, and restore grounds  | 120,000       |
| Construct access roads, drives, walks   | <u>60,000</u> |
| TOTAL   | \$3,280,000   |

### WARNER VALLEY

|                                  |               |
|----------------------------------|---------------|
| Upgrade utility systems          | \$ 192,000    |
| Road repairs, culverts, clearing | <u>48,000</u> |
| TOTAL                            | \$ 240,000    |

### JUNIPER LAKE

|  |               |
|--|---------------|
| Rehabilitate utility systems (interim)                                 | \$ 192,000    |
| Construct ranger station/residence                                     | 78,000        |
| Construct 25-30 site campground with roads, utilities, comfort station | 148,000       |
| Construct water and sewer system                                       | 360,000       |
| Remove old facilities, obliterate roads, restore sites                 | <u>24,000</u> |
| TOTAL  | \$ 802,000    |

### BUTTE LAKE

|   |                |
|---|----------------|
| Construct two 3-bedroom residences                      | \$ 120,000     |
| Construct fire cache/storage building                   | 54,000         |
| Remove old structure                                    | 5,000          |
| Upgrade utility systems                                 | 96,000         |
| Repair base course and pave access and campground roads | <u>840,000</u> |
| TOTAL   | \$1,115,000    |

SUMMARY - Lassen Volcanic National Park Development

|  |                  |
|--|------------------|
| NORTHWEST ENTRANCE<br>(MANZANITA LAKE/MANZANITA MEADOWS) | \$ 6,912,600     |
| TRAIL SYSTEM   | 510,000          |
| LOST CREEK CAMPGROUND                                    | 120,000          |
| HAT CREEK  | 46,000           |
| DEVASTATED AREA WAYSIDE                                  | 480,000          |
| SUMMIT LAKE  | 246,000          |
| SOUTHWEST ENTRANCE (LASSEN SKI AREA)                     | 7,222,000        |
| HEADQUARTERS   | 3,280,000        |
| WARNER VALLEY  | 240,000          |
| JUNIPER LAKE   | 802,000          |
| BUTTE LAKE   | <u>1,115,000</u> |
| <br>TOTAL  | <br>\$20,973,600 |

These estimates cover the major projects for the general management plan that were identified through the planning process. Depending on contract terms (to be negotiated) the concessioner may absorb some of these costs. Maintenance of a park is a continuing process, and numerous other projects will be required to provide for visitor safety, to maintain environmental quality, and to repair damage due to natural causes.

## D: PLANNING TEAM AND CONSULTANTS

The following team members and consultants participated in the preparation of the Draft General Management Plan and Draft Environmental Impact Statement:

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As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration. NPS 1070A



