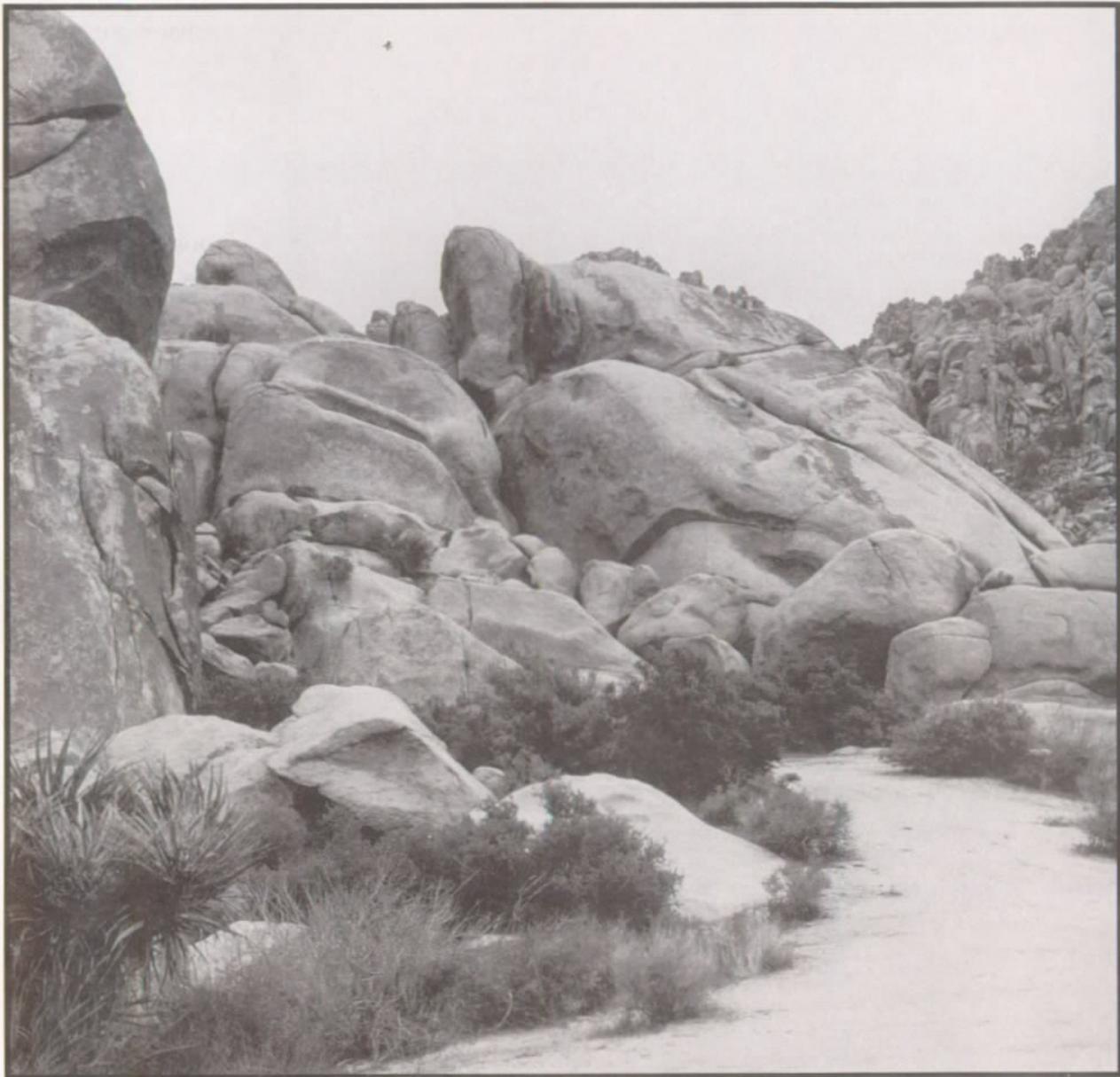
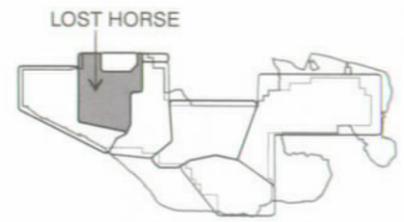
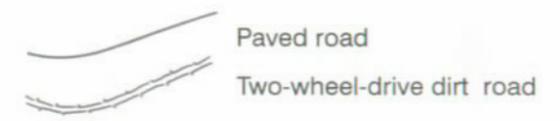
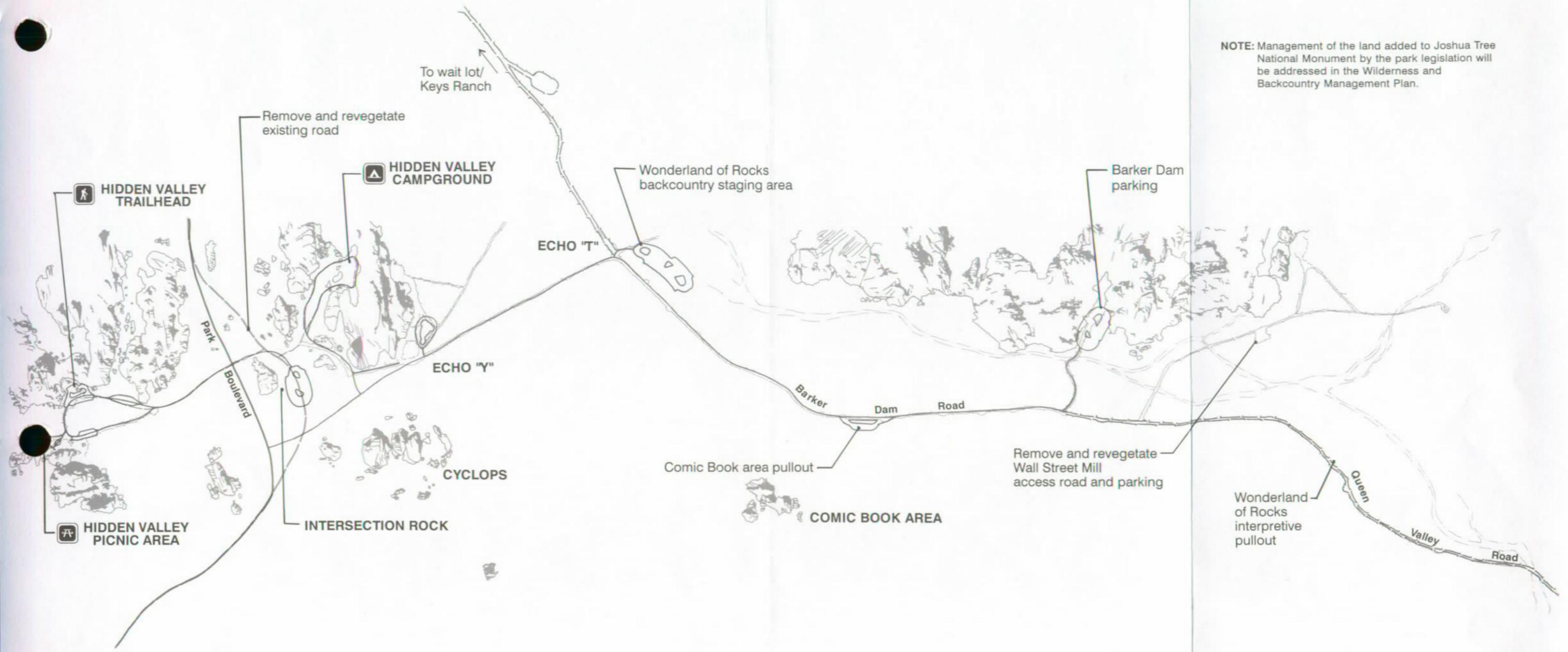


ALTERNATIVES, INCLUDING THE PROPOSED ACTION





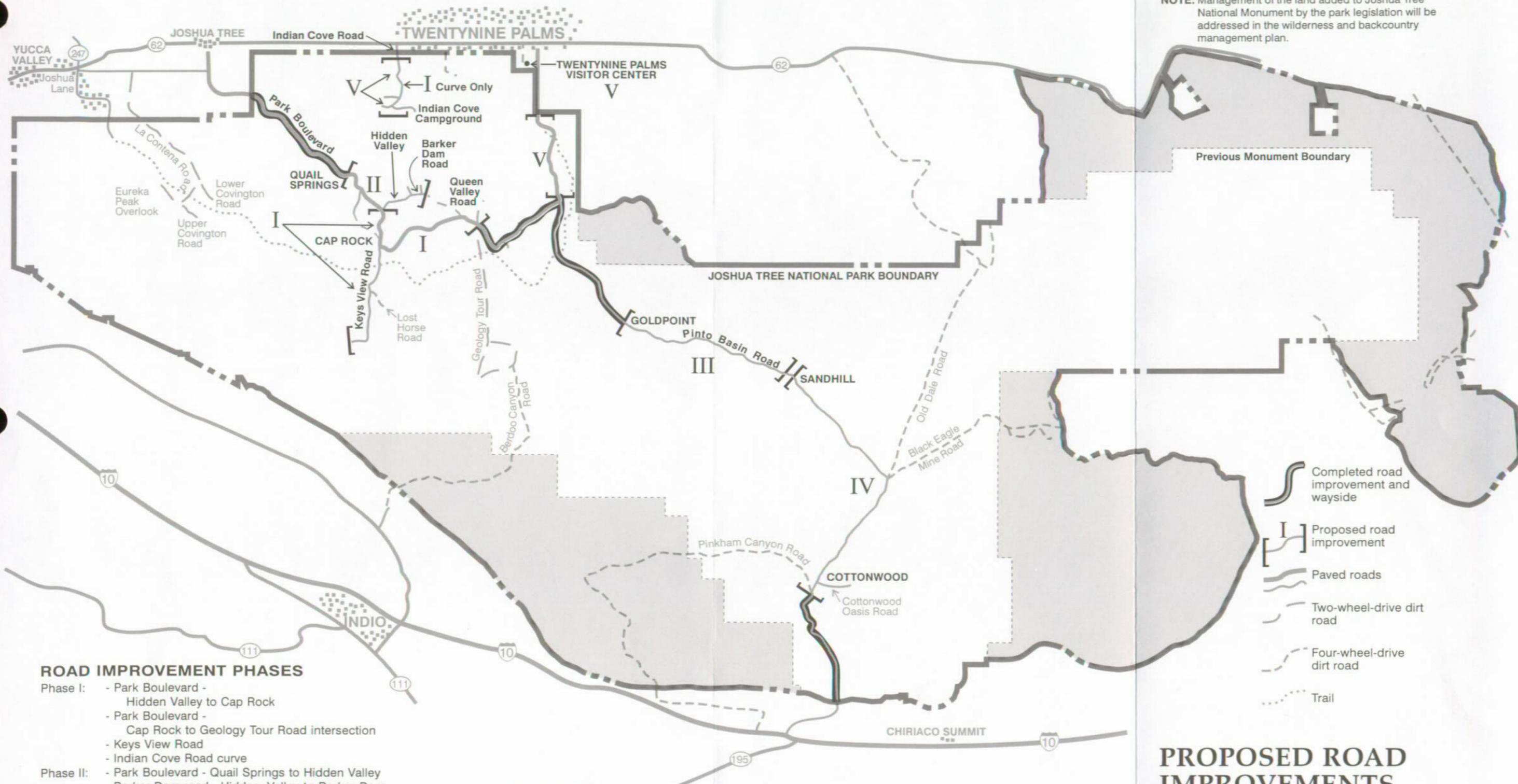
NOTE: Management of the land added to Joshua Tree National Monument by the park legislation will be addressed in the Wilderness and Backcountry Management Plan.



Alternative A Proposed Action HIDDEN VALLEY AND BARKER DAM AREA

JOSHUA TREE NATIONAL PARK
 UNITED STATES DEPARTMENT OF THE INTERIOR
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 DSC/Dec. '94/156/20,041A

ON MICROFILM



NOTE: Management of the land added to Joshua Tree National Monument by the park legislation will be addressed in the wilderness and backcountry management plan.

ROAD IMPROVEMENT PHASES

- Phase I:
 - Park Boulevard - Hidden Valley to Cap Rock
 - Park Boulevard - Cap Rock to Geology Tour Road intersection
 - Keys View Road
 - Indian Cove Road curve
- Phase II:
 - Park Boulevard - Quail Springs to Hidden Valley
 - Barker Dam road - Hidden Valley to Barker Dam
- Phase III:
 - Pinto Basin Road - Goldpoint to Sandhill
- Phase IV:
 - Pinto Basin Road - Sandhill to Cottonwood
- Phase V:
 - Park Boulevard
 - Indian Cove access road and campground roads
 - Twentynine Palms Visitor Center parking

PROPOSED ROAD IMPROVEMENTS

JOSHUA TREE NATIONAL PARK
 UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE
 DSC/Dec. '94/156/20,036B

ON MICROFILM

HEADQUARTERS

Main visitor center for monument cultural interpretation
Major rehabilitation of all exhibits and displays
Redesign complex, provide new facilities to separate visitors from administrative functions
Connect NPS and city cultural features

INDIAN COVE

Upgrade road
Redesign campground to define sites and designate separate day use areas
Expand visitor contact/ranger station
Construct new entrance fee station
Provide permanent restrooms

LOST HORSE

Provide visitor center near west entrance with interpretive focus on natural resources of the Mojave Desert
Improve and add new wayside exhibits

Reconstruct roads; minimum widths, slow speeds
Build hiking trails between popular climbing areas and parking, develop trails plan and handbook

Designate and expand parking in concentrated areas
Redesign use areas and improve facilities
Provide permanent restrooms

COVINGTON

Develop trails plan, mark trails with signs, and revegetate braided trails
Clearly define spaces in lots, improve signs
Provide parking for California Riding and Hiking trailhead
Redesign campground, improve drainage, increase space between sites
Expand picnic area
Rehabilitate exhibits and interpretive media at Black Rock nature center
Provide for permanent NPS interpreters at Black Rock nature center

PINTO WYE

Replace north entrance fee station and provide utilities
Relocate trailheads for nature trails closer to main road
Clean up and define camp sites
Close and revegetate illegal entry
Provide permanent restrooms
Delineate parking
Clean up and define picnic sites at Live Oak, remove sites from Split Rock
Upgrade and improve signs and exhibits
Improve utilities at maintenance area

NOTE: Management of the land added to Joshua Tree National Monument by the park legislation will be addressed in the wilderness and backcountry management plan.

— New Park Boundary
- - - Previous Monument Boundary

TRANSITION

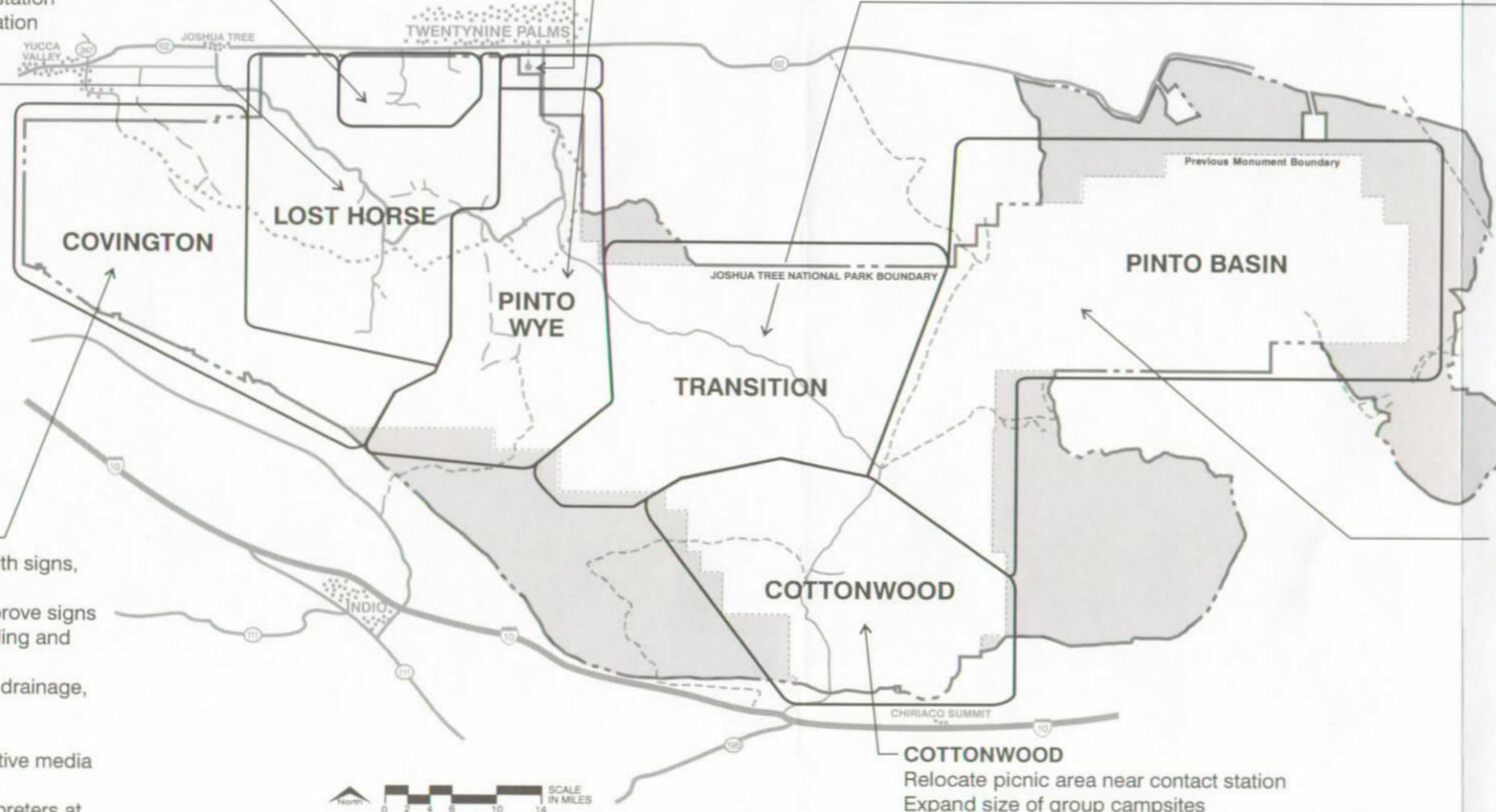
Reconstruct road
Reclaim old roads and revegetate
Improve and add new wayside exhibits along main roads
Evaluate depressed borrow pit for picnic area
Add comfort station at Cholla Cactus Garden

PINTO BASIN

Revegetate old road traces
Provide parking and back country boards at wilderness access points
Install entrance sign and exhibit at park boundary and Old Dale Road
Redesign and add sign/exhibit at Old Dale Road, Black Eagle Mine Road, and Cottonwood Road junction
Close illegal entrances

COTTONWOOD

Relocate picnic area near contact station
Expand size of group campsites
Improve interpretation of Cottonwood Oasis, add viewing platform, revegetate braided trails
Make restrooms accessible to people with disabilities
Improve identification and interpretation of trails, and revegetate redundant trails
Improve and add new interpretive wayside exhibits along main road
Construct new visitor center
Construct new entrance fee station
Add new accessible interpretive trail at existing pull out



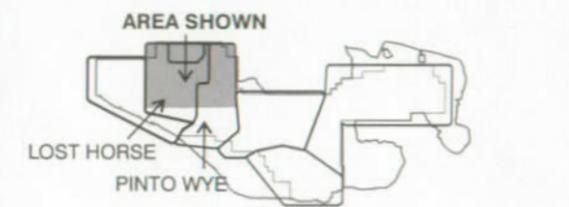
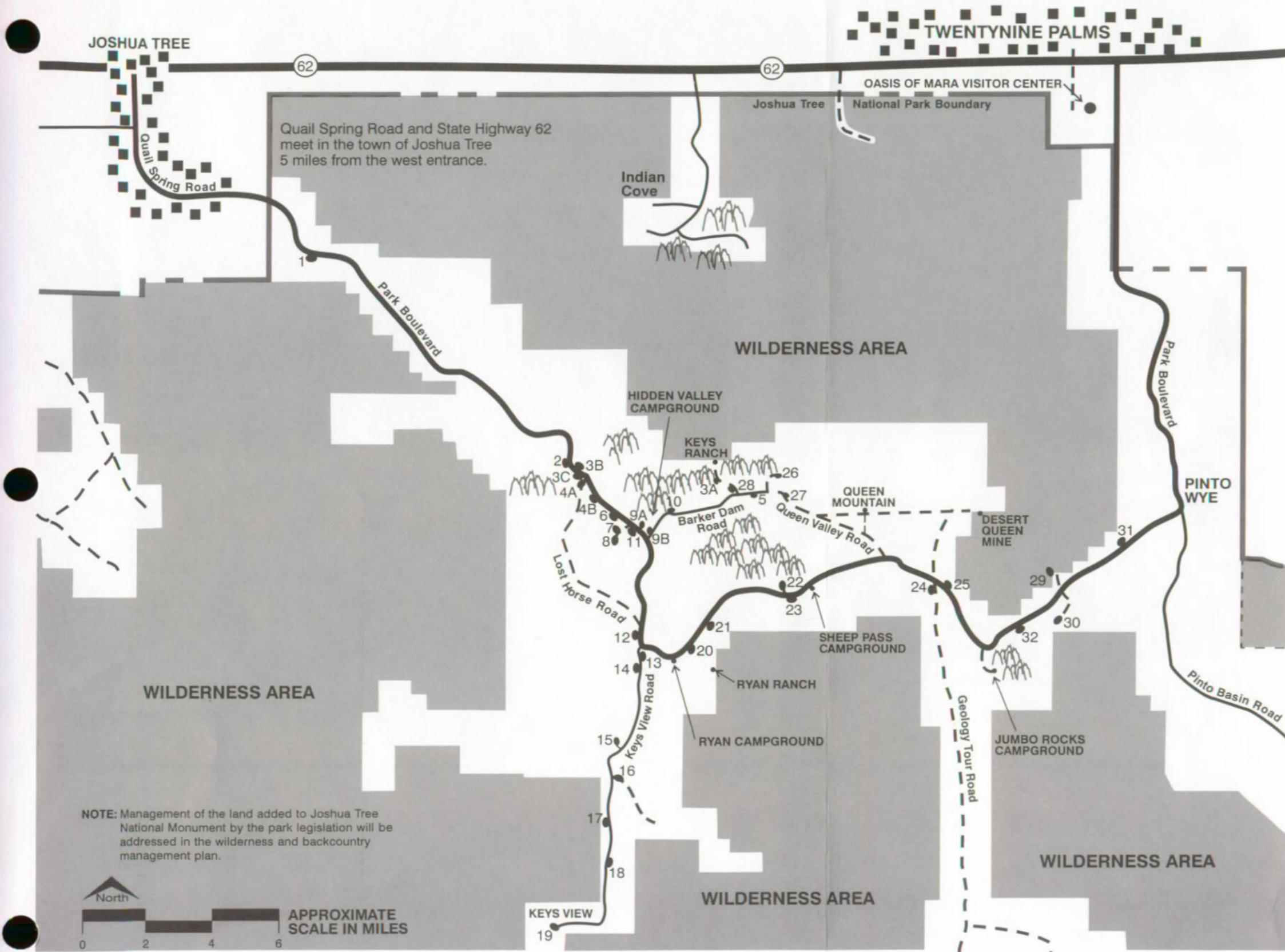
The proposed action would preserve and maintain existing visitor activities and experiences and would direct visitor use to existing developed areas. This alternative would provide a broader range of visitor choices and experiences than is currently available. Day use capacity in the most heavily used areas of the monument would be increased. Facilities in existing developed areas would be redesigned to increase effectiveness, reduce impacts on natural and cultural resources, and improve aesthetic quality.

**Alternative A
PROPOSED ACTION**

By Planning Unit

JOSHUA TREE NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC/Dec. '94/156/20,022A

ON MICROFILM



- PARKING/PULLOUTS**
- 1 Desert environment
 - 2 Rock climbing exhibit
 - 3A Wait lot/Keys Ranch
 - 3B Boy Scout hiking trailhead
 - 3C Rock piles/Wonderland of Rocks orientation-west
 - 4A Lost Horse ranger station access road
 - 4B Hemingway
 - 5 Comic Book area
 - 6 Hidden Valley - north lot
 - 7 Hidden Valley trailhead
 - 8 Hidden Valley picnic area
 - 9A Hidden Valley day use area
 - 9B Intersection Rock
 - 10 Echo "Y"
 - 11 Rock Pile exhibit
 - 12 Mojave plants exhibit/Love Nest
 - 13 Cap Rock
 - 14 Cap Rock South
 - 15 Juniper Flats backcountry trailhead
 - 16 Lost Horse Mine
 - 17 Black Brush hillsides
 - 18 Wonderland of Rocks overlook
 - 19 Keys View
 - 20 Ryan Ranch
 - 21 Ryan turnout/Oyster Bar
 - 22 Hall of Horrors
 - 23 Ryan Mountain trailhead/Indian Cave exhibit
 - 24 Geology Tour Road/Desert Queen backcountry
 - 25 Wonderland of Rocks orientation-east
 - 26 Wall Street Mill/Barker Dam
 - 27 Wonderland of Rocks interpretive exhibit
 - 28 Wonderland of Rocks backcountry staging area
 - 29 Split Rock
 - 30 Live Oak
 - 31 Desert Nomads exhibit
 - 32 Skull Rock pullout

- — — — — Joshua Tree National Park Boundary
- - - - - Previous Monument Boundary
- Paved road
- - - - - Dirt road

PARKING/PULLOUTS
 Lost Horse and Pinto Wye Planning Units
JOSHUA TREE NATIONAL PARK
 UNITED STATES DEPARTMENT OF THE INTERIOR
 NATIONAL PARK SERVICE
 DSC/Dec. '94/156/20,044A

ON MICROFILM

PARKWIDE ALTERNATIVES

Joshua Tree National Park contains an extraordinary cross section of the California Desert. It spans two major desert ecosystems and an unusual ecological transition zone. It has tremendous biological diversity, vast desert landscapes, and rich human history. The size of the park and the variety of its resources provide for a broad range of visitor experiences. To ensure that these values are preserved into the future, the park would be managed to protect the Mojave and Colorado Desert ecosystems and their biologically and culturally diverse resources.

The range of alternatives was developed given certain guiding principles and key assumptions. Visitor use would remain focused at developed areas and along the main road corridor between the west and south entrances. Resource impacts and conflicts between visitors associated with the large numbers using these areas would be minimized. Visitors would be provided with a variety of opportunities to experience both desert environments and to learn about the varied human occupations and the role of adaptation in the arid environment. Visitors would be provided with parkwide information and presented with the primary interpretive and educational themes.

Most of the park would be managed to protect wilderness resources, character, and values. There would be opportunities to experience the wilderness in solitude in much of the park. Orienteering and discovery would be encouraged. Intermediate experiences between mainstream visitation and wilderness would also be available. There would be a sense of remoteness and solitude but not isolation from human activity.

All development and facilities would blend harmoniously with the environment and reflect sustainable design concepts. Roads would maintain a low profile and follow the contours of the land whenever possible, much like the original wagon routes. Major park support facilities would continue to be located on the periphery. All alternatives incorporate these principles.

Management goals were developed to achieve the park's purpose, protect significant resources, and impart the primary interpretive themes. The goals are to preserve the park unimpaired for future generations, coordinate the preservation of ecological units that extend beyond the park boundary, improve management and knowledge of natural and cultural resources, manage visitation more effectively, reduce impacts associated with dispersed and poorly defined visitor use facilities, educate visitors regarding the NPS mission and the natural and cultural resources of the park, facilitate cooperative planning throughout the California Desert ecosystem with other public agencies and communities, improve circulation focusing on safety, visual quality, and visitor experience, and improve the efficiency of park operations. Actions to fulfill these management goals are presented in the alternatives.

The alternatives are presented in two sections, covering parkwide alternative actions and alternative development concept plans. The "Parkwide Alternative Actions" section describes the general management direction for the entire park, with the exception of the recently added land, which will be addressed in the new wilderness and backcountry management plan. The "Alternative Development Concept Plans" section describes in further detail the actions proposed for eight separate planning units. The park was subdivided into eight planning units for ease of discussion. A brief description of each unit is included in the "Alternative Development Concept Plans" section.

ALTERNATIVE A — PROPOSED ACTION

GENERAL DESCRIPTION

The proposed action is the National Park Service's general management plan for the park. It would minimize disturbances to resources and maintain visitor activities and services. Day use capacity in the most heavily used areas would be expanded, primarily in disturbed areas. Visitor awareness of the many opportunities and experiences the park has to offer would be increased. The opportunities for wilderness and trail experiences would be expanded. This alternative is shown on the Proposed Action, by Planning Unit map.

Management of park land and wilderness would be enhanced through an array of implementation plans that would evaluate threats to the wilderness and remove incompatible uses and development. Cooperative planning and agreements with adjacent landowners and other agencies would be increased. Inventory, monitoring, research, and patrols would be maximized.

Management of visitors and reduction of impacts would be addressed through the redesign of developed areas and would separate user groups, reduce congestion, contain and direct use to reduce impacts on the environment, improve routes between visitor destinations, and provide additional day use parking. All major roads would be reconstructed. A network of clearly designated new and existing roads, trails, parking areas, and shuttle routes would improve circulation and distribution of visitors in the most heavily used areas.

Orientation, trip planning assistance, and introduction to the primary interpretive and educational themes would be provided at the three main entrances. A new visitor center near the west entrance would focus on the ecology of the Mojave Desert. The north entrance visitor center would be converted to a cultural center. The south entrance visitor contact facility would be replaced with a larger facility and would focus on the resources of the Colorado Desert. Interpretive exhibits and services would be expanded along the major roads and developed areas.

Park support facilities would be upgraded or expanded to provide an effective operation and minimize new disturbance.

MANAGEMENT ZONING

All land within the boundary before the 1994 legislation was evaluated and separated into management zones. Management zoning determines how specific lands are to be managed to protect resources and provide for visitor use. The National Park Service zones areas in parks into four classifications — natural, historic, developed, and special use. Within each of these zones, subzones may be designated to allow for particular management needs. The management emphasis for each zone and subzone at Joshua Tree is shown on the Management Zoning map. Land added by the 1994 legislation will be zoned in the wilderness and backcountry management plan.

Each area was evaluated to determine contributions to the preservation, understanding, or enjoyment of the natural, cultural, and wilderness resources of the Mojave and Colorado Deserts. Land was then assigned to the most appropriate management zone and subzone. Zones for land management and use would include:

Natural Zones

(557,364 acres) — Conservation of natural resources and processes are primary in natural zones and only uses that do not adversely affect these resources and processes are permitted. The wilderness and backcountry management plan will further define visitor experience and resource protection zones within this broader natural zone category.

Outstanding Natural Features. (53 acres) — These possess rare intrinsic value, and interpretation of unusual geological or ecological features could be provided. Interpretive trails and wayside exhibits are allowed. Twentynine Palms and Cottonwood oases and ocotillo and cholla patches are examples of outstanding natural features.

Wilderness. (467,210 acres) — Preservation of the character and resources in designated wilderness areas is legislated by Congress. Potential wilderness that has been authorized by Congress but not yet established (due to temporarily incompatible conditions) is treated as wilderness by the National Park Service. A large percentage of Joshua Tree land was designated as wilderness or potential wilderness by PL 94-567; 429,690 acres are designated as wilderness and 37,550 acres as potential wilderness.

Natural Environment. (90,101 acres) — Land zoned for conservation of natural and cultural resources but not protected under one of the other categories is zoned as "natural environment." Provisions for environmentally compatible recreational facilities (hiking and interpretive trails, wayside exhibits, primitive campsites without water, and temporary research facilities) are made.

Cultural Zones

(180 acres). — Preservation, protection, and interpretation of cultural resources and their settings are critical in these areas. They emphasize preservation and interpretation of archeological, ethnographic, and historical resources for their educational and aesthetic values. They include all properties on the National Register of Historic Places or formally determined eligible for listing on the national register. The park contains six listed properties and seven properties that have been determined eligible for listing.

The park contains approximately 250 recorded archeological sites, all of which have not been evaluated according to eligibility criteria for the National Register of Historic Places. Until they are evaluated, they will be treated as if they are eligible. Based on the site density of previous archeological studies, it is believed that the park contains many times the number of recorded sites.

Park Development Zone

(3,411 acres) — This zone provides for development and maintenance to serve visitors and accommodate management operations. It includes the headquarters area, administrative areas, campgrounds, picnic areas, and parking lots. It provides for circulation in the park (trails, paved and unpaved roads, and other transportation facilities).

BACKCOUNTRY / WILDERNESS MANAGEMENT

Various developments, such as old mines, borrow pits, and inholdings (including a few that are developed) exist in the natural zone. Threats to backcountry and wilderness values posed by these developments would be assessed through a number of related plans. The wilderness and backcountry management plan will include a comprehensive evaluation of all development and use in the backcountry. Development determined to be inappropriate would be removed and the land rehabilitated.

The climbing management plan currently prohibits use of expansion bolts in wilderness. Until studies recommended in the climbing management plan are completed, the ban on expansion bolts in designated wilderness will continue.

The 1986 *Land Protection Plan* would be revised to incorporate a proactive program for acquisition from willing sellers of all private inholdings in the natural zone. A hazardous waste survey would be completed prior to any acquisition in accordance with Secretarial Order No. 3127 and 602 DM 2. As parcels are acquired any development would be removed and the land rehabilitated.

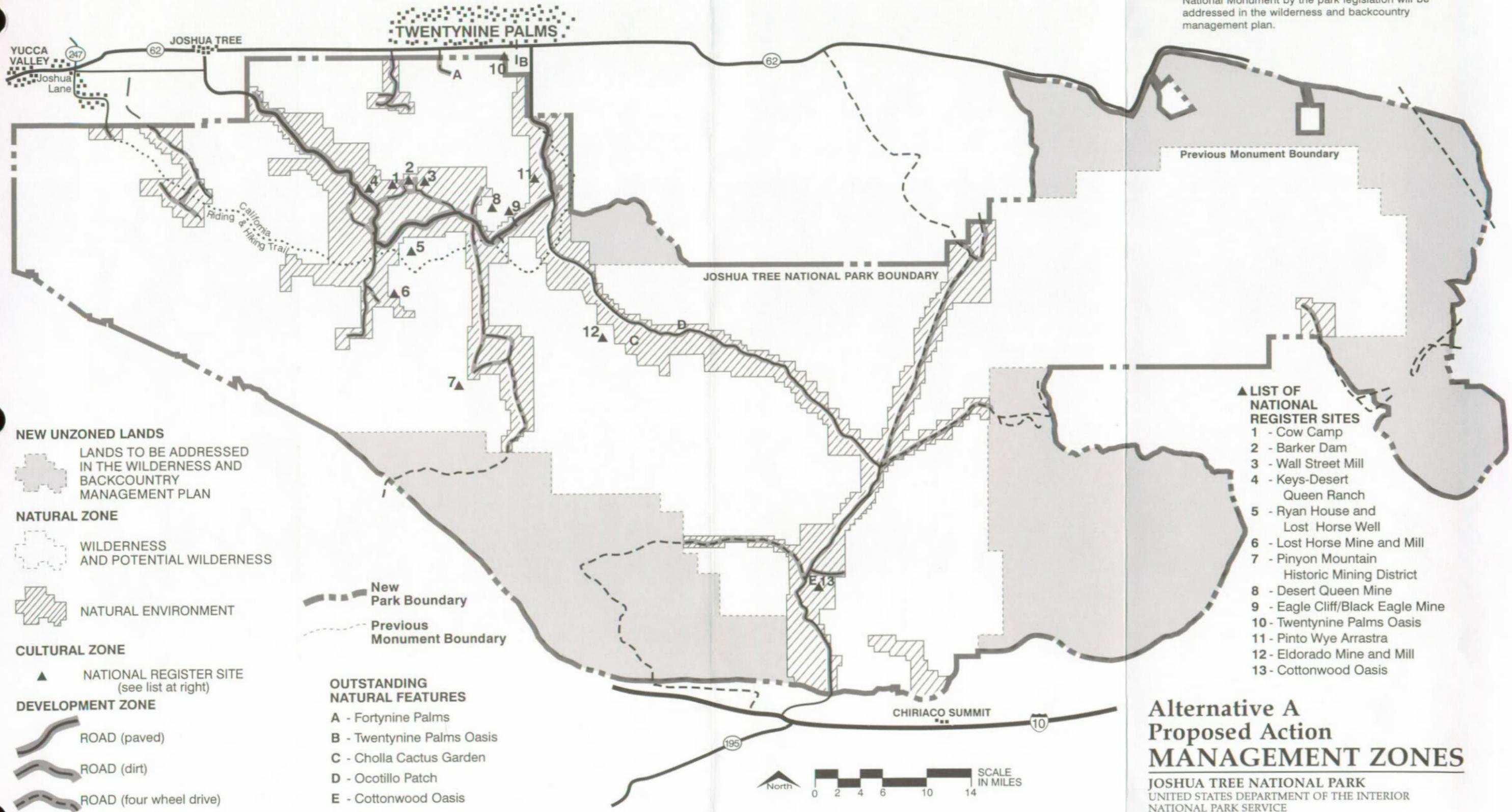
Following removal of development and rehabilitation of the land identified in the wilderness and backcountry management plan and land protection plan, land not already in the wilderness zone would be evaluated for reclassification. New legislation would be proposed recommending inclusion of the land that qualifies as wilderness.

ADJACENT LAND USE

The Park Service would work with adjacent property owners and local, county, state, and federal officials to ensure protection of the park's natural, cultural, and wilderness values. The Park Service would review, evaluate, and make recommendations to local governments concerning all proposals or developments or activities that might affect park resources. Additional signs, fencing, and patrol of the boundary would be implemented to curtail illegal access and activities in the park.

The Park Service would actively pursue cooperative agreements with other agencies and landowners to protect ecological units that extend beyond the boundary and that still have natural integrity. Areas along the park's southern and western boundary include Big Morongo Canyon and Area of Critical Environmental Concern, the Coachella Valley Fringe-toed Lizard Preserve and Area of Critical Environmental Concern, and the Desert Lily Sanctuary. An

NOTE: Management of the land added to Joshua Tree National Monument by the park legislation will be addressed in the wilderness and backcountry management plan.



NEW UNZONED LANDS

LANDS TO BE ADDRESSED IN THE WILDERNESS AND BACKCOUNTRY MANAGEMENT PLAN

NATURAL ZONE

WILDERNESS AND POTENTIAL WILDERNESS

NATURAL ENVIRONMENT

CULTURAL ZONE

NATIONAL REGISTER SITE (see list at right)

DEVELOPMENT ZONE

ROAD (paved)
ROAD (dirt)
ROAD (four wheel drive)

OUTSTANDING NATURAL FEATURES

- A - Fortynine Palms
- B - Twentynine Palms Oasis
- C - Cholla Cactus Garden
- D - Ocotillo Patch
- E - Cottonwood Oasis

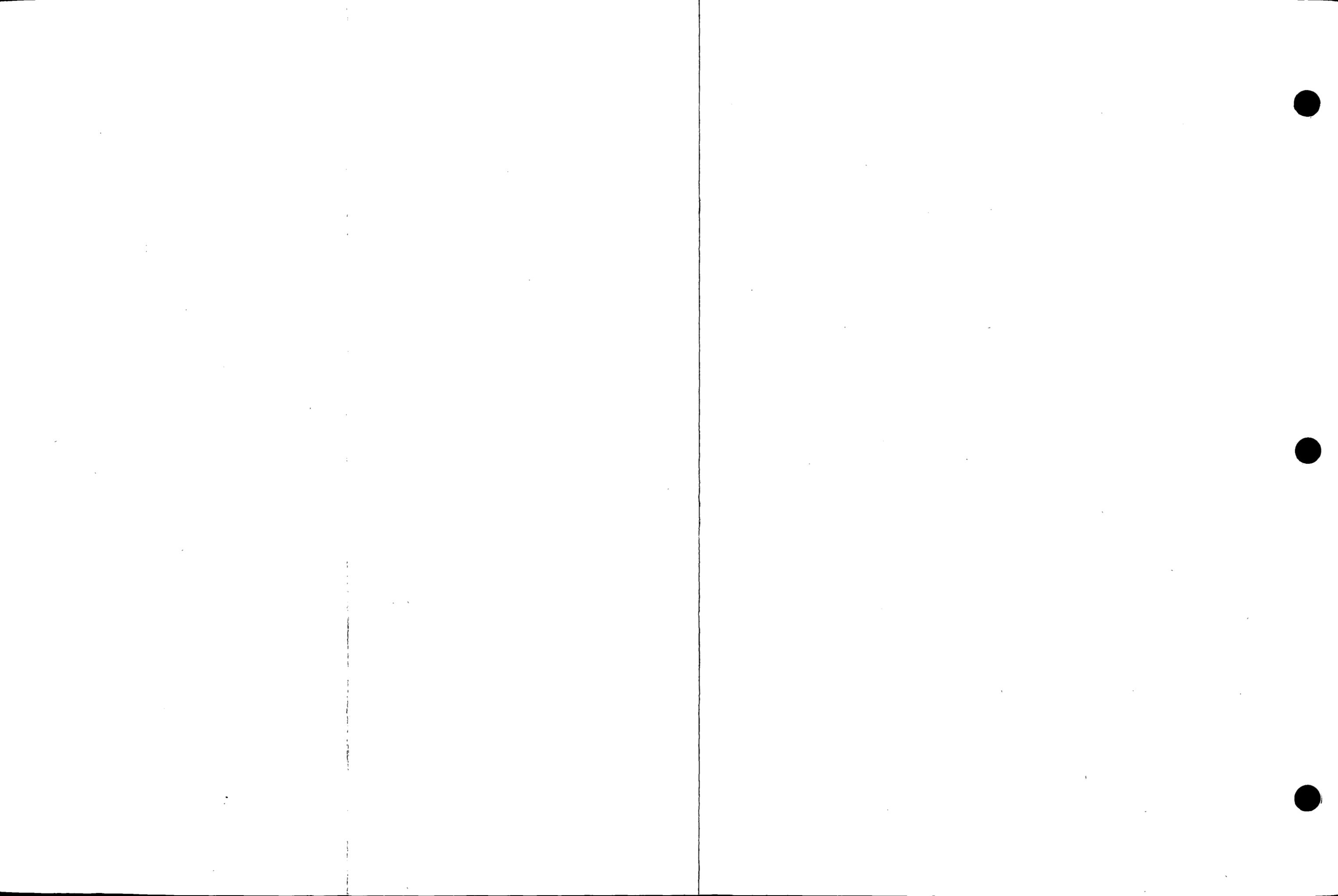
▲ LIST OF NATIONAL REGISTER SITES

- 1 - Cow Camp
- 2 - Barker Dam
- 3 - Wall Street Mill
- 4 - Keys-Desert Queen Ranch
- 5 - Ryan House and Lost Horse Well
- 6 - Lost Horse Mine and Mill
- 7 - Pinyon Mountain Historic Mining District
- 8 - Desert Queen Mine
- 9 - Eagle Cliff/Black Eagle Mine
- 10 - Twentynine Palms Oasis
- 11 - Pinto Wye Arrastra
- 12 - Eldorado Mine and Mill
- 13 - Cottonwood Oasis

Alternative A Proposed Action MANAGEMENT ZONES

JOSHUA TREE NATIONAL PARK
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DSC/Dec. '94/156/20,016A

ON MICROFILM



agreement has been reached within the Department of the Interior to approach planning and management of the 25-million acre California Desert region on an integrated ecosystem basis. The California Desert has been designated an official pilot project of the national performance review to demonstrate effective ecosystem management, planning, and agency reinvention efforts. Joshua Tree National Park will be an active partner in these multiagency, multispecies ecosystem management plans. Geographically, Joshua Tree National Park will be influenced by three ecosystem plans — the northern and eastern Colorado Desert coordinated management plan, the west Mojave Desert coordinated management plan, and the Coachella Valley habitat conservation management plan. These plans will be consistent with direction offered in this general management plan.

RESOURCES MANAGEMENT

The natural and cultural resources would be managed to ensure their preservation as recommended in the 1993 *Resources Management Plan*. Specific issues and management strategies are described in that plan. The resources management plan would be updated as necessary to direct the implementation of the following resource management objectives:

Natural resource management would (1) develop a scientific basis for natural resource management decisions by performing or coordinating natural resources research, (2) protect all native plant and animal species in the park so that biological diversity can be maintained, (3) protect natural resources from human disturbance in order to preserve the diverse ecological systems (4) restore unnaturally altered resources through direct actions, and (5) promote ecosystem management through direct NPS action and through cooperation with local communities, regional, state, and federal agencies.

Cultural resource management would (1) protect, survey, inventory, and curate the archeological resources and artifacts in the park, (2) protect and document historic sites and associated artifacts in the park, (3) protect and document the prehistoric and historic water sources in the park, (4) identify, protect, and preserve (with the help of Indian consultations) ethnographic sites in the park, including any sites of importance to contemporary American Indians, and (5) develop a cultural resources research plan.

Management and interpretation of cultural and natural resources would be integrated. A more holistic approach would be taken to the interactions among geological, biological, and cultural variables. Their interplay, both past and present, would be emphasized in terms of relationships and fragility. Links would be investigated between nature and culture. Cultural adaptation would be studied, taking into account the opportunities and limitations of the environment. Human knowledge of the environment and alterations of the environment to suit human needs would then be better understood and interpreted. A full-time position would be created in the resources division for a cultural anthropologist. This employee would take the lead in implementing and coordinating the ethnographic program and promoting the concept of cultural ecology in resources management.

To ensure adequate protection for the water-related resources, the National Park Service would develop a strategy for protecting its water rights from injury or impairment from existing or proposed water development near the park, obtaining water rights for additional supplies needed for NPS purposes, and implementing and maintaining a monitoring program

to evaluate threats from offsite water uses. Ground and surface water conditions at the Oasis of Mara would be monitored and studies of the hydrogeology would be undertaken to understand the groundwater system that supports the oasis. The park would continue to provide supplemental water to maintain the oasis until such studies were completed.

The National Park Service would continue to survey areas of tortoise habitat and monitor road mortality, especially in areas of high density. This would help to establish baseline data for use in evaluating proposed construction projects.

Archeological, Ethnographic, and Historic Resources

Archeological resources would continue to be evaluated. Archeological sites potentially worthy would be recommended for formal determination for eligibility for listing on the National Register of Historic Places, including historic sites with the potential for historical archeology. Those sites determined eligible for listing on the national register and slated for preservation (Cottonwood Oasis, the Lost Horse Mine and Mill, Pinto Wye Arrastra, and the Twentynine Palms Oasis) should be assessed for their potential for the advancement of historical archeology as part of the nomination process. Those sites determined eligible for listing and slated for preservation of the historic scene (the Eagle Cliff [Black Eagle] Mine, the Eldorado Mine and Mill, and the Pinyon Mountain Historic Mining District) should be assessed for their historical archeological potential, which could be the basis for a national register nomination.

The resources management plan calls for ethnographic studies to be conducted. Traditional Native American cultural properties would be identified, regional Native American consultations held, and similar formal determinations sought for national register eligibility. To recommend formal determination for national register eligibility, the systematic evaluation of historic resources would continue.

Archeological resources would be patrolled by a ranger. This ranger position would be converted from part time to full time.

Surveying, inventorying, and evaluating archeological areas as well as data recovery, if needed, for the mitigation for any development projects would continue to be carried out by the Western Archeological and Conservation Center of the National Park Service or by contract.

There are 13 properties listed on or eligible for listing on the National Register of Historic Places that reflect historic human activity in the park. Each historic site or scene would be protected, interpreted, and preserved (see tables 1 and 2).

Preservation of structures means that the historic character of a property would be retained and the historic fabric repaired and stabilized as needed. Preservation would not restore historic structures, but would repair them using matching or similar materials for historical accuracy, according to the *Secretary of the Interior's Standards for Rehabilitation*. Preservation of the historic scene means the appearance of historic properties and natural surroundings.

The interpretation of cultural resources would educate visitors about the significance of the archeological, ethnographic, and historic resources; about the programs available concerning them; and about the laws that protect them, including penalties for violation.

Signs and brochures about archeological resources, such as sites with petroglyphs or pictographs, would be used under certain conditions. Visitor accessibility, the illustrative potential of a past culture, and the need to protect particular sites would be considered.

Interpretation of some preserved properties also would involve the display and demonstration of period artifacts and equipment. At Keys-Desert Queen Ranch, for example, visitors would not be permitted to walk inside the historic structures for safety reasons, but they could see period artifacts in the windows of the ranch house. Some machines, such as pumps, would be repaired and made operable. The equipment to be repaired would be operated by local volunteers and would provide more of the ambience of the place in its heyday.

Signs or brochures would be used to interpret some archeological resources such as sites with petroglyphs or pictographs. Visitor accessibility, the illustrative potential of a past culture, and resource protection would all be considered prior to interpretation of specific sites.

The main ranch house of Ryan House and Lost Horse Well was completely intact and occupied ca. 1932, four years before the monument was established. On June 5, 1975, the property was listed on the National Register of Historic Places. The ranch house "burned during the night of August 12, 1978. Arson was suspected. The main house was destroyed completely, except for the adobe walls" (Greene 1983). Some of the walls are still standing. Greene recommended that the site be allowed to naturally decay (with the adobe eroding). The park may treat the remaining walls to slow the deterioration and enable more visitors to view the site.

The park contains several concrete or concrete and masonry dams or dam complexes, including the listed properties — Barker Dam, Cow Camp, and Keys-Desert Queen Ranch. The National Park Service has the administrative and engineering responsibilities to inventory the dams within its jurisdiction and to maintain their structural integrity, according to *Special Directive 87-4, Dams and Appurtenant Works: Desk Reference Manual for Maintenance, Operation, and Safety* and *Dams and Appurtenant Works, Maintenance and Safety (NPS-40)*. The Bureau of Reclamation carries out inspections and makes safety recommendations to the National Park Service. Keys Dam consists of three separate dams (upper, middle, and lower Keys Ranch dams) northeast of the main ranch house that form a single reservoir. Along with the other two reservoirs in the park, this is an important water source for wildlife. The Park Service would prefer to continue this use and is seeking an acceptable, safe water level. The dam would be maintained and its historic fabric would be preserved to interpret strategic frontier water sources for homesteading, ranching, and mining.

Native American Consultations

A proactive Native American consultation plan would be developed to learn more about possible sacred and traditional-use sites in the park and to encourage cooperation and involvement of regional American Indian groups in park management. This effort would involve the following actions. Cahuilla, Chemehuevi, Mojave, Serrano, and other groups in

the region would be consulted concerning the identification and protection of important cultural sites in the park, including possible traditional cultural properties for nomination to the National Register of Historic Places. The park would share information on the management of natural and cultural resources, consult on possible finds of human remains and prehistoric and historic artifacts, and ask for guidance in the interpretation of natural and cultural resources. As a result of this ethnographic work, more would be learned and documented about sacred and other traditional-use sites of past and contemporary importance to the American Indians whose traditional territories or trade routes were part of what is now the park.

TABLE 1: LISTED ON THE NATIONAL REGISTER OF HISTORIC PLACES

Resource	Significance	Treatment	Justification	Use
Barker Dam	Stone and concrete dam built across a natural tank to impound rainwater for cattle; begun in the early 20th century and expanded; became part of the homestead of William F. Keys and was an important permanent water hole	Preservation of historic site and scene	Historic fabric intact, contributes to interpretation of ranching and mining	Self-discovery site for interpretation on designated trail; combined sign for interpretation and education about protecting resources
Cow Camp	Consists of ruins of buildings and a curved concrete dam built by William F. Keys in the late 1940s to water cattle; a well was dug in the late 19th century; important to livestock raising	Preservation of historic site and scene	Contributes to interpretation of subsistence ranching	Restricted area for wildlife management; special guided tours only for cultural and natural resources interpretation; combined sign for interpretation and education about protecting resources
Desert Queen Mine	A late 19th century gold mine; remains include tunnels, shafts, and adits, a stone building and some foundations; mine said to have produced several million dollars between 1895 and 1941	Preservation of historic scene	Already deteriorated, remote, does not contribute significantly to interpretation	Self-discovery site for interpretation on designated trail; combined sign for interpretation, education about resource protection and visitor safety; maintenance of safety barriers over mine shafts and adits
Keys-Desert Queen Ranch	Homestead of William F. and Frances Lawton Keys; includes ranch house, school house, several related structures, and a concrete dam that stored water; headquarters of horticultural, livestock, and mining operations; artifacts remain	Preservation of historic structures, site, and scene; stabilization of structural components	Intact, primary place for ranching and mining interpretation	Restricted area for historic preservation; scheduled guided tours only for cultural resources interpretation
Ryan House and Lost Horse Well	Cattle raising and mining complex of the late 19th and early 20th centuries, typical of the ranching and mining operations in the California desert; adobe ranch house c. 1896; important in the history of the park	Preservation of historic site and scene; stabilization of adobe walls of ranch house	Adobe walls would be stabilized; easy accessibility for interpretation of ranching and mining	Self-discovery site for interpretation on designated trail; combined sign for interpretation and education about protecting resources
Wall Street Mill	A cattle-watering and ore-milling site active from 1896 until 1943; two-stamp mill still in place	Preservation of historic structure, site, and scene; stabilization of historic structure	Intact; another place to interpret ranching and mining	Self-discovery site for interpretation on designated trail; combined sign for interpretation, education about protecting resources

TABLE 2: DETERMINED ELIGIBLE FOR LISTING ON THE NATIONAL REGISTER OF HISTORIC PLACES

Resource	Significance	Treatment	Justification	Use
Cottonwood Oasis	An important natural water source known to Euro-Americans since the mid 1880s; served mines on the north and east side of the Pinto Basin as well as cattlemen and travelers	Preservation of historic site and scene with historic natural habitat restoration	Setting intact; place to interpret role of water in mining, ranching, travel	Self-discovery site for interpretation on designated trail; combined sign for interpretation and education about protecting resources
Eagle Cliff (Black Eagle) Mine	A gold mine with stone ruins, a roofed rock-sheltered cabin, and other rock shelters, plus a blacksmith's site; peak use late 19th century through the first third of the 20th century	Preservation of historic scene	Already deteriorated, remote, not significant to mining interpretation	Remote self-discovery site for interpretation, not on designated trail; brochure for interpretation, resource protection and visitor safety; maintenance of safety barriers over mine shafts and adits
Eldorado Mine and Mill	Early 20th century gold mine; produced silver and molybdenite until World War II; includes shafts, mine workings, cast iron and concrete vats, machinery remnants, mill and mining campsites, stone foundations, ruins of three buildings	Preservation of historic scene	Already deteriorated, remote, not significant to mining interpretation	Remote self-discovery site for interpretation, not on designated trail; brochure for interpretation, resource protection, and visitor safety; maintenance of safety barriers over mine shafts and adits
Lost Horse Mine and Mill	Operated from the 1890s through the 1930s; water was piped from Lost Horse Spring and from wells near the spring site; much still intact	Preservation of historic structures, site, and scene; stabilization of historic structures	Intact, secondary mining interpretation	Self-discovery site for interpretation on designated trail; combined sign for interpretation, resource protection, and visitor safety; maintenance of safety barriers over mine shafts and adits
Pinto Wye Arrastra	Outstanding large wagon wheel arrastra; the only wagon wheel arrastra possessing integrity of location and construction; excellent condition; early to mid 20th century	Preservation of historic site and scene	Intact, self-discovery site for mining interpretation	Remote self-discovery site for interpretation, not on designated trail; brochure for interpretation resource protection
Pinyon Mountain Historic Mining District	Consists of several mines and mills that operated from the late 19th to mid 20th centuries; includes the Pinyon Mine of piñon log construction used prior to milled planks and beams	Preservation of historic scene	Already deteriorated, remote, not significant to mining interpretation	Remote self-discovery site for interpretation, not on designated trail; brochure for interpretation and education about resource protection and visitor safety; maintenance of safety barriers over mine shafts and adits
Twentynine Palms Oasis (Oasis of Mara)	Important natural water source and settlement, known to indigenous people such as the Serranos and Chemehuevis; served as reservation through the early 20th century. Reservation land remains; the Twentynine Palms Band of Mission Indians does not reside there but in the greater park area. Euro-American habitation began in the 1870s.	Preservation of historic site with natural habitat restoration	Intact, important to interpretation of water to settlement	Self-discovery site for interpretation on designated trail; combined sign for interpretation and education about the need to protect resources

VISITOR USE

Information and Interpretation

The roads that provide access to the Mojave Desert, the transition zone, and the Colorado Desert from Joshua Tree west entrance, the Twentynine Palms north entrance, and the Cottonwood south entrance would remain the primary routes for the majority of the visitors to the park. These roads provide the primary access to the park. A backcountry wilderness experience would remain available throughout most of the park. Visitor use is currently focused on frontcountry and backcountry experiences; in the future a greater range would be provided. These would include maintaining the Queen Valley and Covington Flats dirt roads for two-wheel drive, upgrading the Geology Tour Road to a two-wheel-drive route, designating four-wheel-drive routes (limited to existing mining and ranching roads in appropriately zoned areas), and a greater number of trails accessible to people with disabilities.

The desert has a wide variety of wildlife. It also has a great deal of physical evidence of past human occupation. It is also a place for peaceful enjoyment. The intent of this plan and the detailed interpretive prospectus is that the visitor would come to know this park at an individual pace and would find encouragement for exploration and discovery.

The interpretive program would be directed toward achieving the following objectives:

- (1) increase the number and quality of personal interpretive contacts with visitors
- (2) provide educational programs for school groups in the region, including efforts to reach Hispanic communities on the south boundary
- (3) develop more effective outreach programs
- (4) construct new and remodel current interpretive facilities to better educate visitors arriving at all entrances
- (5) update all nonpersonal interpretive services

Most interpretation at Joshua Tree would be onsite (waysides, publications, self-guided trails, personal services). Information and orientation, an introduction to the interpretive themes of the area, and trip planning assistance would be provided at entrance and contact facilities located at the three main entrances. Signs for these entrances would be improved. All visitor contact and fee collection facilities would be upgraded.

Cultural resources are scattered throughout the park. A more focused interpretive effort would be undertaken to interpret this aspect. Keys Ranch, Barker Dam, Desert Queen mine area, Wall Street Mill, and Ryan House and Lost Horse Well would all be better interpreted. Keys Ranch would be stabilized and used as the primary location in the interior of the park for ranching/homestead cultural history education. Public access to Keys Ranch would be by guided tours only and visitors would be prohibited from entering the structures. Interpretation would not be limited to the ranching story but could include the broader continuum of occupation and use from prehistoric times to the present. The ranch would lend itself to costumed interpretation, and tours would continue to be given by the Park Service.

The Black Rock Canyon nature center would be used as an environmental education and visitor contact facility. Specific educational materials would be developed. A series of

Colorado and Mojave Desert Biosphere Reserve seminars could be developed in cooperation with the other biosphere reserve areas.

An outreach information and education program would be expanded. With the addition of a full-time education specialist on the staff and two full-time education staff members, the potential to reach more of the 300,000 students within three hours of the park would be realized. Bilingual outreach and education efforts would be increased as well.

Since the majority of visitors are from southern California, a broad approach encompassing that area would be developed to meet their needs. Publications, roving interpretation, and involvement in local communities, schools, and organizations would be pursued.

The Park Service would pursue interagency initiatives such as information sharing, interpretive outreach, and joint visitor facilities. Various media, such as brochures and the park newspaper would be used to inform visitors about the desert tortoise, its endangered status, and the impacts of unauthorized tortoise releases in the park.

Primary Visitor Information Facilities

Joshua Tree West Entrance. A visitor center would be constructed near the west entrance, which is used by the majority of visitors (60% or more). The exact location has not been determined. A separate study and environmental analysis would be completed to evaluate possible alternative visitor center sites and analyze their environmental impacts. This study would evaluate sites in the park as well as locations on private land or on other public land outside the park. The Park Service would evaluate interagency options for the facility.

Orientation, trip planning, and a broad spectrum of interpretive themes and media would be available at this visitor center. The center would be large enough to handle 2,000 visitors per day (8,000–10,000 square feet). Most visitors would be expected to stay a maximum of 30 minutes. It would include:

- lobby, reception, information desk
- interpretive sales area
- restrooms and water
- orientation, information, trip planning, and audiovisual exhibits, with some outdoor elements available for visitors who arrive after hours
- information about desert safety and weather
- interpretive exhibits introducing the five interpretive themes
- audiovisual program that fosters appreciation of the desert
- theater space
- administrative space, offices and storage for interpreters, law enforcement rangers, and cooperating association, maintenance storage, break room and lunch area, small reference library, staff restrooms
- parking for visitors and employees

Twentynine Palms North Entrance. The complex that currently houses the park visitor center and headquarters would be extensively renovated to serve as a cultural and visitor contact center for the park. A new administrative facility would be constructed south of the cultural

and visitor contact center where the new collections storage facility has been built. The Oasis of Mara cultural and visitor contact center would focus on human groups over time and their adaptations to and impacts on the desert from the prehistoric past to the present. The major interpretive theme would employ the Man and the Biosphere model. Human occupation of the park would be interpreted and cultural sequences explained by displaying artifacts from the park's collection. Because this would continue to be an entrance used by some visitors, parkwide information and trip planning would also be provided.

An exhibit concept plan would be prepared to guide renovation. The cultural and visitor contact center would include:

- displays of objects from the Campbell collection and other local or regional American Indian collections
- displays of objects relating to mining and ranching
- interpretation of resource management
- interpretation of arid lands landscaping and revegetation
- publication sales including items relating to cultural history
- the trail to the Oasis of Mara
- a multipurpose room for audiovisual programs, meetings, etc.
- restrooms (handicap accessibility improvements completed in 1994)
- parking for visitors and employees
- trail network to nearby community-managed cultural buildings

Cottonwood South Entrance. A new visitor facility would be constructed to replace the current building. Its exact location has not been decided, and many options have been suggested. A separate study and environmental analysis would be completed to evaluate alternative visitor center sites and analyze their environmental impacts. This study would evaluate sites in the park at Cottonwood as well as the development of an interagency facility between Interstate 10 and the park boundary.

The new center would have approximately 3,000 square feet of interior space and 800 square feet of sheltered exterior space. The center would include:

- a reception area for an information desk and interpretive sales
- audiovisual alcove(s) in the reception area for park orientation
- fee collection for the off season when the entrance station is not staffed
- restrooms, water
- information, orientation, trip planning exhibit elements to assist the desk personnel
- outdoor sheltered information, orientation, trip planning, interpretive panels (parkwide and site-specific) in an adjacent ramada
- bulletin board for changing information
- space for informal talks
- office space for interpreters and rangers
- staff restrooms, park and cooperating association storage

Local features that would be addressed in orientation panels are Pinto Basin culture, Cottonwood spring, mill and mining sites in this end of the park, desert tortoise, Cahuilla culture, Colorado Desert, cholla cactus, and spring wildflowers.

Black Rock Canyon Nature and Visitor Contact Center. The center is located at Black Rock Canyon campground and would function as a nature center providing environmental education activities. It would also be a visitor contact center providing parkwide information. Exhibits and audiovisual programs would be provided. The building would be activity oriented and serve as a staging area. Consideration should be given to environmental education uses. Overnight visitors would be accommodated at the campground. It would be used for biosphere reserve seminars and might include weekend use by regular park visitors. The multipurpose room would be equipped to screen various audiovisual programs.

Interpretive Signs and Exhibits

To implement new directions defined in the proposed action, signs and exhibits would be replaced. Wayside exhibits not optimally located for relating the interpretive themes would be removed or relocated. New wayside exhibits would be added. A parkwide roads and trails guide would be developed. The direction for the interpretive program is defined in the five primary interpretive themes:

- (1) Joshua Tree National Park is comprised of two biologically diverse desert environments, the Mojave and the Colorado, which merge within its boundaries. Lush palm tree oases draw attention to the importance of water in the desert environment.
- (2) The Joshua tree and its adaptation is a perfect vehicle for understanding the interdependence of organisms living in the desert.
- (3) Plants and animals have evolved to survive in heat and drought. These adaptations produced an interesting array of life forms. Humans, from prehistoric times to the present, have adapted to an environment with little water. People who have made this area their home adapted culturally in the context of scarce water and have provided a colorful and varied human history.
- (4) The picturesque landscape features, including the mountain ranges, desert basins, and rock piles, all contribute to the significance of the park. The dynamic processes that formed this area, including erosion and earthquakes, continue.
- (5) The deserts have suffered a great deal of human abuse. The arid landscapes are slow to heal, and tracks made by a single vehicle in desert soil can often be seen many years later. Fragile desert ecosystems survive in a delicate balance. They manifest the more subtle environmental changes brought about by humans. Protection of the California Desert can only be accomplished from an ecosystemwide perspective that promotes harmonious relationships between people and the environment. The "leave no trace" ethic would be taught to visitors.

Detailed media, facilities, and program recommendations in the interpretive prospectus would address:

- interpretive signs and wayside exhibits
- museum exhibits
- publications

- audiovisual programs
- personal services programs
- visitor center and information station exhibits

Other Visitor Facilities

Campgrounds, picnic areas, and trails would be redesigned to protect surrounding vegetation, rock formations, drainages, and cultural resources and separate visitor activities, reduce congestion, direct users to designated areas, define the limits of facilities and individual sites, and mark designated trails. Facilities would be redesigned and upgraded primarily in their present locations, using disturbed areas to the extent feasible. Previously impacted sites and social trails would be restored. Native vegetation would be used to help define sites, provide screening, and improve visual quality. Campsites would be open to various types of users, but equestrian camping would be separated for safety reasons. Portable restroom facilities would be replaced with permanent structures.

The number of sites or capacity of the campgrounds and picnic areas would be dependent on the redesign of these facilities. Resultant capacities are not expected to vary greatly from current levels.

Time limits would be enforced to ensure fair allocation when sites are limited. Visitation may eventually exceed the capacity of facilities in busy seasons, so development of sites for camping and recreation outside the park would be encouraged on private and public land.

Reservations would be required at Black Rock Canyon, at all group sites, at Ryan horse sites, and possibly portions of other campgrounds. First-come, first-served camping would be retained at other individual family campgrounds.

PARK ROADS AND CIRCULATION

Circulation in the park would continue on a variety of paved and dirt roads for use by two- or four-wheel-drive vehicles and bicycles. Four-wheel-drive routes would be designated but not maintained. Backcountry trailhead parking along secondary dirt roads would continue to be provided. The wilderness and backcountry management plan would address these parking areas including the need for expansion if necessary in areas accessed by trails. Some roads, parking areas, and trails would be modified to improve protection of resources, visitor experience, safety, circulation, and visual quality and to reduce maintenance requirements. Most of the many dirt roads throughout the park would be reevaluated as to their contribution to the purposes of the park. Roads that cannot be maintained to safe standards or whose function does not serve the park's purpose would be closed and the areas restored or evaluated for hiking or bicycling. This evaluation and recommendations for locations for entry for hiking and backcountry use would be made in the wilderness and backcountry management plan. The park would work with adjacent landowners to allow parking and access in areas where vehicle use and parking in the park are not possible. A trail plan would be developed to provide specific guidance for upgrading the trail system.

An integrated network of roads, trails, parking areas, and shuttle routes would be provided to serve the various visitor destinations in the most heavily used areas (see Parking and Pullouts graphic). A series of designated and clearly defined parking areas would be established. Marked trails would be built between the parking areas and other visitor facilities to provide alternative access to various destinations. A shuttle system would also be established in the areas of highest congestion. Visitors would be encouraged to use trails or a shuttle to travel between popular areas to alleviate automobile congestion and reduce competition for parking spaces. Trails would be open to bicycles where appropriate.

A study would be implemented to determine the most effective and economical shuttle system for Joshua Tree. The route from Quail Springs through Hidden Valley to Keys View and possibly east to Belle and White Tank campgrounds would be ideal for this service. Additionally, the feasibility of shuttle service to visitor facilities at the park entrances, less popular areas, and roads too narrow for RVs would be studied. Interpretive programs on the shuttles would also be considered. Many people could incorporate the sightseeing experience with an interpretive talk.

Park Road Guidelines

Major park roads would be reconstructed. Reconstruction improves the condition and extends the service life of a road. Reconstruction would consist of replacement of the road surface, base, and subgrade, all of which are extensively deteriorated. Guidelines have been developed for road reconstruction on all road projects in the park. All roads would be reconstructed on current alignments except when safety hazards would result or when resource protection opportunities are present. Exceptions would include correcting horizontal and vertical curves that severely limit sight distance and improving hazardous intersections. Sensitive resources would be avoided.

Environmental design criteria:

- All major paved roads (Park Boulevard, Pinto Basin Road, and Indian Cove Road) would have a 24-foot paved width similar to the reconstructed road at the west end of Park Boulevard.
- All paved spur roads (Barker Dam Road, Keys View Road, and access roads to campground and picnic areas) would have a 20- to 22-foot paved top width.
- Past road construction projects have shown that rounding slopes (cutting farther up slope to obtain sufficient angle of repose to lessen soil movement) results in greater impacts. Revegetation in areas where slopes have been rounded has proven marginally successful. Revegetation difficulty would be taken into consideration along with safety factors in determining use of slope rounding.
- No slope rounding would be used where the road passes through rock formations.
- Revegetation would be used to accelerate recovery of land disturbed during road construction and to minimize colonization of invasive plant species.

- Revegetation practices would include salvage and replacement of topsoil.
- The roads would follow natural contours more closely to emulate the original character of wagon road alignments.
- Curve widening would be used only where necessary and held to a maximum of 2 to 4 feet.
- The road profile should be kept as low as possible to blend in with the environment while maintaining adequate drainage.
- Parking areas and pullouts would be provided at popular visitor destinations. The edges of parking areas would be delineated by curbing, rock and vegetation barriers, fencing, etc.
- Drainage would be handled in almost all instances by low water crossings. The use of culverts would be minimal. Efforts to remove sand deposited from runoff in these crossings would be limited to the road. Occasional maintenance would be done on the downstream side of the low water crossings to prevent scouring and undermining of the roadway by floodwater.
- Roadside and shoulder parking would be controlled through curbing, barriers, signs, etc.

Traffic management and safety strategies:

- Determine design speeds and posted speeds on park roads with consideration for resource protection, visitor experience, and safety concerns.
- Post advised vehicle sizes on Keys View Road.
- Improve traffic and directional signs throughout the park.
- Design pullouts and stops to break momentum at points where the road width and design change (e.g., at the Geology Tour Road and west side of Hidden Valley).

Road Improvements

Protection of resources, visitor experience, and safety concerns would determine design speeds and posted speeds on park roads. The road system would continue to be improved through a multiyear phased program (see Proposed Road Improvements graphic). Further environmental impact analysis would be completed during the design stage of all road reconstruction. Roads in the new park areas will be evaluated in the wilderness and backcountry management plan.

Phases I and II. Park Boulevard (Route 12) from Jumbo Rocks to milepost 19.5 west of Hidden Valley (9.7 miles) and the entire 5.6 miles of the Keys View road (Route 13) are scheduled for reconstruction. These sections are associated with the seven visitor use areas

(see Parking and Pullouts graphic) of the west entrance: Wonderland of Rocks, Cap Rock, Keys View, Geology Tour Road, Ryan Mountain, and Split Rock/Live Oak.

Park Boulevard is one of the two principal park access roads into and through Joshua Tree National Park. It begins at the north boundary near Twentynine Palms and follows a 25.65-mile path to the west entrance. As shown on the Road Project Summary map, the road would be reconstructed on the current road alignment with a 24-foot-wide paved surface. Roads affected in the Hidden Valley area are shown on the Hidden Valley and Barker Dam Area map. A major feature of the road project in this area would be relocation of the intersection at Intersection Rock to improve traffic flow, sight distance, and safety. To separate Hidden Valley campground and Barker Dam traffic, a new section of road to Barker Dam would be constructed along a previously disturbed road trace. Two entrances to the campground would be constructed off this road to eliminate through traffic. A new day use parking area would be constructed over the previous road disturbance south of Intersection Rock.

Keys View Road is a connector to the Salton Sea overlook at Keys View. This route would be reconstructed and would remain open to two-way traffic. Since widening this road would have the greatest impact on Joshua trees of all the roads in the project, it would be reconstructed at its present width of 20 feet (10-foot lanes, no shoulders). Because of safety concerns, advisories on vehicles size would be posted. Vehicles over 20 feet long or 7 feet wide would be advised not to proceed to Keys View overlook. A pullout with gauging station and RV turnaround would be provided near the parking area for the California Riding and Hiking Trail to allow for measuring large vehicles. Interpretation would be provided at the parking area to explain the need for the advisory and available activities at the Keys View overlook.

Indian Cove Road (Route 112) is the only access road into the Indian Cove area. Realignment of a 0.1 mile segment would eliminate one hazardous curve.

Phases III and IV. When the Hidden Valley road projects are completed, all the proposed road work in the west end of the park will be complete. The next phase of work is shown on the Proposed Road Improvements map. Work would be done on Pinto Basin Road from Gold Point to Sand Hill (11.0 miles) in Pinto Basin. Since this portion of the road crosses a large expanse of open desert, it is important to maintain a low profile and avoid long straight sections to reduce visual impacts. The most significant action being considered for this project is the possible realignment of the road around the Cholla Cactus Gardens. Currently the road passes directly through the gardens. Further evaluation and environmental impact analysis of alternative road alignments would be completed. New parking areas for the cactus gardens and interpretive trail would be included. Additional traffic control and interpretive pullouts would be provided along the route. The most hazardous curves would also be redesigned for improved safety.

The following phase would continue on Pinto Basin Road from Sand Hill to Cottonwood (11.5 miles). The most significant actions in this project are the large Porcupine and Smoke Tree wash crossings. The natural gradient of the washes at these low water crossings would be maintained wherever possible. Traffic control and interpretive pullouts would also be provided and the most hazardous curves redesigned to improve safety.

Phase V. Park Boulevard from Pinto Wye to the north boundary would be finished. The most hazardous curves have already been redesigned. Reconstruction would include interpretive pullout improvements, additional traffic control pullouts, road realignment at Pinto Wash to cross at a right angle, and improvements of the entrance station area. This project would also include repaving of the Indian Cove access and campground roads, 49 Palms Canyon road, and the Black Rock Canyon road. Erosion control measures to maintain road character would be done on Covington Flats, Geology Tour, and Queen Valley Roads. Finally, the roads and parking at the Twentynine Palms visitor center and headquarters and the Indian Cove ranger station would be paved.

Parking Area Improvements

Parking lots would be linked to visitor destinations. Each lot would be sized to service the nearest feature and would have overflow spaces for adjacent features. All parking areas would be designed to prevent uncontrolled expansion and for more efficient use of space. Information, orientation, interpretation, and backcountry registration would be provided as appropriate at parking areas. Unneeded or undesirable parking areas (primarily turnouts) would be obliterated and access blocked. Parking would be allowed in designated paved parking areas only and would be strictly enforced.

The following design criteria would be implemented for all parking areas:

- Pave, stripe, and provide edge definition (rock barriers, curbing, etc.) to parking areas and harden connections to trails .
- Designate and mark approved trails to prevent social trails.
- Minimize disturbance to resources (specifically Joshua trees, rock outcrops, drainages, cultural resources) from new construction.
- Use disturbed areas where feasible.
- Restore previously impacted sites.
- Provide designs for rock barriers, curbs, comfort stations, fencing, etc., that are compatible with the natural environment.
- Simplify parking and roadway turns.

Parking and Pullouts: West Entrance to Quail Springs. A new Joshua Tree visitor center and associated parking would be constructed near the west entrance area. The interpretive pullout would be expanded at site 1. Other trailhead pullouts would be retained and paved. Conceptual designs and specific numbers, sizes, and locations would be determined during design for the remaining road reconstruction.

Parking and Pullouts — Quail Springs to Pinto Wye. Conceptual parking designs for the seven visitor use areas (see Parking and Pullouts graphic) — Wonderland of Rocks, Cap Rock, Keys View, Geology Tour Road, Ryan Mountain, and Split Rock/Live Oak have been

developed (NPS 1991). Parking proposals based on these designs are described below for each of the visitor use areas. Numbered sites, keyed to the Parking and Pullouts graphic, are listed in parentheses following the area name. Parking capacity would be increased through substantial expansion of four sites (Wonderland of Rocks backcountry staging area, Barker Dam/Wall Street Mill, Hall of Horrors, and Ryan Mountain trailhead), more efficient use of space at the remaining sites, and the addition of seven new parking areas for interpretation and trailhead access. Capacity of each parking area is approximate and was rounded to the nearest five cars. Additional pullouts would be located approximately every .25 mile for traffic control and for scenic or photo opportunities. The pullouts would be constructed in previously impacted areas.

In the Wonderland of Rocks area (sites 2-10, 25, 26, 28) day use parking would accommodate 416 cars and 39 RVs in 15 areas. The parking area in the Hidden Valley campground would be converted back to a campground loop. All campground roads and parking spaces would be paved, and vehicle use would be confined to the pavement. The Park Boulevard and Barker Dam Road intersection would be relocated to the west side of Intersection Rock and designed to include left turn lanes on north and south approaches. Barker Dam Road would be reconstructed and paved to a combined Barker Dam/Wall Street Mill parking area. The existing Barker Dam parking area would be retained and expanded to accommodate about 50 cars and 5 RVs. The Wall Street Mill parking area would be eliminated, the area revegetated, and a trail would be designated from the expanded Barker Dam parking area to the Wall Street Mill area.

In the Cap Rock area (sites 12-14) a 15 car/6 RV paved parking area at Cap Rock (site 13) would accommodate day users. A 10 car/2 RV parking area would be constructed at site 12 for a Mojave plants interpretive exhibit and access to nearby climbing areas. A 10 car lot would be provided 0.5 mile south of Cap Rock at site 14.

On Keys View Road (sites 15-19) parking areas would be improved at site 15 for 20 cars to provide access to the California Riding and Hiking Trail and at site 16 for 25 cars to provide access to the backcountry and Lost Horse mine. The Keys View overlook at site 19 would provide parking for 45 cars. Parking would be improved adjacent to the new restrooms. A barrier-free viewing platform and associated retaining wall would replace the sidewalk and wall. Curb cuts would be recessed in the sidewalk rather than extended into the parking area. New parking areas for 5 cars each would be added at sites 17 and 18 to provide views of the Wonderland of Rocks and black brush hillsides.

At Ryan Mountain (sites 20-23) parking would be provided for 40 cars and 6 RVs at site 23, the Ryan Mountain trailhead, and Indian Cave exhibit. A larger parking area for 45 cars and 2 RVs would be provided for site 22, the Hall of Horrors rock climbing area on the north side of Park Boulevard. Parking for 5 cars and 2 RVs would be provided at site 20, Ryan Ranch. The Ryan/Oyster Bar turnout at site 21 for 16 cars and 3 RVs would be retained. All campground roads and parking spaces would be paved and vehicles confined to the pavement in both Sheep Pass and Ryan campgrounds to reduce resource damage.

At Geology Tour Road (sites 23, 24) two parking areas with a total of 35 spaces for cars and 6 for RVs would provide parking for orientation, interpretation, and backcountry access. A restroom would also be provided.

At Split Rock/Live Oak (sites 29–32) the turnaround parking area at Split Rock would be redesigned to provide parking for 15 cars and 4 RVs. Live Oak would be expanded to parking for 15 cars. There would be parking for 5 cars at Skull Rock.

A final wayside exhibit plan would be completed to determine exact interpretive objectives and themes for the various parking areas and pullouts.

Parking and Pullouts — Pinto Wye to North/South Boundaries. Additional interpretive and trailhead pullouts would be provided along Park Boulevard between Pinto Wye and the north boundary and along Pinto Basin Road from Pinto Wye to the south boundary. Interpretive pullouts that are not optimally located for conveying the interpretive themes would be replaced by new pullouts that would accommodate approximately 5 cars. Other pullouts would be retained and paved. Larger parking areas for 10–15 cars and 2–3 RVs would be provided at the Cholla Cactus Garden, south entrance orientation parking area, south entrance sign photo parking, and near the north entrance fee station. Conceptual designs and specific numbers, sizes, and locations of pullouts and parking areas would be determined during design for the road reconstruction project.

TABLE 3: VISITOR USE AREAS — DESIGNATED PARKING, LOST HORSE AND PINTO WYE PLANNING UNITS, PROPOSED ACTION

Parking Areas	Cars	RVs	Function
1. Desert environments	15	3	Interpretation, orientation
2. Rock climbing exhibit	30	4	Interpretation, climbing
3A. Wait lot, Keys Ranch	6	0	Trailhead
3B. Boy Scout hiking trailhead	30	3	Trailhead
3C. Rock piles, Wonderland of Rocks—orientation west	15	3	Interpretation, orientation
4A. Lost Horse ranger station access road	20	0	Rock climbing, trailhead
4B. Hemingway	15	1	Rock climbing, trailhead
5. Comic Book area	15	0	Rock climbing
6. Hidden Valley, north lot	15	1	Trailhead
7. Hidden Valley trailhead	25	4	Trailhead, orientation
8. Hidden Valley picnic area	30	4	Picnicking, rock climbing
9A. Hidden Valley day use lot	0	0	Camping, picnicking
9B. Intersection Rock	50	6	Rock climbing
10. Echo "Y"	25	0	Trailhead, rock climbing, walk-in camping
11. Rock Pile exhibit	0	0	Eliminate
12. Mojave plants exhibit, Love Nest	10	2	Interpretation
13. Cap Rock	15	6	Picnicking, interpretation, rock climbing
14. Cap Rock south	10	0	Cap Rock overflow
15. Juniper Flats backcountry trailhead	20	0	Trailhead, interpretation, orientation
16. Lost Horse Mine	25	0	Trailhead
17. Black brush hillsides	5	0	Interpretation
18. Wonderland of Rocks overlook	5	0	Interpretation
19. Keys View	45	0	Interpretation, trailhead
20. Ryan Ranch	5	2	Trailhead, interpretation
21. Ryan turnout, Oyster Bar	16	3	Trailhead, interpretation
22. Hall of Horrors	45	2	Rock climbing, trailhead
23. Ryan Mountain trailhead, Indian Cave exhibit	40	6	Trailhead, interpretation, rock climbing
24. Geology Tour Road; Desert Queen backcountry trailhead	20	3	Trailhead, interpretation, rock climbing
25. Wonderland of Rocks, orientation east	15	3	Interpretation, orientation
26. Wall Street Mill, Barker Dam	50	5	Rock climbing, trailhead
27. Wonderland of Rocks interpretive exhibit	5	2	Interpretation
28. Wonderland of Rocks backcountry staging area	75	5	Trailhead, rock climbing
29. Split Rock	15	4	Rock climbing, trailhead
30. Live Oak	15	0	Picnicking, rock climbing
31. Desert nomads exhibit	0	0	Eliminate interpretive exhibit; maintain parking for traffic control
32. Skull Rock	5	0	Photo opportunity
TOTALS	732	72	
Traffic control pullouts — Two pullouts approximately every .25 mile (traffic control & scenic and photo opportunity)			
Parking area numbers correspond to the Parking and Pullouts graphic. Numbers of cars and RVs are approximate			

OPERATIONS

Housing

Most employees would continue to live in local communities. Housing in the park would continue to be provided at current locations, except for the Lost Horse ranger station, where trailer pads for volunteers have been developed. A duplex would be added at Cottonwood to support the expansion of visitor services. A dormitory would also replace the volunteer housing trailer at headquarters. The Black Rock Interagency Fire Center dorm would be redesigned for expanded use by seasonal fire personnel.

Administration and Maintenance

Administrative and maintenance facilities would be retained at all existing sites. The Twentynine Palms entrance would continue as the primary location for NPS operations. The headquarters area would be redesigned to separate administrative and visitor use functions. Administrative, maintenance, museum storage, and plant nursery functions would be consolidated in new buildings in an area south of the visitor center. Administrative, storage, parking facilities, telephone, security system, water, and power would be upgraded or added at Cottonwood. The Indian Cove ranger station would be expanded. Telephone service, a security system, water storage, and covered storage would be provided at the Pinto Wye maintenance area. The outdated communications system (radios, telephones, and computers) would be upgraded to incorporate newer and more efficient technology. The recycling program would be retained and would address recycling issues throughout the park.

Most borrow pits and associated access roads would be closed. These areas would be rehabilitated except for possible use of two borrow sites for maintenance or visitor use purposes (see development concept plans for Pinto Wye planning unit and Transition Zone planning unit). Sand, gravel, and borrow material would be obtained from sources outside of the park in accordance with *NPS Management Policies*.

To the degree feasible the actions proposed under this alternative would be accomplished using water rights currently held by the United States. If additional water is needed, rights would be obtained in accordance with applicable federal or state laws. All rights to water diverted or used on park lands for permitted activities would be perfected in the name of the United States.

The park would actively encourage a volunteer program and involve the cooperating association (Joshua Tree National Park Association) in addressing operational needs.

Design Character Guidelines and Sustainable Design

Design character guidelines would be developed that would incorporate sustainable designs such as use of passive solar technology and of materials native to the desert environment. Plantings and site design would use native vegetation. All new and modified facilities would adhere to these guidelines to create a unified visual identity for the park that would harmonize with the surrounding environment. Water and energy conservation technology as

well as recycling would be incorporated into the design of these facilities according to NPS guidelines on sustainable design practices.

Access for People with Disabilities

To the greatest extent possible, commensurate with their abilities, visitors with disabilities would be able to enjoy the park and participate in recreational activities using the same facilities and programs as other visitors; sensitive planning and design would facilitate accessibility. Consultation concerning accessibility considerations would take place with local clubs and organizations with disabled members.

Accessibility of Joshua Tree National Park facilities would continue to be provided in conformance with applicable laws, regulations, and NPS guidelines. The degree of accessibility would be proportional to the degree of development. New and remodeled visitor and employee facilities in developed areas would be built or rehabilitated to be fully accessible. Backcountry areas would be accessible to the extent feasible without major modification of the sites. A range of accessibility levels for trails would be established. An accessibility plan would be prepared to identify where barriers exist and what actions would be necessary to remove them.

PLAN IMPLEMENTATION

This *General Management Plan / Development Concept Plans / Environmental Impact Statement* is the first to be completed for Joshua Tree National Park. The management plan for the monument had not been updated since 1964. The actions proposed in the plan would take at least 15 years to implement. Because it is a long-term plan, individual actions proposed have been divided into five priorities to show the order in which the actions would be funded and implemented. Priorities for implementation follow.

First priority: \$6,721,000 would be needed for actions at the west and north entrances, the NPS administrative complex, all entrance signs, and highway signs.

Second priority: \$5,946,000 would cover actions to redesign campgrounds and develop the Cottonwood contact station.

Third priority: \$555,000 would cover backcountry trails, trailheads, and the rehabilitation of interpretive exhibits in the headquarters areas.

Fourth priority: \$3,860,000 would cover Indian Cove, Hidden Valley, and parkwide interpretive signs.

Fifth priority: \$2,178,000 would cover maintenance facility improvements, boundary fencing, and additional interpretive signs.

Road project costs for road project phases I-IV: \$22,750,000

Appendix A summarizes the NPS development costs by planning unit and priority number.

The proposed action would affect NPS staffing as summarized in table 4.

TABLE 4: RECOMMENDED STAFFING

Division	Current Full Time Equivalents (FTE)	Recommended Increase in FTEs	Total
Administration	8	4	12
Interpretation	9	15	24
Protection/Fee Collection	19.5	23	43
Maintenance	17	16	33
Resource Management	12	11	23
Fire Management	4	3	7
Totals	69.5	72	142

